

**GARDIAN**®

# Residential Costs

with RSMeans data



**2020**

39<sup>th</sup> annual edition

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# Save Time. Go Online.

The screenshot displays the RSMeans Data Online software interface. At the top, there's a navigation bar with links like 'Search Data', 'Manage Estimates', 'Square Foot Estimator', 'Life Cycle Cost', and 'Cost Alerts'. Below this is a search bar with the placeholder 'Window Sill' and a 'Search' button. To the left, there's a sidebar titled 'MasterFormat 2016' containing categories such as General Requirements, Existing Conditions, Concrete, Masonry, Metals, Wood, Plastics, and Composites, Thermal and Moisture Protection, and Finishes. The main workspace is titled 'Life Cycle Cost Estimator' and shows a 'Sustainment Model' section with fields for Source (RSMeans Data Online), Model (Apartment, 1-3 Story with...), Stories (3), Story Height (10), and Replacement Value (\$ 2,612,634.67). It also includes an 'Assembly Information' table and a 'Square Foot Estimator - Predictive' tool featuring a 3D building model and cost calculations for \$168.76 per square foot over 22,500 square feet at a height of 10.00. The bottom of the interface shows project start date (01/2020), baseline quarter (Year 2018 Quarter 2), and construction start quarter (Year 2020 Quarter 2).

## RSMeans Data Online

Enjoy the convenience and efficiency of accessing your costs anywhere

**Skip the multiplier** by setting your location

**Quickly search, edit, favorite and share costs**

**Stay on top of price changes** with automatic updates

To learn more, visit [rsmeans.com/online](http://rsmeans.com/online)

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# Foreword

## The Value of RSMeans data from Gordian

Since 1942, RSMeans data has been the industry-standard materials, labor, and equipment cost information database for contractors, facility owners and managers, architects, engineers, and anyone else that requires the latest localized construction cost information. More than 75 years later, the objective remains the same: to provide facility and construction professionals with the most current and comprehensive construction cost database possible.

With the constant influx of new construction methods and materials, in addition to ever-changing labor and material costs, last year's cost data is not reliable for today's designs, estimates, or budgets. Gordian's cost engineers apply real-world construction experience to identify and quantify new building products and methodologies, adjust productivity rates, and adjust costs to local market conditions across the nation. This adds up to more than 22,000 hours in cost research annually. This unparalleled construction cost expertise is why so many facility and construction professionals rely on RSMeans data year over year.

## About Gordian

Gordian originated in the spirit of innovation and a strong commitment to helping clients reach and exceed their construction goals. In 1982, Gordian's chairman and founder, Harry H. Mellon, created Job Order Contracting while serving as chief engineer at the Supreme Headquarters Allied Powers Europe. Job Order Contracting is a unique indefinite delivery/indefinite quantity (IDIQ) process, which enables facility owners to complete a substantial number of repair, maintenance, and

construction projects with a single, competitively awarded contract. Realizing facility and infrastructure owners across various industries could greatly benefit from the time and cost saving advantages of this innovative construction procurement solution, he established Gordian in 1990.

Continuing the commitment to providing the most relevant and accurate facility and construction data, software, and expertise in the industry, Gordian enhanced the fortitude of its data with the acquisition of RSMeans in 2014. And in an effort to expand its facility management capabilities, Gordian acquired Sightlines, the leading provider of facilities benchmarking data and analysis, in 2015.

## Our Offerings

Gordian is the leader in facility and construction cost data, software, and expertise for all phases of the building life cycle. From planning to design, procurement, construction, and operations, Gordian's solutions help clients maximize efficiency, optimize cost savings, and increase building quality with its highly specialized data engineers, software, and unique proprietary data sets.

## Our Commitment

At Gordian, we do more than talk about the quality of our data and the usefulness of its application. We stand behind all of our RSMeans data—from historical cost indexes to construction materials and techniques—to craft current costs and predict future trends. If you have any questions about our products or services, please call us toll-free at 800.448.8182 or visit our website at [gordian.com](http://gordian.com).

# MasterFormat® 2016/ MasterFormat® 2018 Comparison Table

This table compares the 2016 edition of the Construction Specifications Institute's MasterFormat® to the expanded 2018 edition. For your convenience, all revised 2016 numbers and titles are listed along with the corresponding 2018 numbers and titles.

CSI 2016 MF ID	CSI 2016 MF Description	CSI 2018 MF ID	CSI 2018 MF Description
015632	Temporary Security	015733	Temporary Security
019308	Facility Maintenance Equipment	019308	Facilities Maintenance, Equipment
024200	Removal and Salvage of Construction Materials	024200	Removal and Diversion of Construction Materials
026600	Landfill Construction and Storage	026600	Landfills
040130	Unit Masonry Cleaning	04012052	Cleaning Masonry
068010	Composite Decking	067300	Composite Decking
072127	Reflective Insulation	072153	Reflective Insulation
072610	Above-Grade Vapor Retarders	072613	Above-Grade Vapor Retarders
074473	Metal Faced Panels	074433	Metal Faced Panels
075430	Ketone Ethylene Ester Roofing	075416	Ketone Ethylene Ester Roofing
077280	Vents	077280	Vent Options
081410	Wood Doors	081410	Doors, Wood
083410	Special Function Doors	083410	Specialized Function Doors
087125	Weatherstripping	087125	Door Weatherstripping
087530	Weatherstripping	087530	Window Weatherstripping
096223	Bamboo Flooring	096436	Bamboo Flooring
096720	Epoxy-Marble Chip Flooring	096716	Epoxy-Marble Chip Flooring
099103	Paint Restoration	090190	Maintenance of Painting and Coating
102833	Laundry Accessories	102823	Laundry Accessories
114700	Ice Machines	114700	Ice Making Machines
117610	Operating Room Equipment	117610	Equipment for Operating Rooms
117710	Radiology Equipment	117710	Equipment for Radiology
122310	Wood Interior Shutters	122313	Wood Interior Shutters
123580	Commercial Kitchen Casework	123539	Commercial Kitchen Casework
124636	Desk Accessories	124113	Desk Accessories
125273	Multiple Seating	126000	Multiple Seating
141210	Dumbwaiters	141000	Dumbwaiters
211113	Facility Water Distribution Piping	211113	Facility Fire Suppression Piping
233715	Louvers	233715	Air Outlets and Inlets, HVAC Louvers
260580	Wiring Connections	260583	Wiring Connections
270110	Operation and Maintenance of Communications Systems	270110	Operation and Maintenance of Communication Systems
272123	Data Communications Switches and Hubs	272129	Data Communications Switches and Hubs
283149	Carbon-Monoxide Detection Sensors	284611	Carbon-Monoxide Detection Sensors
284621	Fire Alarm	284620	Fire Alarm
316233	Drilled Micropiles	316333	Drilled Micropiles
323420	Fabricated Pedestrian Bridges	323413	Fabricated Pedestrian Bridges
333633	Utility Septic Tank Drainage Field	333633	Ground-Level AWWA D110 Type III Prestressed Conc. Wastewater Storage Tanks
337543	Shunt Reactors	337253	Shunt Reactors
350100	Operation and Maint. of Waterway & Marine Construction	350100	Operation and Maintenance of Waterway and Marine Construction



# How the Cost Data Is Built: An Overview

## Unit Prices\*

All cost data have been divided into 50 divisions according to the MasterFormat® system of classification and numbering.

## Assemblies\*

The cost data in this section have been organized in an "Assemblies" format. These assemblies are the functional elements of a building and are arranged according to the 7 elements of the UNIFORMAT II classification system. For a complete explanation of a typical "Assembly", see "RSMeans data: Assemblies—How They Work."

## Residential Models\*

Model buildings for four classes of construction—economy, average, custom, and luxury—are developed and shown with complete costs per square foot.

## Commercial/Industrial/ Institutional Models\*

This section contains complete costs for 77 typical model buildings expressed as costs per square foot.

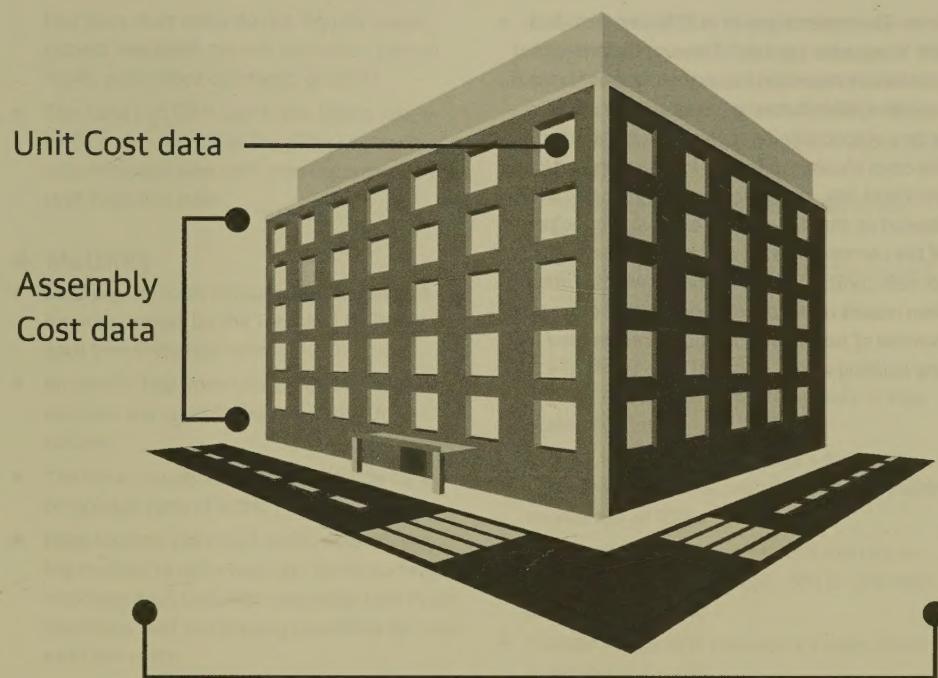
## Green Commercial/Industrial/ Institutional Models\*

This section contains complete costs for 25 green model buildings expressed as costs per square foot.

## References\*

This section includes information on Equipment Rental Costs, Crew Listings, Historical Cost Indexes, City Cost Indexes, Location Factors, Reference Tables, and Change Orders, as well as a listing of abbreviations.

- **Equipment Rental Costs:** Included are the average costs to rent and operate hundreds of pieces of construction equipment.
- **Crew Listings:** This section lists all the crews referenced in the cost data. A crew is composed of more than one trade classification and/or the addition of power equipment to any trade classification. Power equipment is included in the cost of the crew. Costs are shown both with bare labor rates and with the installing contractor's overhead and profit added. For each, the total crew cost per eight-hour day and the composite cost per labor-hour are listed.



## Square Foot Models

- **Historical Cost Indexes:** These indexes provide you with data to adjust construction costs over time.
- **City Cost Indexes:** All costs in this data set are U.S. national averages. Costs vary by region. You can adjust for this by CSI Division to over 730 cities in 900+ 3-digit zip codes throughout the U.S. and Canada by using this data.
- **Location Factors:** You can adjust total project costs to over 730 cities in 900+ 3-digit zip codes throughout the U.S. and Canada by using the weighted number, which applies across all divisions.
- **Reference Tables:** At the beginning of selected major classifications in the Unit Prices are reference numbers indicators. These numbers refer you to related information in the Reference Section. In this section, you'll find reference tables, explanations, and estimating information that support how we develop the unit price data, technical data, and estimating procedures.
- **Change Orders:** This section includes information on the factors that influence the pricing of change orders.
- **Abbreviations:** A listing of abbreviations used throughout this information, along with the terms they represent, is included.

## Index (*printed versions only*)

A comprehensive listing of all terms and subjects will help you quickly find what you need when you are not sure where it occurs in MasterFormat®.

## Conclusion

This information is designed to be as comprehensive and easy to use as possible.

The Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC) have produced the 2018 edition of MasterFormat®, a system of titles and numbers used extensively to organize construction information.

All unit prices in the RSMeans cost data are now arranged in the 50-division MasterFormat® 2018 system.

\* Not all information is available in all data sets

**Note:** The material prices in RSMeans cost data are "contractor's prices." They are the prices that contractors can expect to pay at the lumberyards, suppliers'/distributors' warehouses, etc. Small orders of specialty items would be higher than the costs shown, while very large orders, such as truckload lots, would be less. The variation would depend on the size, timing, and negotiating power of the contractor. The labor costs are primarily for new construction or major renovation rather than repairs or minor alterations. With reasonable exercise of judgment, the figures can be used for any building work.



Industrial building

Industrial buildings & structures  
and other plant, structures, etc., that are used  
industrially, manufacturing,  
etc.—  
Industrial buildings & structures  
are divided into three main categories:  
factory buildings, industrial buildings,  
and industrial structures.

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are divided into two main categories:  
factory buildings and industrial buildings.

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# Estimating with RSMeans data: Unit Prices

Following these steps will allow you to complete an accurate estimate using RSMeans data: Unit Prices.

## 1. Scope Out the Project

- Think through the project and identify the CSI divisions needed in your estimate.
- Identify the individual work tasks that will need to be covered in your estimate.
- The Unit Price data have been divided into 50 divisions according to CSI MasterFormat® 2018.
- In printed versions, the Unit Price Section Table of Contents on page 1 may also be helpful when scoping out your project.
- Experienced estimators find it helpful to begin with Division 2 and continue through completion. Division 1 can be estimated after the full project scope is known.

## 2. Quantify

- Determine the number of units required for each work task that you identified.
- Experienced estimators include an allowance for waste in their quantities. (Waste is not included in our Unit Price line items unless otherwise stated.)

## 3. Price the Quantities

- Use the search tools available to locate individual Unit Price line items for your estimate.
- Reference Numbers indicated within a Unit Price section refer to additional information that you may find useful.
- The crew indicates who is performing the work for that task. Crew codes are expanded in the Crew Listings in the Reference Section to include all trades and equipment that comprise the crew.
- The Daily Output is the amount of work the crew is expected to complete in one day.
- The Labor-Hours value is the amount of time it will take for the crew to install one unit of work.
- The abbreviated Unit designation indicates the unit of measure upon which the crew, productivity, and prices are based.
- Bare Costs are shown for materials, labor, and equipment needed to complete the Unit Price

line item. Bare costs do not include waste, project overhead, payroll insurance, payroll taxes, main office overhead, or profit.

- The Total Incl O&P cost is the billing rate or invoice amount of the installing contractor or subcontractor who performs the work for the Unit Price line item.

## 4. Multiply

- Multiply the total number of units needed for your project by the Total Incl O&P cost for each Unit Price line item.
- Be careful that your take off unit of measure matches the unit of measure in the Unit column.
- The price you calculate is an estimate for a completed item of work.
- Keep scoping individual tasks, determining the number of units required for those tasks, matching each task with individual Unit Price line items, and multiplying quantities by Total Incl O&P costs.
- An estimate completed in this manner is priced as if a subcontractor, or set of subcontractors, is performing the work. The estimate does not yet include Project Overhead or Estimate Summary components such as general contractor markups on subcontracted work, general contractor office overhead and profit, contingency, and location factors.

## 5. Project Overhead

- Include project overhead items from Division 1-General Requirements.
- These items are needed to make the job run. They are typically, but not always, provided by the general contractor. Items include, but are not limited to, field personnel, insurance, performance bond, permits, testing, temporary utilities, field office and storage facilities, temporary scaffolding and platforms, equipment mobilization and demobilization, temporary roads and sidewalks, winter protection, temporary barricades and fencing, temporary security, temporary signs, field engineering and layout, final cleaning, and commissioning.
- Each item should be quantified and matched to individual Unit Price line items in Division 1, then priced and added to your estimate.

- An alternate method of estimating project overhead costs is to apply a percentage of the total project cost—usually 5% to 15% with an average of 10% (see General Conditions).
- Include other project related expenses in your estimate such as:
  - Rented equipment not itemized in the Crew Listings
  - Rubbish handling throughout the project (see section 02 41 19.19)

## 6. Estimate Summary

- Include sales tax as required by laws of your state or county.
- Include the general contractor's markup on self-performed work, usually 5% to 15% with an average of 10%.
- Include the general contractor's markup on subcontracted work, usually 5% to 15% with an average of 10%.
- Include the general contractor's main office overhead and profit:
  - RSMeans data provides general guidelines on the general contractor's main office overhead (see section 01 31 13.60 and Reference Number R013113-50).
  - Markups will depend on the size of the general contractor's operations, projected annual revenue, the level of risk, and the level of competition in the local area and for this project in particular.
- Include a contingency, usually 3% to 5%, if appropriate.
- Adjust your estimate to the project's location by using the City Cost Indexes or the Location Factors in the Reference Section:
  - Look at the rules in "How to Use the City Cost Indexes" to see how to apply the Indexes for your location.
  - When the proper Index or Factor has been identified for the project's location, convert it to a multiplier by dividing it by 100, then multiply that multiplier by your estimated total cost. The original estimated total cost will now be adjusted up or down from the national average to a total that is appropriate for your location.

# Estimating with RSMeans

## Unit Prices

### Editors' Note:

We urge you to spend time reading and understanding the supporting material. An accurate estimate requires experience, knowledge, and careful calculation. The more you know about how we at RSMeans developed the data, the more accurate your estimate will be. In addition, it is important to take into consideration the reference material such as Equipment Listings, Crew Listings, City Cost Indexes, Location Factors, and Reference Tables.

Estimating is a complex process. Each project has unique requirements. Therefore, the unit prices listed in the following tables are not intended to be used without modification. Instead, they are provided as a starting point for estimating. They are based on average labor rates, average equipment rates, and average material costs. They do not account for local taxes, insurance, or other factors that may affect the cost of a particular project.

Business offices and customers who purchase our software have access to detailed labor rate information for their local area. These rates will reflect local conditions for those that will support business differences between areas. These rates are available for download from our website.

It is recommended that you add a fixed amount to all labor rates to cover benefits. Governmental labor laws require specific amounts to be paid for minimum wage, overtime pay, and other health care items such as workers' compensation and unemployment compensation. These amounts will vary by state and by industry.

Equipment rates reflect standard industry practice. Most regions have different rates for different types of equipment. It is best to check with your local equipment supplier to determine what rates are appropriate for your area. These rates are also subject to change over time.

Materials rates are estimates. It is recommended that you review each item with your supplier to determine the appropriate quantity and quality of materials required. Many materials are subject to price fluctuations due to market conditions. It is best to check with your supplier to determine what rates are appropriate for your area. These rates are also subject to change over time.

Based on RSMeans' experience, most projects require some form of subcontracting. It is best to check with your supplier to determine the appropriate subcontractor for your project. Many subcontractors are subject to price fluctuations due to market conditions. It is best to check with your supplier to determine what rates are appropriate for your area. These rates are also subject to change over time.

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# How to Use the Cost Data: The Details

## What's Behind the Numbers?

### The Development of Cost Data

RSMeans data engineers continually monitor developments in the construction industry in order to ensure reliable, thorough, and up-to-date cost information. While overall construction costs may vary relative to general economic conditions, price fluctuations within the industry are dependent upon many factors. Individual price variations may, in fact, be opposite to overall economic trends. Therefore, costs are constantly tracked and complete updates are performed yearly. Also, new items are frequently added in response to changes in materials and methods.

## Costs in U.S. Dollars

All costs represent U.S. national averages and are given in U.S. dollars. The City Cost Index (CCI) with RSMeans data can be used to adjust costs to a particular location. The CCI for Canada can be used to adjust U.S. national averages to local costs in Canadian dollars. No exchange rate conversion is necessary because it has already been factored in.

**G** The processes or products identified by the green symbol in our publications have been determined to be environmentally responsible and/or resource-efficient solely by RSMeans data engineering staff. The inclusion of the green symbol does not represent compliance with any specific industry association or standard.

## Material Costs

RSMeans data engineers contact manufacturers, dealers, distributors, and contractors all across the U.S. and Canada to determine national average material costs. If you have access to current material costs for your specific location, you may wish to make adjustments to reflect differences from the national average. Included within material costs are fasteners for a normal installation. RSMeans data engineers use manufacturers' recommendations, written specifications, and/or standard construction practices for the sizing and spacing of fasteners. Adjustments to material costs may be required for your specific application or location. The manufacturer's warranty is assumed. Extended warranties are not included in the material costs.

**Material costs do not include sales tax.**

## Labor Costs

Labor costs are based upon a mathematical average of trade-specific wages in 30 major U.S. cities. The type of wage (union, open shop, or residential) is identified on the inside back cover of printed publications or selected by the estimator when using the electronic products. Markups for the wages can also be found on the inside back cover of printed publications and/or under the labor references found in the electronic products.

- If wage rates in your area vary from those used, or if rate increases are expected within a given year, labor costs should be adjusted accordingly.

Labor costs reflect productivity based on actual working conditions. In addition to actual installation, these figures include time spent during a normal weekday on tasks, such as material receiving and handling, mobilization at the site, site movement, breaks, and cleanup.

Productivity data is developed over an extended period so as not to be influenced by abnormal variations and reflects a typical average.

## Equipment Costs

Equipment costs include not only rental but also operating costs for equipment under normal use. The operating costs include parts and labor for routine servicing, such as the repair and replacement of pumps, filters, and worn lines. Normal operating expendables, such as fuel, lubricants, tires, and electricity (where applicable), are also included. Extraordinary operating expendables with highly variable wear patterns, such as diamond bits and blades, are excluded. These costs are included under materials. Equipment rental rates are obtained from industry sources throughout North America—contractors, suppliers, dealers, manufacturers, and distributors.

Rental rates can also be treated as reimbursement costs for contractor-owned equipment. Owned equipment costs include depreciation, loan payments, interest, taxes, insurance, storage, and major repairs.

Equipment costs do not include operators' wages.

**Equipment Cost/Day**—The cost of equipment required for each crew is included in the Crew Listings in the Reference Section (small tools

that are considered essential everyday tools are not listed out separately). The Crew Listings itemize specialized tools and heavy equipment along with labor trades. The daily cost of itemized equipment included in a crew is based on dividing the weekly bare rental rate by 5 (number of working days per week), then adding the hourly operating cost times 8 (the number of hours per day). This Equipment Cost/Day is shown in the last column of the Equipment Rental Costs in the Reference Section.

**Mobilization, Demobilization**—The cost to move construction equipment from an equipment yard or rental company to the job site and back again is not included in equipment costs. Mobilization (to the site) and demobilization (from the site) costs can be found in the Unit Price Section. If a piece of equipment is already at the job site, it is not appropriate to utilize mobilization or demobilization costs again in an estimate.

## Overhead and Profit

Total Cost including O&P for the installing contractor is shown in the last column of the Unit Price and/or Assemblies. This figure is the sum of the bare material cost plus 10% for profit, the bare labor cost plus total overhead and profit, and the bare equipment cost plus 10% for profit. Details for the calculation of overhead and profit on labor are shown on the inside back cover of the printed product and in the Reference Section of the electronic product.

## General Conditions

Cost data in this data set are presented in two ways: Bare Costs and Total Cost including O&P (Overhead and Profit). General Conditions, or General Requirements, of the contract should also be added to the Total Cost including O&P when applicable. Costs for General Conditions are listed in Division 1 of the Unit Price Section and in the Reference Section.

General Conditions for the installing contractor may range from 0% to 10% of the Total Cost including O&P. For the general or prime contractor, costs for General Conditions may range from 5% to 15% of the Total Cost including O&P, with a figure of 10% as the most typical allowance. If applicable, the Assemblies and Models sections use costs that include the installing contractor's overhead and profit (O&P).

## Factors Affecting Costs

Costs can vary depending upon a number of variables. Here's a listing of some factors that affect costs and points to consider.

**Quality**—The prices for materials and the workmanship upon which productivity is based represent sound construction work. They are also in line with industry standard and manufacturer specifications and are frequently used by federal, state, and local governments.

**Overtime**—We have made no allowance for overtime. If you anticipate premium time or work beyond normal working hours, be sure to make an appropriate adjustment to your labor costs.

**Productivity**—The productivity, daily output, and labor-hour figures for each line item are based on an eight-hour work day in daylight hours in moderate temperatures and up to a 14' working height unless otherwise indicated. For work that extends beyond normal work hours or is performed under adverse conditions, productivity may decrease.

**Size of Project**—The size, scope of work, and type of construction project will have a significant impact on cost. Economies of scale can reduce costs for large projects. Unit costs can often run higher for small projects.

**Location**—Material prices are for metropolitan areas. However, in dense urban areas, traffic and site storage limitations may increase costs. Beyond a 20-mile radius of metropolitan areas, extra trucking or transportation charges may also increase the material costs slightly. On the other hand, lower wage rates may be in effect. Be sure to consider both of these factors when preparing an estimate, particularly if the job site is located in a central city or remote rural location. In addition, highly specialized subcontract items may require travel and per-diem expenses for mechanics.

### Other Factors—

- season of year
- contractor management
- weather conditions
- local union restrictions
- building code requirements
- availability of:
  - adequate energy
  - skilled labor
  - building materials
- owner's special requirements/restrictions
- safety requirements
- environmental considerations
- access

**Unpredictable Factors**—General business conditions influence "in-place" costs of all items. Substitute materials and construction methods may have to be employed. These may affect the installed cost and/or life cycle costs. Such factors may be difficult to evaluate and cannot necessarily be predicted on the basis of the job's location in a particular section of the country. Thus, where these factors apply, you may find significant but unavoidable cost variations for which you will have to apply a measure of judgment to your estimate.

## Rounding of Costs

In printed publications only, all unit prices in excess of \$5.00 have been rounded to make them easier to use and still maintain adequate precision of the results.

## How Subcontracted Items Affect Costs

A considerable portion of all large construction jobs is usually subcontracted. In fact, the percentage done by subcontractors is constantly increasing and may run over 90%. Since the

workers employed by these companies do nothing else but install their particular products, they soon become experts in that line. As a result, installation by these firms is accomplished so efficiently that the total in-place cost, even with the general contractor's overhead and profit, is no more, and often less, than if the principal contractor had handled the installation. Companies that deal with construction specialties are anxious to have their products perform well and, consequently, the installation will be the best possible.

## Contingencies

The allowance for contingencies generally provides for unforeseen construction difficulties. On alterations or repair jobs, 20% is not too much. If drawings are final and only field contingencies are being considered, 2% or 3% is probably sufficient and often nothing needs to be added. Contractually, changes in plans will be covered by extras. The contractor should consider inflationary price trends and possible material shortages during the course of the job. These escalation factors are dependent upon both economic conditions and the anticipated time between the estimate and actual construction. If drawings are not complete or approved, or a budget cost is wanted, it is wise to add 5% to 10%. Contingencies, then, are a matter of judgment.

## Important Estimating Considerations

The productivity, or daily output, of each craftsman or crew assumes a well-managed job where tradesmen with the proper tools and equipment, along with the appropriate construction materials, are present. Included are daily set-up and cleanup time, break time, and plan layout time. Unless otherwise indicated, time for material movement on site (for items

that can be transported by hand) of up to 200' into the building and to the first or second floor is also included. If material has to be transported by other means, over greater distances, or to higher floors, an additional allowance should be considered by the estimator.

While horizontal movement is typically a sole function of distances, vertical transport introduces other variables that can significantly impact productivity. In an occupied building, the use of elevators (assuming access, size, and required protective measures are acceptable) must be understood at the time of the estimate. For new construction, hoist wait and cycle times can easily be 15 minutes and may result in scheduled access extending beyond the normal work day. Finally, all vertical transport will impose strict weight limits likely to preclude the use of any motorized material handling.

The productivity, or daily output, also assumes installation that meets manufacturer/designer/standard specifications. A time allowance for quality control checks, minor adjustments, and any task required to ensure proper function or operation is also included. For items that require connections to services, time is included for positioning, leveling, securing the unit, and making all the necessary connections (and start up where applicable) to ensure a complete installation. Estimating of the services themselves (electrical, plumbing, water, steam, hydraulics, dust collection, etc.) is separate.

In some cases, the estimator must consider the use of a crane and an appropriate crew for the installation of large or heavy items. For those situations where a crane is not included in the assigned crew and as part of the line item cost,

then equipment rental costs, mobilization and demobilization costs, and operator and support personnel costs must be considered.

### Labor-Hours

The labor-hours expressed in this publication are derived by dividing the total daily labor-hours for the crew by the daily output. Based on average installation time and the assumptions listed above, the labor-hours include: direct labor, indirect labor, and nonproductive time. A typical day for a craftsman might include but is not limited to:

- Direct Work
  - Measuring and layout
  - Preparing materials
  - Actual installation
  - Quality assurance/quality control
- Indirect Work
  - Reading plans or specifications
  - Preparing space
  - Receiving materials
  - Material movement
  - Giving or receiving instruction
  - Miscellaneous
- Non-Work
  - Chatting
  - Personal issues
  - Breaks
  - Interruptions (i.e., sickness, weather, material or equipment shortages, etc.)

If any of the items for a typical day do not apply to the particular work or project situation, the estimator should make any necessary adjustments.

### Final Checklist

Estimating can be a straightforward process provided you remember the basics. Here's a checklist of some of the steps you should remember to complete before finalizing your estimate.

Did you remember to:

- factor in the City Cost Index for your locale?
- take into consideration which items have been marked up and by how much?
- mark up the entire estimate sufficiently for your purposes?
- read the background information on techniques and technical matters that could impact your project time span and cost?
- include all components of your project in the final estimate?
- double check your figures for accuracy?
- call RSMeans data engineers if you have any questions about your estimate or the data you've used? Remember, Gordian stands behind all of our products, including our extensive RSMeans data solutions. If you have any questions about your estimate, about the costs you've used from our data, or even about the technical aspects of the job that may affect your estimate, feel free to call the Gordian RSMeans editors at 1.800.448.8182.

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# Square Foot Cost Section

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# Introduction to the Square Foot Cost Section

The Square Foot Cost Section contains costs per square foot for four classes of construction in seven building types. Costs are listed for various exterior wall materials which are typical of the class and building type. There are cost tables for wings and ells with modification tables to adjust the base cost of each class of building. Non-standard items can easily be added to the standard structures.

Cost estimating for a residence is a three-step process:

1. Identification
2. Listing dimensions
3. Calculations

Guidelines and a sample cost estimating procedure are shown on the following pages.

## Identification

To properly identify a residential building, the class of construction, type, and exterior wall material must be determined. The "Building Classes" information has drawings and guidelines for determining the class of construction. There are also detailed specifications and additional drawings at the beginning of each set of tables to further aid in proper building class and type identification.

Sketches for eight types of residential buildings and their configurations follow. Definitions of living area are next to each sketch. Sketches and definitions of garage types follow.

## Living Area

Base cost tables are prepared as costs per square foot of living area. The living area of a residence is that area which is suitable and normally designed for full time living. It does not include basement recreation rooms or finished attics, although these areas are often considered full time living areas by the owners.

Living area is calculated from the exterior dimensions without the need to adjust for exterior wall thickness. When calculating the living area of a 1-1/2 story, two story, three

story, or tri-level residence, overhangs and other differences in size and shape between floors must be considered.

Only the floor area with a ceiling height of seven feet or more in a 1-1/2 story residence is considered living area. In bi-levels and tri-levels, the areas that are below grade are considered living areas, even when these areas may not be completely finished.

## Base Tables and Modifications

Base cost tables show the base cost per square foot without a basement, with one full bath and one full kitchen for economy and average homes, and an additional half bath for custom and luxury models. Adjustments for finished and unfinished basements are part of the base cost tables. Adjustments for multi-family residences, additional bathrooms, townhouses, alternative roofs, and air conditioning and heating systems are listed in Modifications, Adjustments, and Alternatives tables below the base cost tables.

Costs for other modifications, adjustments, and alternatives, including garages, breezeways, and site improvements, follow the base tables.

## Listing of Dimensions

To use this section, only the dimensions used to calculate the horizontal area of the building and additions, modifications, adjustments, and alternatives are needed. The dimensions, normally the length and width, can come from drawings or field measurements. For ease in calculation, consider measuring in tenths of feet, i.e., 9'-6" = 9.5 ft. and 9'-4" = 9.3 ft.

In all cases, make a sketch of the building. Any protrusions or other variations in shape should be noted on the sketch with dimensions.

## Calculations

The calculations portion of the estimate is a two-step activity:

1. The selection of appropriate costs from the tables
2. Computations

## Selection of Appropriate Costs

To select the appropriate cost from the base tables, the following information is needed:

1. Class of construction
    - Economy
    - Average
    - Custom
    - Luxury
  2. Type of residence
    - 1 story
    - 1-1/2 story
    - 2 story
    - 2-1/2 story
    - 3 story
    - Bi-level
    - Tri-level
  3. Occupancy
    - One family
    - Two family
    - Three family
  4. Building configuration
    - Detached
    - Town/Rowhouse
    - Semi-detached
  5. Exterior wall construction
    - Wood frame
    - Brick veneer
    - Solid masonry
  6. Living areas
- Modifications are classified by class, type, and size.
- ## Computations
- The computation process should take the following sequence:
1. Multiply the base cost by the area.
  2. Add or subtract the modifications, adjustments, and alternatives.
  3. Apply the location modifier.
- When selecting costs, interpolate or use the cost that most nearly matches the structure under study. This applies to size, exterior wall construction, and class.

# How to Use the Residential Square Foot Cost Section

The following is a detailed explanation of a sample entry in the Residential Square Foot Cost Section. Each bold number below corresponds to the item being described in the following list with the appropriate component of the sample entry in parentheses. Prices listed are costs that include

overhead and profit of the installing contractor. Total model costs include an additional markup for the general contractor's overhead and profit, as well as fees specific to the class of construction.

## RESIDENTIAL

### Average

### 2 Story

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement **3**
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall <b>4</b>	Living Area <b>5</b>										
	1000	1200	1400	1600	1800	2000	2200	2600	3000	3400	3800
Wood Siding - Wood Frame	156.90	141.70	134.40	129.30	124.10	118.75	115.10	108.15	101.60	98.40	95.65
Brick Veneer - Wood Frame	163.15	147.55	139.85	134.50	129.00	123.45	119.55	112.20	105.35	102.05	99.05
Stucco on Wood Frame	149.90	135.20	128.40	123.60	118.70	113.60	110.15	103.60	97.40	94.45	91.90
Solid Masonry	177.85	161.15	152.60	146.70	140.40	134.50	130.05	121.65	114.10	110.35	106.95
Finished Basement, Add <b>7</b>	24.25	23.90	23.15	22.65	22.00	21.65	21.25	20.45	19.90	19.55	19.20
Unfinished Basement, Add	9.55	8.95	8.40	8.10	7.75	7.50	7.30	6.80	6.45	6.20	6.00

### Modifications

Add to the total cost

- Upgrade Kitchen Cabinets
- Solid Surface Countertops (Included)
- Full Bath - including plumbing, wall and floor finishes
- Half Bath - including plumbing, wall and floor finishes
- One Car Attached Garage
- One Car Detached Garage
- Fireplace & Chimney

### Adjustments

For multi family - add to total cost

- Additional Kitchen \$ + 10,263
- Additional Bath + 8150
- Additional Entry & Exit + 1811
- Separate Heating + 1605
- Separate Electric + 1912

For Townhouse/Rowhouse - Multiply cost per square foot by

- Inner Unit .90
- End Unit .95

### Alternatives

Add to or deduct from the cost per square foot of living area

- |                                       |        |
|---------------------------------------|--------|
| Cedar Shake Roof                      | + 1.95 |
| Clay Tile Roof                        | + 3.45 |
| Slate Roof                            | + 3.95 |
| Upgrade Walls to Skim Coat Plaster    | + .52  |
| Upgrade Ceilings to Textured Finish   | + .62  |
| Air Conditioning, in Heating Ductwork | + 3.04 |
| In Separate Ductwork                  | + 5.97 |
| Heating Systems, Hot Water            | + 1.49 |
| Heat Pump                             | + 1.37 |
| Electric Heat                         | - 1.07 |
| Not Heated                            | - 2.49 |

### Additional upgrades or components

- |                                |         |
|--------------------------------|---------|
| Kitchen Cabinets & Countertops | Page 93 |
| Bathroom Vanities              | 94      |
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**1****Class of Construction (Average)**

The class of construction depends upon the design and specifications of the plan. The four classes are economy, average, custom, and luxury.

**2****Type of Residence (2 Story)**

The building type describes the number of stories or levels in the model. The seven building types are 1 story, 1-1/2 story, 2 story, 2-1/2 story, 3 story, bi-level, and tri-level.

**3****Specification Highlights****(Hot Air Heat)**

These specifications include information concerning the components of the model, including the number of baths, roofing types, HVAC systems, materials, and workmanship. If the components listed are not appropriate, modifications can be made by consulting the information shown below or in the Assemblies section.

**4****Exterior Wall System****(Wood Siding-Wood Frame)**

This section includes the types of exterior wall systems and the structural frames used. The exterior wall systems shown are typical of the class of construction and the building type shown.

**5****Living Areas (2,000 S.F.)**

The living area is that area of the residence which is suitable and normally designed for full time living. It does not include basement recreation rooms or finished attics. Living area is calculated from the exterior dimensions without the need to adjust for exterior wall thickness. When calculating the living area of a 1-1/2 story, 2 story, 3 story, or tri-level residence, overhangs and other differences in size and shape between floors must be considered. Only the floor area with a ceiling height of seven feet or more in a 1-1/2 story residence is considered living area. In bi-levels and tri-levels, the areas that are below grade are considered living areas, even when these areas may not be completely finished. A range of various living areas for the residential model is shown to aid in the selection of values from the matrix.

**6****Base Costs per Square Foot of Living Area (\$118.75)**

Base cost tables show the cost per square foot of living area without a basement, with one full bath and one full kitchen for economy and average homes, and an additional half bath for custom and luxury models. When selecting costs, interpolate or use the cost that most nearly matches the residence under consideration for size, exterior

wall system, and class of construction. Prices listed are costs that include overhead and profit of the installing contractor, a general contractor markup, and an allowance for plans that vary by class of construction. For additional information on contractor overhead and architectural fees, see the Reference Section.

**7****Basement Types (Finished)**

The two types of basements are finished and unfinished. The specifications and components for both are shown under Building Classes in the Introduction to this section.

**8****Additional Costs for Basements****(\$21.65 or \$7.50)**

These values indicate the additional cost per square foot of living area for either a finished or an unfinished basement.

**9****Modifications and Adjustments  
(Upgrade Kitchen Cabinets \$6,069)**

Modifications and Adjustments are costs added to or subtracted from the total cost of the residence. The total cost of the residence is equal to the cost per square foot of living area times the living area. Typical modifications and adjustments include kitchens, baths, garages, and fireplaces.

**10****Multiplier for Townhouse/Rowhouse  
(Inner Unit 0.90)**

The multipliers shown adjust the base costs per square foot of living area for the common wall condition encountered in townhouses or rowhouses.

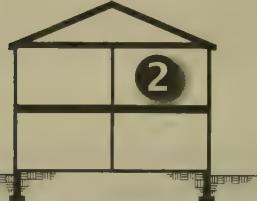
**11****Alternatives  
(Skim Coat Plaster \$0.52)**

Alternatives are costs added to or subtracted from the base cost per square foot of living area. Typical alternatives include variations in kitchens, baths, roofing, and air conditioning and heating systems.

**12****Additional Upgrades or Components  
(Wings & Ells)**

Costs for additional upgrades or components, including wings or ell, breezeways, porches, finished attics, and site improvements, are shown at the end of each quality section and at the end of the Square Foot Section.

# How to Use the Residential Square Foot Cost Section (Continued)



## Average 2 Story

**1** Living Area - 2000 S.F.  
Perimeter - 135 L.F.

	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1</b> Site Work	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.43	1.43	1.2%
<b>2</b> Foundation	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.79	4.72	8.51	7.2%
<b>3</b> Framing	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.14	10.05	18.19	15.3%
<b>4</b> Exterior Walls	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	16.36	6.17	22.53	19.0%
<b>5</b> Roofing	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.15	1.44	2.59	2.2%
<b>6</b> Interiors	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	16.39	15.55	31.94	26.9%
<b>7</b> Specialties	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	4.04	1.23	5.27	4.4%
<b>8</b> Mechanical	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	3.62	3.41	7.03	5.9%
<b>9</b> Electrical	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures	1.57	2.45	4.02	3.4%
<b>10</b> Overhead	Contractor's overhead and profit and plans.	9.34	7.90	17.24	14.5%
<b>8</b>		<b>Total</b>	64.40	54.35	118.75
<b>9</b>					

**1**

## Specifications

The parameters for an example dwelling from the previous pages are listed here. Included are the square foot dimensions of the proposed building. Living Area takes into account the number of floors and other factors needed to define a building's total square footage. Perimeter dimensions are defined in terms of linear feet.

**2**

## Building Type

This is a sketch of a cross section view through the dwelling. It is shown to help define the living area for the building type. For more information, see the Building Types in the Introduction.

**3**

## Components (3 Framing)

This page contains the ten components needed to develop the complete square foot cost of the typical dwelling specified. All components are defined with a description of the materials and/or task involved. Use cost figures from each component to estimate the cost per square foot of that section of the project. The components listed here are typical of all sizes of residences from the facing page. Specific quantities of components required would vary with the size of the dwelling and the exterior wall system.

**4**

## Materials (8.14)

This column gives the amount needed to develop the cost of materials. The figures given here are not bare costs. Ten percent has been added to bare material cost for profit.

**5**

## Installation (10.05)

Installation includes labor and equipment costs. The labor rates included here incorporate the total overhead and profit costs for the installing contractor. The average mark-up used to create these figures is 72% over and above bare labor costs. The equipment rates include 10% for profit.

**6**

## Total (18.19)

This column lists the sum of two figures. Use this total to determine the sum of material cost plus installation cost. The result is a convenient total cost for each of the ten components.

**7**

## % of Total (rounded) (15.3%)

This column represents the percent of the total cost for this component group.

**8**

## Overhead

The costs in components 1 through 9 include overhead and profit for the installing contractor. Item 10 is overhead and profit for the general contractor. This is typically a percentage mark-up of all other costs. The amount depends on the size and type of dwelling, building class, and economic conditions. An allowance for plans or design has been included where appropriate.

**9**

## Bottom Line Total (118.75)

This figure is the complete square foot cost for the construction project and equals the sum of total material and total labor costs. To determine total project cost, multiply the bottom line total by the living area.

# Building Classes

## Economy Class

An economy class residence is usually built from stock plans. The materials and workmanship are sufficient to satisfy building codes. Low construction cost is more important than distinctive features. The overall shape of the foundation and structure is seldom other than square or rectangular.

An unfinished basement includes a 7' high, 8" thick foundation wall composed of either concrete block or cast-in-place concrete.

Included in the finished basement cost are inexpensive paneling or drywall as the interior finish on the foundation walls, a low cost sponge backed carpeting adhered to the concrete floor, a drywall ceiling, and overhead lighting.



## Average Class

An average class residence is a simple design and built from standard plans. Materials and workmanship are average but often exceed minimum building codes. There are frequently special features that give the residence some distinctive characteristics.

An unfinished basement includes a 7'-6" high, 8" thick foundation wall composed of either cast-in-place concrete or concrete block.

Included in the finished basement are plywood paneling or drywall on furring that is fastened to the foundation walls, sponge backed carpeting adhered to the concrete floor, a suspended ceiling, overhead lighting, and heating.



## Custom Class

A custom class residence is usually built from plans and specifications with enough features to give the building a distinct design. Materials and workmanship are generally above average with obvious attention given to construction details. Construction normally exceeds building code requirements.

An unfinished basement includes a 7'-6" high, 10" thick cast-in-place concrete foundation wall or a 7'-6" high, 12" thick concrete block foundation wall.

A finished basement includes painted drywall on insulated 2" x 4" wood furring as the interior finish to the concrete walls, a suspended ceiling, carpeting adhered to the concrete floor, overhead lighting, and heating.



## Luxury Class

A luxury class residence is built from an architect's plan for a specific owner. It is unique both in design and workmanship. There are many special features, and construction usually exceeds all building codes. It is obvious that primary attention is placed on the owner's comfort and pleasure. Construction is supervised by an architect.

An unfinished basement includes an 8' high, 12" thick foundation wall that is composed of cast-in-place concrete or concrete block.

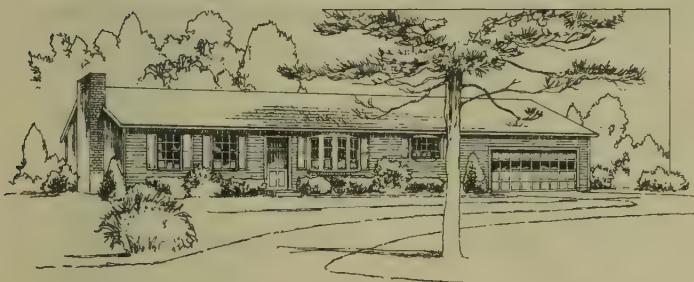
A finished basement includes painted drywall on 2" x 4" wood furring as the interior finish, a suspended ceiling, tackless carpet on wood subfloor with sleepers, overhead lighting, and heating.



# Configurations

## Detached House

This category of residence is a free-standing separate building with or without an attached garage. It has four complete walls.



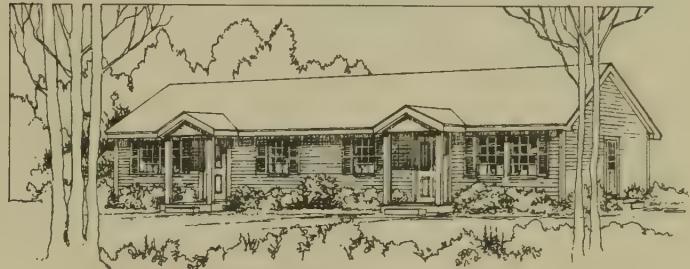
## Town/Rowhouse

This category of residence has a number of attached units made up of inner units and end units. The units are joined by common walls. The inner units have only two exterior walls. The common walls are fireproof. The end units have three walls and a common wall. Town/rowhouses can be any of the building types.



## Semi-Detached House

This category of residence has two side-by-side living units. The common wall is fireproof. Semi-detached residences can be treated as a rowhouse with two end units. Semi-detached residences can be any of the building types.



# Building Types

## One Story

This is an example of a one-story dwelling. The living area of this type of residence is confined to the ground floor. The headroom in the attic is usually too low for use as a living area.



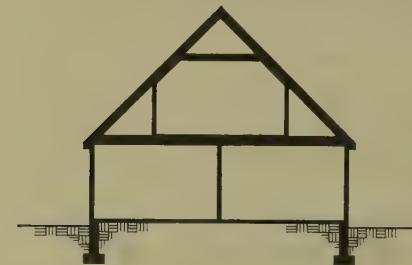
## One Story with Finished Attic

The main living area in this type of residence is the ground floor. The upper level or attic area has sufficient headroom for use as a living area. This is made possible by a high-peaked roof. The living area in the attic is less than 50% of the ground floor. The living area of this type of residence is the ground floor area only. The finished attic is considered an adjustment.



## One-and-one-half Story

The living area on the upper level of this type of residence is 50% to 90% of the ground floor. This is made possible by a combination of this design's high-peaked roof and/or dormers. Only the upper level area with a ceiling height of seven feet or more is considered living area. The living area of this residence is the sum of the ground floor area plus the area on the second level with a ceiling height of seven feet or more.



## Two Story

This type of residence has a second floor or upper level area which is equal or nearly equal to the ground floor area. The upper level of this type of residence can range from 90% to 110% of the ground floor area, depending on setbacks or overhangs. The living area is the sum of the ground floor area and the upper level floor area.



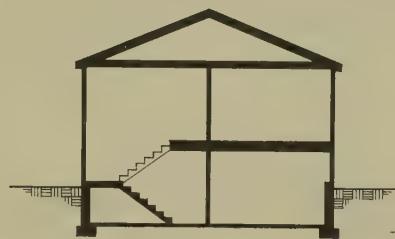
## Two-and-one-half Story

This type of residence has two levels of equal or nearly equal area and a third level which has a living area that is 50% to 90% of the ground floor. This is made possible by a high-peaked roof, extended wall heights, and/or dormers. Only the upper level area with a ceiling height of seven feet or more is considered living area. The living area of this residence is the sum of the ground floor area, the second floor area, and the area on the third level with a ceiling height of seven feet or more.



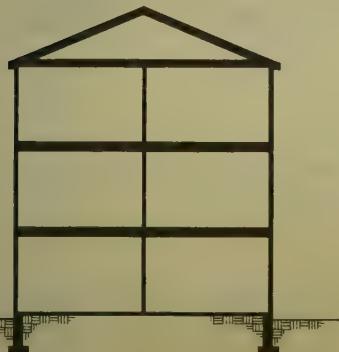
## Bi-level

This type of residence has two living areas, one above the other. One area is about four feet below grade and the second is about four feet above grade. Both areas are equal in size. The lower level in this type of residence is designed and built to serve as a living area and not as a basement. Both levels have full ceiling heights. The living area is the sum of the lower level area and the upper level area.



## Three Story

This type of residence has three levels which are equal or nearly equal. As in the two story residence, the second and third floor areas may vary slightly depending on setbacks or overhangs. The living area is the sum of the ground floor area and the two upper level floor areas.



## Tri-level

This type of residence has three levels of living area: one at grade level, one about four feet below grade, and one about four feet above grade. All levels are designed to serve as living areas. All levels have full ceiling heights. The living area is a sum of the areas of each of the three levels.



# Garage Types

## Attached Garage

Shares a common wall with the dwelling. Access is typically through a door between the dwelling and garage.



## Built-In Garage

Constructed under the second floor living space and above the basement level of the dwelling. Reduces gross square feet of the living area.



## Basement Garage

Constructed under the roof of the dwelling but below the living area.

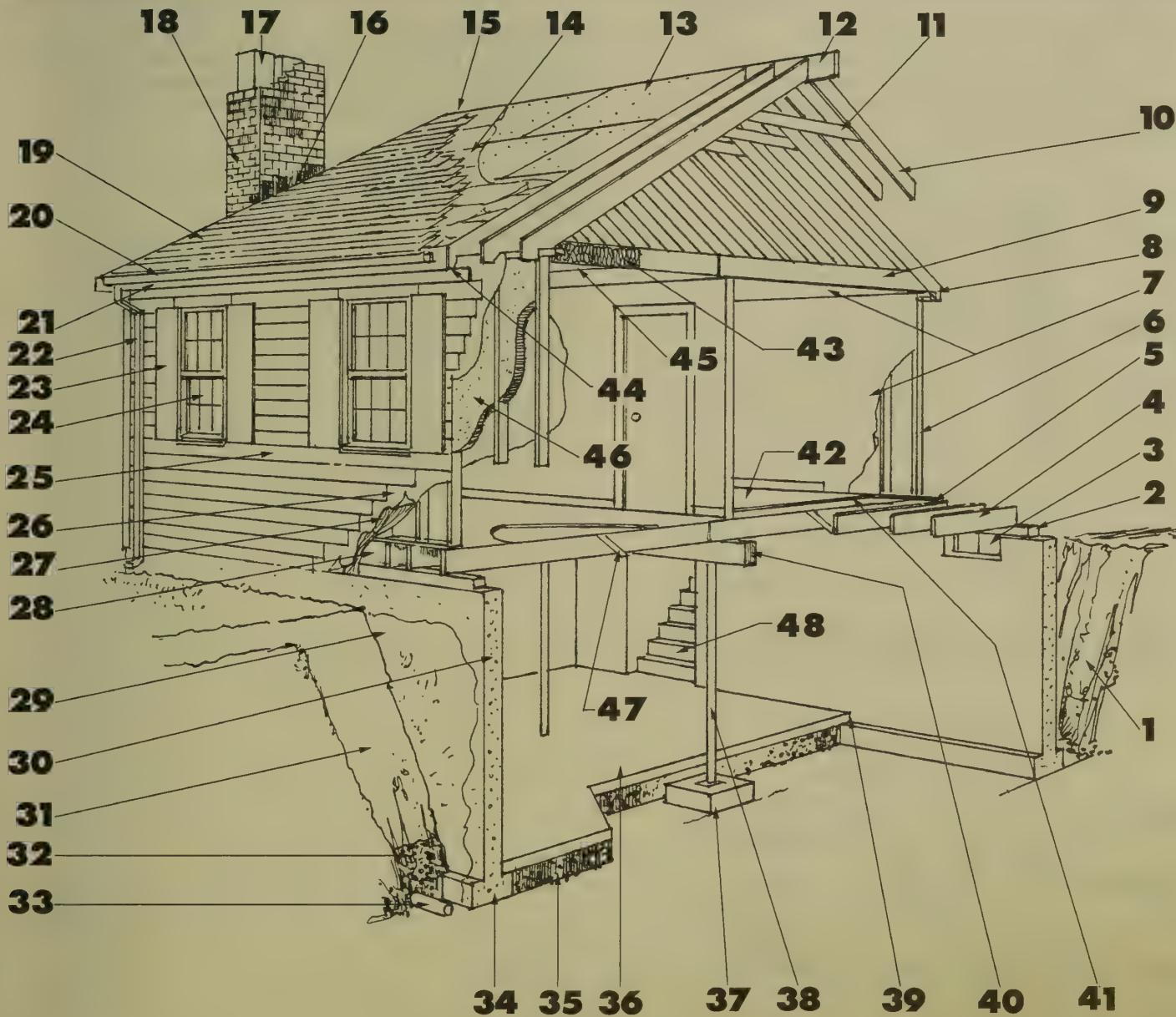


## Detached Garage

Constructed apart from the main dwelling. Shares no common area or wall with the dwelling.



# Building Components

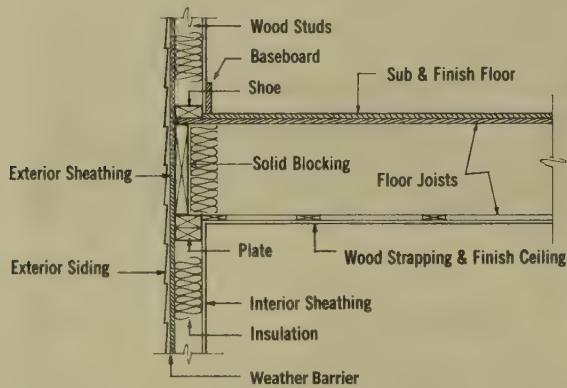


- |                    |                    |                     |                     |                       |
|--------------------|--------------------|---------------------|---------------------|-----------------------|
| 1. Excavation      | 10. Rafters        | 20. Gutter          | 30. Foundation Wall | 40. Girder            |
| 2. Sill Plate      | 11. Collar Ties    | 21. Fascia          | 31. Backfill        | 41. Sub-floor         |
| 3. Basement Window | 12. Ridge Board    | 22. Downspout       | 32. Drainage Stone  | 42. Finish Floor      |
| 4. Floor Joist     | 13. Roof Sheathing | 23. Shutter         | 33. Drainage Tile   | 43. Attic Insulation  |
| 5. Shoe Plate      | 14. Roof Felt      | 24. Window          | 34. Wall Footing    | 44. Soffit            |
| 6. Studs           | 15. Roof Shingles  | 25. Wall Shingles   | 35. Gravel          | 45. Ceiling Strapping |
| 7. Drywall         | 16. Flashing       | 26. Weather Barrier | 36. Concrete Slab   | 46. Wall Insulation   |
| 8. Plate           | 17. Flue Lining    | 27. Wall Sheathing  | 37. Column Footing  | 47. Cross Bridging    |
| 9. Ceiling Joists  | 18. Chimney        | 28. Fire Stop       | 38. Pipe Column     | 48. Bulkhead Stairs   |
|                    | 19. Roof Shingles  | 29. Dampproofing    | 39. Expansion Joint |                       |

# Exterior Wall Construction

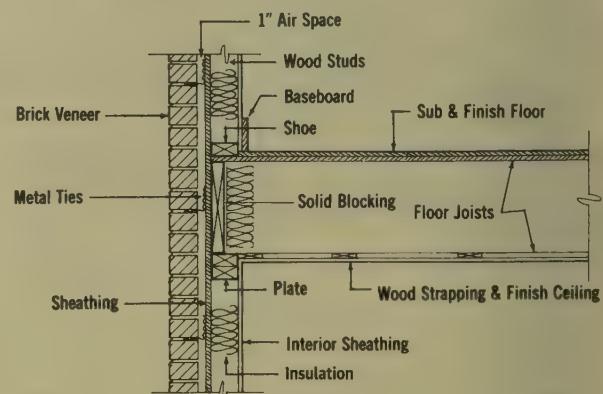
## Typical Frame Construction

Typical wood frame construction consists of wood studs with insulation between them. A typical exterior surface is made up of sheathing, building paper, and exterior siding consisting of wood, vinyl, aluminum, or stucco over the wood sheathing.



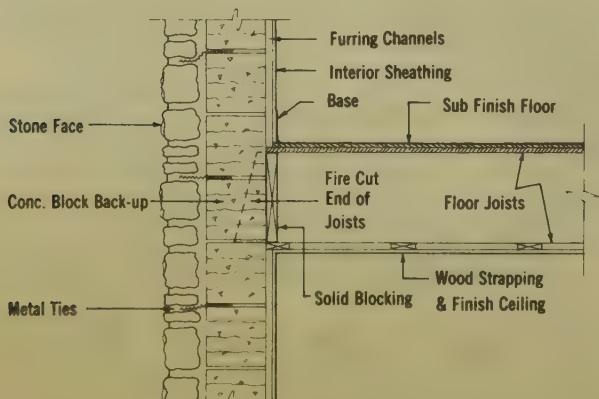
## Brick Veneer

Typical brick veneer construction consists of wood studs with insulation between them. A typical exterior surface is sheathing, building paper, and an exterior of brick tied to the sheathing with metal strips.



## Stone

Typical solid masonry construction consists of a stone or block wall covered on the exterior with brick, stone, or other masonry.



# Residential Cost Estimate Worksheet

## Worksheet Instructions

The residential cost estimate worksheet can be used as an outline for developing a residential construction or replacement cost. It is also useful for insurance appraisals. The design of the worksheet helps eliminate errors and omissions. To use the worksheet, follow the example below.

1. Fill out the owner's name, residence address, the estimator or appraiser's name, some type of project identifying number or code, and the date.
2. Determine from the plans, specifications, owner's description, photographs, or any other means possible the class of construction. The models in this data set use economy, average, custom, and luxury as classes. Fill in the appropriate box.
3. Fill in the appropriate box for the residence type, configuration, occupancy, and exterior wall. If you require clarification, the pages preceding this worksheet describe each of these.
4. Next, the living area of the residence must be established. The heated or air conditioned space of the residence, not including the basement, should be measured. It is easiest to break the structure up into separate components as shown in the example: the main house (A), a one-and-one-half story wing (B), and a one-story wing (C). The breezeway (D), garage (E), and open covered porch (F) will be treated differently. Data entry blocks for the living area are included on the worksheet for your use. Keep each level of each component separate, and fill out the blocks as shown.
5. By using the information on the worksheet, find the model, wing, or ell in the following square foot cost pages that best matches the class, type, exterior finish, and size of the residence being estimated.

Use the Modifications, Adjustments, and Alternatives to determine the adjusted cost per square foot of living area for each component.

6. For each component, multiply the cost per square foot by the living area square footage. If the residence is a town/rowhouse, a multiplier should be applied based upon the configuration.
7. The second page of the residential cost estimate worksheet has space for the additional components of a house. The cost for additional bathrooms, finished attic space, breezeways, porches, fireplaces, appliance or cabinet upgrades, and garages should be added on this page. The information for each of these components is found with the model being used or in the Modifications, Adjustments, and Alternatives.
8. Add the total from page one of the estimate worksheet and the items listed on page two. The sum is the adjusted total building cost.
9. Depending on the use of the final estimated cost, one of the remaining two boxes should be filled out. Any additional items or exclusions should be added or subtracted at this time. The data contained in this data set are a national average. Construction costs are different throughout the country. To allow for this difference, a location factor based upon the first three digits of the residence's zip code must be applied. The location factor is a multiplier that increases or decreases the adjusted total building cost. Find the appropriate location factor and calculate the local cost. If depreciation is a concern, a dollar figure should be subtracted at this point.
10. No residence will match a model exactly. Many differences will be found. At this level of estimating, a variation of +/- 10% should be expected.

## Adjustments Instructions

No residence matches a model exactly in shape, material, or specifications. The common differences are:

1. Two or more exterior wall systems:
  - Partial basement
  - Partly finished basement
2. Specifications or features that are between two classes
3. Crawl space instead of a basement

### Examples

Below are quick examples. See pages 17-19 for complete examples of cost adjustments for these differences:

1. Residence "A" is an average one-story structure with 1,600 S.F. of living area and no basement. Three walls are wood siding on wood frame, and the fourth wall is brick veneer on wood frame. The brick veneer wall is 35% of the exterior wall area.

Use page 38 to calculate the Base Cost per S.F. of Living Area. Wood Siding for 1,600 S.F. = \$122.40 per S.F. and Brick Veneer for 1,600 S.F. = \$126.15 per S.F.

$$0.65 (\$122.40) + 0.35 (\$126.15) = \$123.71 \text{ per S.F. of Living Area.}$$

- 2a. Residence "B" is the same as Residence "A" but it has an unfinished basement under 50% of the building. To adjust the \$122.40 per S.F. of living area for this partial basement, use page 38.

$$\$123.71 + 0.5 (\$12.30) = \$129.86 \text{ per S.F. of Living Area.}$$

- 2b. Residence "C" is the same as Residence "A" but it has a full basement under the entire building. 640 S.F. or 40% of the basement area is finished.

Using Page 38:

$$\begin{aligned} & \$123.71 + 0.40 (\$34.85) + 0.60 (\$12.30) = \\ & \$145.03 \text{ per S.F. of Living Area.} \end{aligned}$$

3. When specifications or features of a building are between classes, estimate the percent deviation, and use two tables to calculate the cost per S.F.

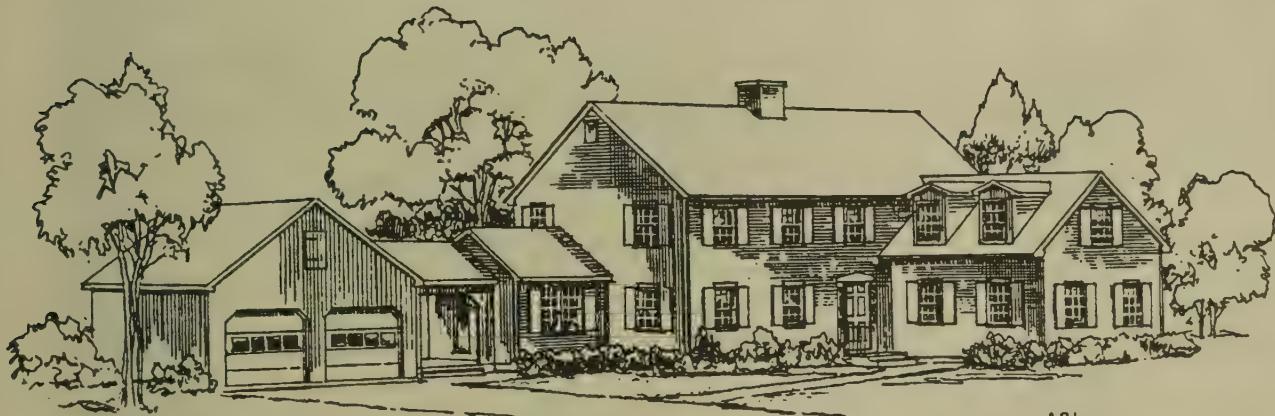
A two-story residence with wood siding and 1,800 S.F. of living area has features 30% better than Average, but 70% less than Custom.

From pages 42 and 64:

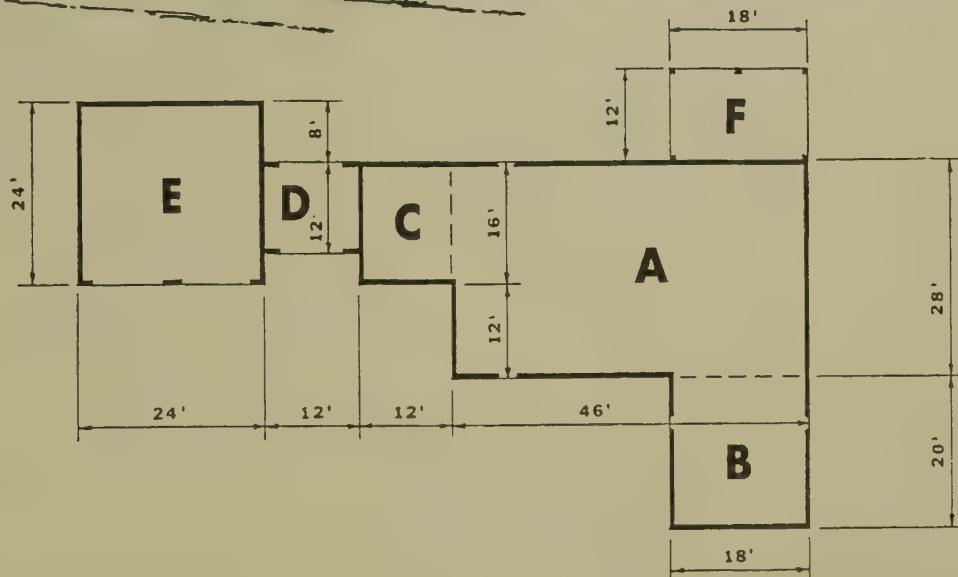
Custom 1,800 S.F. Base Cost	=	\$158.05 per S.F.
Average 1,800 S.F. Base Cost	=	\$124.15 per S.F.
DIFFERENCE	=	\$33.90 per S.F.
Cost is \$124.15 + 0.30 (\$33.90)	=	\$134.32 per S.F. of Living Area.

4. To add the cost of a crawl space, use the cost of an unfinished basement as a maximum. For specific costs of components to be added or deducted, such as vapor barrier, underdrain, and floor, see the "Assemblies" section (pages 97 to 281).

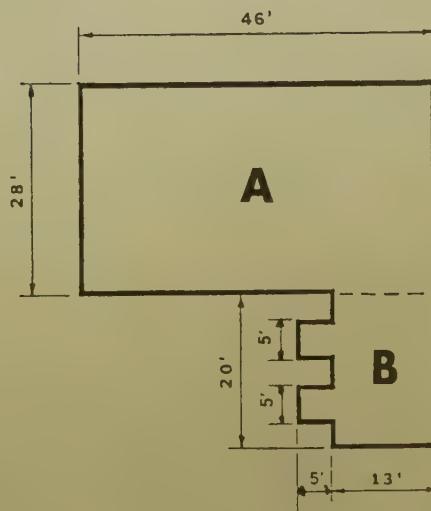
# Model Residence Example



First Floor Plan



Second Floor Plan



A = Main House

B = 1-1/2 Story Wing

C = 1 Story Wing

D = Breezeway

E = Garage

F = Open Covered Porch

**RESIDENTIAL  
COST ESTIMATE**

OWNERS NAME:	<b>Albert Westenberg</b>		APPRAYER:	<b>Nicole Wojtowicz</b>													
RESIDENCE ADDRESS:	<b>300 Sygiel Road</b>		PROJECT:	<b># 55</b>													
CITY, STATE, ZIP CODE:	<b>Three Rivers, MA 01080</b>		DATE:	<b>Jan. 1, 2020</b>													
CLASS OF CONSTRUCTION		RESIDENCE TYPE	CONFIGURATION	EXTERIOR WALL SYSTEM													
<input type="checkbox"/> ECONOMY	<input type="checkbox"/> AVERAGE	<input type="checkbox"/> CUSTOM	<input type="checkbox"/> LUXURY	<input checked="" type="checkbox"/> 1 STORY	<input type="checkbox"/> 1 1/2 STORY	<input type="checkbox"/> 2 STORY	<input type="checkbox"/> 2 1/2 STORY	<input type="checkbox"/> 3 STORY	<input type="checkbox"/> BI-LEVEL	<input type="checkbox"/> TRI-LEVEL	<input checked="" type="checkbox"/> DETACHED	<input type="checkbox"/> TOWN/ROW HOUSE	<input type="checkbox"/> SEMI-DETACHED	<input checked="" type="checkbox"/> WOOD SIDING - WOOD FRAME	<input type="checkbox"/> BRICK VENEER - WOOD FRAME	<input type="checkbox"/> STUCCO ON WOOD FRAME	<input type="checkbox"/> PAINTED CONCRETE BLOCK
				<input type="checkbox"/> ONE FAMILY	<input type="checkbox"/> TWO FAMILY	<input type="checkbox"/> THREE FAMILY	<input type="checkbox"/> OTHER	<input type="checkbox"/> SOLID MASONRY (AVERAGE & CUSTOM)	<input type="checkbox"/> STONE VENEER - WOOD FRAME	<input type="checkbox"/> SOLID BRICK (LUXURY)	<input type="checkbox"/> SOLID STONE (LUXURY)						
* LIVING AREA (Main Building)		* LIVING AREA (Wing or Ell)		* LIVING AREA (Wing or Ell)													
First Level	1288 S.F.	First Level	360 S.F.	First Level	192 S.F.												
Second level	1288 S.F.	Second level	310 S.F.	Second level	— S.F.												
Third Level	S.F.	Third Level	S.F.	Third Level	S.F.												
Total	2576 S.F.	Total	670 S.F.	Total	192 S.F.												
* Basement Area is not part of living area.																	
MAIN BUILDING																	
Cost per Square Foot of Living Area, from Page		42	COSTS PER S.F. LIVING AREA														
Basement Addition: % Finished,		100	% Unfinished		+		6.80										
Roof Cover Adjustment: <u>Cedar Shake</u> Type, Page		42	(Add or Deduct)		( )		1.95										
Central Air Conditioning: <input type="checkbox"/> Separate Ducts <input checked="" type="checkbox"/> Heating Ducts, Page		42	(Add or Deduct)		+		3.04										
Heating System Adjustment: Type, Page		(Add or Deduct)	( )		—		—										
Main Building: Adjusted Cost per S.F. of Living Area			\$ #		119.94												
MAIN BUILDING		\$ 119.94 /S.F.	x	2,576 S.F.	x	—	= \$ 308,965										
TOTAL COST		Cost per S.F. Living Area	Living Area	Town/Row House Multiplier	(Use 1 for Detached)		TOTAL COST										
WING OR ELL (B)		1 - 1/2	STORY	COSTS PER S.F. LIVING AREA													
Cost per Square Foot of Living Area, from Page		56		\$ 107.30													
Basement Addition: % Finished, 100		% Unfinished		+		11.20											
Roof Cover Adjustment: Type, Page		(Add or Deduct)		( )		—											
Central Air Conditioning: <input type="checkbox"/> Separate Ducts <input checked="" type="checkbox"/> Heating Ducts, Page		42		+		3.04											
Heating System Adjustment: Type, Page		(Add or Deduct)		( )		—											
Wing or Ell (B) : Adjusted Cost per S.F. of Living Area			\$ #		121.54												
WING OR ELL (B)		\$ 121.54 /S.F.	x	670 S.F.	x	—	= \$ 81,432										
TOTAL COST		Cost per S.F. Living Area	Living Area	Town/Row House Multiplier	(Use 1 for Detached)		TOTAL COST										
WING OR ELL (C)		1	STORY	COSTS PER S.F. LIVING AREA													
Cost per Square Foot of Living Area, from Page		56 (WOOD SIDING)		\$ 156.85													
Basement Addition: % Finished, 100		% Unfinished		+		—											
Roof Cover Adjustment: Type, Page		(Add or Deduct)		( )		—											
Central Air Conditioning: <input type="checkbox"/> Separate Ducts <input type="checkbox"/> Heating Ducts, Page		—		+		—											
Heating System Adjustment: Type, Page		(Add or Deduct)		( )		—											
Wing or Ell (C) Adjusted Cost per S.F. of Living Area			\$ #		156.85												
WING OR ELL (C)		\$ 156.85 /S.F.	x	192 S.F.	x	—	= \$ 30,115										
TOTAL COST		Cost per S.F. Living Area	Living Area	Town/Row House Multiplier	(Use 1 for Detached)		TOTAL COST										
TOTAL THIS PAGE																	
420,512																	

**RESIDENTIAL  
COST ESTIMATE**

Total Page 1				\$ 420,512
Additional Bathrooms:	<u>2</u>	Full, <u>1</u> Half	2 @ 8150	1 @ 4865
Finished Attic:	<u>N/A</u>	Ft. x Ft.		S.F.
Breezeway:	<input checked="" type="checkbox"/> Open <input type="checkbox"/> closed	<u>12</u> Ft. x <u>12</u> Ft.	144	S.F. 41.76 + 21,165
Covered Porch:	<input checked="" type="checkbox"/> Open <input type="checkbox"/> Enclosed	<u>18</u> Ft. x <u>12</u> Ft.	216	S.F. 38.25 + 8,262
Fireplace:	<input checked="" type="checkbox"/> Interior Chimney <input type="checkbox"/> Exterior Chimney			+ 8,262
	<input checked="" type="checkbox"/> No. of Flues ( <u>2</u> ) <input checked="" type="checkbox"/> Additional Fireplaces	1 - 2nd Story		+ 13,480
Appliances:				+ —
Kitchen Cabinets Adjustments:		(±)		—
<input checked="" type="checkbox"/> Garage <input type="checkbox"/> Carport:	<u>2</u> Car(s)	Description <u>Wood, Attached</u> (±)		26,618
Miscellaneous:				+ —
			ADJUSTED TOTAL BUILDING COST	\$ 496,050

REPLACEMENT COST	
ADJUSTED TOTAL BUILDING COST	\$ <u>496,050</u>
Site Improvements	
(A) Paving & Sidewalks	\$ _____
(B) Landscaping	\$ _____
(C) Fences	\$ _____
(D) Swimming Pools	\$ _____
(E) Miscellaneous	\$ _____
TOTAL	\$ <u>496,050</u>
Location Factor	x <u>1.06*</u>
Location Replacement Cost	\$ <u>525,813</u>
Depreciation	\$ _____
LOCAL DEPRECIATED COST	\$ _____

INSURANCE COST	
ADJUSTED TOTAL BUILDING COST	\$ _____
Insurance Exclusions	
(A) Footings, sitework, Underground Piping	-\$ _____
(B) Architects Fees	-\$ _____
Total Building Cost Less Exclusion	\$ _____
Location Factor	x _____
LOCAL INSURABLE REPLACEMENT COST	\$ _____

\*Estimated

**SKETCH AND ADDITIONAL CALCULATIONS**



# Economy Class

## Same Data. Simplified.

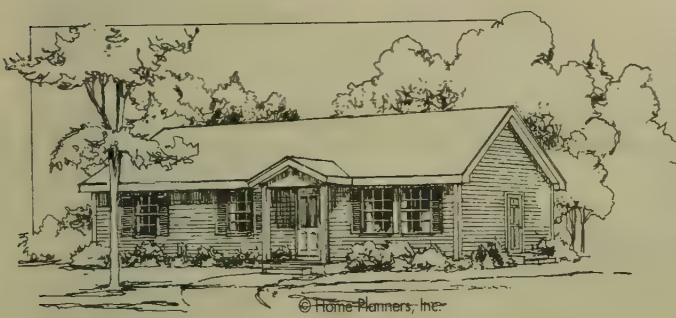
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**1 Story****1-1/2 Story****2 Story****Bi-Level****Tri-Level**

- Mass produced from stock plans
- Single family - 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are sufficient to meet codes

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	600	800	1000	1200	1400	1600	1800	2000	2400	2800	3200
Wood Siding - Wood Frame	153.40	138.35	126.95	117.85	109.90	104.90	102.25	98.85	92.10	87.20	83.80
Brick Veneer - Wood Frame	158.10	142.55	130.75	121.25	113.05	107.80	105.05	101.55	94.50	89.45	85.90
Stucco on Wood Frame	143.10	129.10	118.55	110.25	103.05	98.45	96.05	93.05	86.80	82.25	79.25
Painted Concrete Block	148.05	133.50	122.60	113.85	106.30	101.50	99.00	95.80	89.30	84.65	81.40
Finished Basement, Add	34.55	32.55	31.15	29.90	28.85	28.20	27.80	27.25	26.50	25.90	25.35
Unfinished Basement, Add	15.10	13.55	12.40	11.35	10.60	10.05	9.75	9.30	8.70	8.20	7.80

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1247
Solid Surface Countertops	+ 872
Full Bath - including plumbing, wall and floor finishes	+ 6520
Half Bath - including plumbing, wall and floor finishes	+ 3892
One Car Attached Garage	+ 14,543
One Car Detached Garage	+ 18,806
Fireplace & Chimney	+ 6878

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 5490
Additional Bath	+ 6520
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1114

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.95
End Unit	.97

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Composition Roll Roofing	- 1.05
Cedar Shake Roof	+ 4.50
Upgrade Walls and Ceilings to Skim Coat Plaster	+ .71
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 4.86
In Separate Ductwork	+ 7.24
Heating Systems, Hot Water	+ 1.58
Heat Pump	+ 1.13
Electric Heat	- 2.46
Not Heated	- 3.19

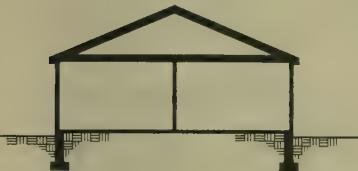
### Additional upgrades or components

Kitchen Cabinets & Countertops	Page 93
Bathroom Vanities	94
Fireplaces & Chimneys	94
Windows, Skylights & Dormers	94
Appliances	95
Breezeways & Porches	95
Finished Attic	95
Garages	96
Site Improvements	96
Wings & Ells	34

**Economy 1 Story**

Living Area - 1200 S.F.

Perimeter - 146 L.F.



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		2.31	2.31	2.1%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	6.86	8.45	15.31	13.9%
<b>3 Framing</b>	Exterior walls - 2" x 4" wood studs, 16" O.C.; 1/2" sheathing; wood truss roof frame, 24" O.C. with 1/2" plywood sheathing; 2" x 4" interior partitions.	6.14	7.88	14.02	12.7%
<b>4 Exterior Walls</b>	Metal lath reinforced stucco exterior on insulated wood frame walls; R38 attic insulation; sliding wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	8.48	7.91	16.39	14.9%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	2.23	2.79	5.02	4.6%
<b>6 Interiors</b>	Walls and ceilings, 1/2" taped and finished gypsum wallboard, primed and painted with 2 coats of finish paint; hollow core wood interior doors, frames and hardware, painted finish; lightweight carpeting with pad, 80%; sheet vinyl flooring, 20%.	12.50	13.52	26.02	23.6%
<b>7 Specialties</b>	Economy grade kitchen cabinets and countertops; stainless steel kitchen sink; 30 gallon electric water heater.	3.75	1.14	4.89	4.4%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet and wall hung lavatory; gas fired hot air heating system.	4.71	3.97	8.68	7.9%
<b>9 Electrical</b>	100 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits and communications cabling; economy grade lighting fixtures.	1.09	2.15	3.24	2.9%
<b>10 Overhead</b>	Contractor's overhead and profit.	6.84	7.53	14.37	13.0%
		<b>Total</b>	52.60	57.65	110.25

- Mass produced from stock plans
- Single family - 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are sufficient to meet codes

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	600	800	1000	1200	1400	1600	1800	2000	2400	2800	3200
Wood Siding - Wood Frame	180.80	149.80	134.55	127.10	121.85	113.70	109.70	105.70	97.15	93.90	90.30
Brick Veneer - Wood Frame	187.55	154.70	139.10	131.35	125.90	117.40	113.15	108.95	100.10	96.65	92.85
Stucco on Wood Frame	165.90	139.05	124.55	117.80	112.95	105.60	102.00	98.35	90.70	87.80	84.65
Painted Concrete Block	172.75	144.00	129.15	122.05	117.00	109.35	105.55	101.70	93.70	90.60	87.25
Finished Basement, Add	26.45	22.55	21.55	20.80	20.25	19.50	19.05	18.70	17.85	17.45	17.00
Unfinished Basement, Add	13.30	10.20	9.40	8.80	8.40	7.75	7.40	7.10	6.45	6.15	5.80

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1247
Solid Surface Countertops	+ 872
Full Bath - including plumbing, wall and floor finishes	+ 6520
Half Bath - including plumbing, wall and floor finishes	+ 3892
One Car Attached Garage	+ 14,543
One Car Detached Garage	+ 18,806
Fireplace & Chimney	+ 6878

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 5490
Additional Bath	+ 6520
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1114

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.95
End Unit	.97

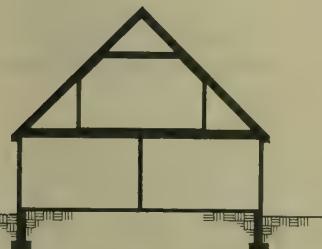
### Alternatives

#### Add to or deduct from the cost per square foot of living area

Composition Roll Roofing	-.75
Cedar Shake Roof	+ 3.25
Upgrade Walls and Ceilings to Skim Coat Plaster	+ .72
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 3.62
In Separate Ductwork	+ 6.36
Heating Systems, Hot Water	+ 1.49
Heat Pump	+ 1.25
Electric Heat	- 1.96
Not Heated	- 2.95

### Additional upgrades or components

Kitchen Cabinets & Countertops	Page 93
Bathroom Vanities	94
Fireplaces & Chimneys	94
Windows, Skylights & Dormers	94
Appliances	95
Breezeways & Porches	95
Finished Attic	95
Garages	96
Site Improvements	96
Wings & Ells	34

**Economy 1-1/2 Story**Living Area - 1600 S.F.  
Perimeter - 135 L.F.

	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.73	1.73	1.5%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.60	5.74	10.34	9.1%
<b>3 Framing</b>	Exterior walls - 2" x 4" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 8" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 8" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.51	10.16	17.67	15.5%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; sliding wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	16.67	6.09	22.76	20.0%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.62	2.02	3.64	3.2%
<b>6 Interiors</b>	Walls and ceilings, 1/2" taped and finished gypsum wallboard, primed and painted with 2 coats of finish paint; hollow core wood interior doors, frames and hardware, painted finish; lightweight carpeting with pad, 80%; sheet vinyl flooring, 20%; hardwood tread stairway.	14.27	14.40	28.67	25.2%
<b>7 Specialties</b>	Economy grade kitchen cabinets and countertops; stainless steel kitchen sink; 30 gallon electric water heater.	2.81	.85	3.66	3.2%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet and wall hung lavatory; gas fired hot air heating system.	3.82	3.57	7.39	6.5%
<b>9 Electrical</b>	100 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits and communications cabling; economy grade lighting fixtures.	1.03	1.98	3.01	2.6%
<b>10 Overhead</b>	Contractor's overhead and profit.	7.87	6.96	14.83	13.0%
<b>Total</b>		60.20	53.50	<b>113.70</b>	

- Mass produced from stock plans
- Single family — 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are sufficient to meet codes

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2200	2600	3000	3400	3800
Wood Siding - Wood Frame	137.55	124.50	118.30	114.00	109.65	104.90	101.65	95.60	89.70	87.05	84.60
Brick Veneer - Wood Frame	142.45	129.05	122.50	118.05	113.40	108.50	105.05	98.75	92.60	89.75	87.25
Stucco on Wood Frame	126.85	114.65	109.05	105.20	101.30	96.85	94.05	88.70	83.30	80.95	78.85
Painted Concrete Block	132.20	119.60	113.70	109.65	105.45	100.90	97.85	92.15	86.55	84.05	81.80
Finished Basement, Add	18.05	17.35	16.75	16.35	15.90	15.60	15.25	14.70	14.35	14.00	13.80
Unfinished Basement, Add	8.20	7.60	7.10	6.75	6.40	6.20	5.95	5.50	5.15	4.95	4.75

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1247
Solid Surface Countertops	+ 872
Full Bath - including plumbing, wall and floor finishes	+ 6520
Half Bath - including plumbing, wall and floor finishes	+ 3892
One Car Attached Garage	+ 14,543
One Car Detached Garage	+ 18,806
Fireplace & Chimney	+ 7600

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 5490
Additional Bath	+ 6520
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1114

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.93
End Unit	.96

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Composition Roll Roofing	-.55
Cedar Shake Roof	+ 2.25
Upgrade Walls and Ceilings to Skim Coat Plaster	+ .73
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 2.95
In Separate Ductwork	+ 5.84
Heating Systems, Hot Water	+ 1.45
Heat Pump	+ 1.31
Electric Heat	- 1.71
Not Heated	- 2.78

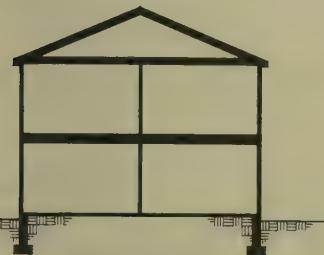
### Additional upgrades or components

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**Economy 2 Story**

Living Area - 2000 S.F.

Perimeter - 135 L.F.



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.39	1.39	1.3%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.69	4.59	8.28	7.9%
<b>3 Framing</b>	Exterior walls - 2" x 4" wood studs, 16" O.C.; 1/2" sheathing; wood truss roof frame, 24" O.C. with 1/2" plywood sheathing; 2" x 8" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	6.96	8.90	15.86	15.1%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; sliding wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	16.46	6.02	22.48	21.4%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.12	1.40	2.52	2.4%
<b>6 Interiors</b>	Walls and ceilings, 1/2" taped and finished gypsum wallboard, primed and painted with 2 coats of finish paint; hollow core wood interior doors, frames and hardware, painted finish; lightweight carpeting with pad, 80%; sheet vinyl flooring, 20%; hardwood tread stairway.	13.95	14.32	28.27	26.9%
<b>7 Specialties</b>	Economy grade kitchen cabinets and countertops; stainless steel kitchen sink; 30 gallon electric water heater.	2.25	.69	2.94	2.8%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet and wall hung lavatory; gas fired hot air heating system.	3.27	3.33	6.60	6.3%
<b>9 Electrical</b>	100 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits and communications cabling; economy grade lighting fixtures.	1.00	1.87	2.87	2.7%
<b>10 Overhead</b>	Contractor's overhead and profit.	7.30	6.39	13.69	13.1%
		<b>Total</b>	56.00	48.90	104.90

- Mass produced from stock plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are sufficient to meet codes

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2200	2600	3000	3400	3800
Wood Siding - Wood Frame	127.15	114.90	109.30	105.40	101.55	97.10	94.25	88.90	83.55	81.15	79.05
Brick Veneer - Wood Frame	130.85	118.35	112.50	108.50	104.45	99.80	96.90	91.25	85.75	83.20	81.05
Stucco on Wood Frame	119.00	107.40	102.25	98.65	95.25	91.00	88.45	83.65	78.70	76.55	74.60
Painted Concrete Block	123.05	111.10	105.75	102.00	98.35	93.95	91.30	86.20	81.05	78.85	76.80
Finished Basement, Add	18.05	17.35	16.75	16.35	15.90	15.60	15.25	14.70	14.35	14.00	13.80
Unfinished Basement, Add	8.20	7.60	7.10	6.75	6.40	6.20	5.95	5.50	5.15	4.95	4.75

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1247
Solid Surface Countertops	+ 872
Full Bath - including plumbing, wall and floor finishes	+ 6520
Half Bath - including plumbing, wall and floor finishes	+ 3892
One Car Attached Garage	+ 14,543
One Car Detached Garage	+ 18,806
Fireplace & Chimney	+ 6878

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 5490
Additional Bath	+ 6520
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1114

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.94
End Unit	.97

### Alternatives

#### Add to or deduct from the cost per square foot of living area

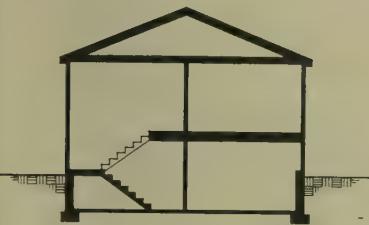
Composition Roll Roofing	-.55
Cedar Shake Roof	+ 2.25
Upgrade Walls and Ceilings to Skim Coat Plaster	+ .69
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 2.95
In Separate Ductwork	+ 5.84
Heating Systems, Hot Water	+ 1.45
Heat Pump	+ 1.31
Electric Heat	- 1.71
Not Heated	- 2.78

### Additional upgrades or components

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# Economy Bi-Level

Living Area - 2000 S.F.  
Perimeter - 135 L.F.



	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.39	1.39 1.4%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.69	4.59	8.28 8.5%
<b>3 Framing</b>	Exterior walls - 2" x 4" wood studs, 16" O.C.; 1/2" sheathing; wood truss roof frame, 24" O.C. with 1/2" plywood sheathing; 2" x 8" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	6.45	8.23	14.68 15.1%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; sliding wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	12.88	4.74	17.62 18.1%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.12	1.40	2.52 2.6%
<b>6 Interiors</b>	Walls and ceilings, 1/2" taped and finished gypsum wallboard, primed and painted with 2 coats of finish paint; hollow core wood interior doors, frames and hardware, painted finish; lightweight carpeting with pad, 80%; sheet vinyl flooring, 20%; hardwood tread stairway.	13.64	13.87	27.51 28.3%
<b>7 Specialties</b>	Economy grade kitchen cabinets and countertops; stainless steel kitchen sink; 30 gallon electric water heater.	2.25	.69	2.94 3.0%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet and wall hung lavatory; gas fired hot air heating system.	3.27	3.33	6.60 6.8%
<b>9 Electrical</b>	100 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits and communications cabling; economy grade lighting fixtures.	1.00	1.87	2.87 3.0%
<b>10 Overhead</b>	Contractor's overhead and profit.	6.65	6.04	12.69 13.1%
<b>Total</b>		50.95	46.15	97.10

- Mass produced from stock plans
- Single family — 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are sufficient to meet codes

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1500	1800	2000	2200	2400	2800	3200	3600	4000	4400
Wood Siding - Wood Frame	118.20	108.40	101.15	98.20	94.00	90.55	87.85	84.20	79.95	78.50	75.30
Brick Veneer - Wood Frame	121.60	111.55	103.90	100.85	96.50	92.95	90.20	86.35	81.95	80.45	77.10
Stucco on Wood Frame	110.60	101.55	94.95	92.25	88.35	85.30	82.80	79.50	75.60	74.25	71.30
Solid Masonry	114.30	104.90	97.95	95.15	91.10	87.85	85.25	81.80	77.70	76.35	73.25
Finished Basement, Add*	21.70	20.75	19.90	19.55	19.20	18.80	18.50	18.05	17.65	17.50	17.15
Unfinished Basement, Add*	9.00	8.25	7.55	7.30	7.00	6.70	6.45	6.10	5.75	5.65	5.40

\*Basement under middle level only.

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1247
Solid Surface Countertops	+ 872
Full Bath - including plumbing, wall and floor finishes	+ 6520
Half Bath - including plumbing, wall and floor finishes	+ 3892
One Car Attached Garage	+ 14,543
One Car Detached Garage	+ 18,806
Fireplace & Chimney	+ 6878

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 5490
Additional Bath	+ 6520
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1114

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.93
End Unit	.96

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Composition Roll Roofing	-.75
Cedar Shake Roof	+ 3.25
Upgrade Walls and Ceilings to Skim Coat Plaster	+ .62
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 2.52
In Separate Ductwork	+ 5.42
Heating Systems, Hot Water	+ 1.40
Heat Pump	+ 1.37
Electric Heat	- 1.47
Not Heated	- 2.70

### Additional upgrades or components

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**Economy Tri-Level**

Living Area - 2400 S.F.

Perimeter - 163 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.16	1.16	1.3%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.14	4.98	9.12	10.1%
<b>3 Framing</b>	Exterior walls - 2" x 4" wood studs, 16" O.C.; 1/2" sheathing; wood truss roof frame, 24" O.C. with 1/2" plywood sheathing; 2" x 8" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	5.88	7.44	13.32	14.7%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; sliding wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	11.33	4.15	15.48	17.1%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.49	1.86	3.35	3.7%
<b>6 Interiors</b>	Walls and ceilings, 1/2" taped and finished gypsum wallboard, primed and painted with 2 coats of finish paint; hollow core wood interior doors, frames and hardware, painted finish; lightweight carpeting with pad, 80%; sheet vinyl flooring, 20%; hardwood tread stairway.	12.50	12.54	25.04	27.7%
<b>7 Specialties</b>	Economy grade kitchen cabinets and countertops; stainless steel kitchen sink; 30 gallon electric water heater.	1.88	.57	2.45	2.7%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet and wall hung lavatory; gas fired hot air heating system.	2.91	3.17	6.08	6.7%
<b>9 Electrical</b>	100 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits and communications cabling; economy grade lighting fixtures.	.97	1.80	2.77	3.1%
<b>10 Overhead</b>	Contractor's overhead and profit.	6.15	5.63	11.78	13.0%
<b>Total</b>		47.25	43.30	90.55	

**1 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	50	100	200	300	400	500	600	700
Wood Siding - Wood Frame	205.15	155.85	134.50	110.65	103.70	99.50	96.70	97.20
Brick Veneer - Wood Frame	216.00	163.60	140.95	114.95	107.55	103.10	100.10	100.50
Stucco on Wood Frame	181.35	138.80	120.35	101.20	95.15	91.50	89.10	89.90
Painted Concrete Block	193.95	147.85	127.85	106.25	99.65	95.75	93.10	93.85
Finished Basement, Add	52.45	42.95	38.95	32.35	31.05	30.25	29.70	29.30
Unfinished Basement, Add	28.80	21.45	18.35	13.20	12.20	11.55	11.15	10.85

**1-1/2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	300	400	500	600	700	800
Wood Siding - Wood Frame	162.90	130.90	111.25	98.60	92.70	89.65	86.05	85.05
Brick Veneer - Wood Frame	172.55	138.65	117.65	103.60	97.35	94.05	90.15	89.15
Stucco on Wood Frame	141.60	113.90	97.05	87.50	82.45	80.05	76.95	76.00
Painted Concrete Block	152.90	122.90	104.60	93.40	87.85	85.10	81.75	80.75
Finished Basement, Add	35.15	31.20	28.50	25.65	24.85	24.30	23.80	23.75
Unfinished Basement, Add	17.75	14.65	12.60	10.40	9.75	9.35	8.95	8.90

**2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	400	600	800	1000	1200	1400
Wood Siding - Wood Frame	167.40	124.05	105.20	85.45	79.35	75.60	73.15	73.90
Brick Veneer - Wood Frame	178.15	131.75	111.65	89.75	83.20	79.20	76.55	77.25
Stucco on Wood Frame	143.55	107.00	91.00	76.00	70.80	67.65	65.60	66.65
Painted Concrete Block	156.20	116.00	98.55	81.00	75.30	71.85	69.60	70.50
Finished Basement, Add	26.25	21.50	19.50	16.20	15.55	15.15	14.90	14.70
Unfinished Basement, Add	14.40	10.70	9.15	6.60	6.10	5.80	5.55	5.45

Base costs do not include bathroom or kitchen facilities. Use Modifications/Adjustments/Alternatives on pages 93-96 where appropriate.

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**1 Story****1-1/2 Story****2 Story****2-1/2 Story****Bi-Level****Tri-Level**

- Simple design from standard plans
- Single family — 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



## Base cost per square foot of living area

Exterior Wall	Living Area										
	600	800	1000	1200	1400	1600	1800	2000	2400	2800	3200
Wood Siding - Wood Frame	180.60	161.95	148.30	137.35	128.30	122.40	119.00	115.10	107.35	101.70	97.75
Brick Veneer - Wood Frame	186.65	167.40	153.15	141.75	132.30	126.15	122.65	118.50	110.50	104.65	100.45
Stucco on Wood Frame	173.75	155.85	142.75	132.35	123.70	118.10	114.85	111.20	103.85	98.45	94.75
Solid Masonry	199.90	179.20	163.90	151.50	141.15	134.40	130.55	126.00	117.30	110.95	106.30
Finished Basement, Add	42.20	40.80	38.85	37.15	35.80	34.85	34.40	33.60	32.60	31.80	31.10
Unfinished Basement, Add	17.50	15.85	14.70	13.65	12.80	12.30	11.95	11.50	10.90	10.40	10.00

## Modifications

### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 7278

## Adjustments

### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.92
End Unit	.96

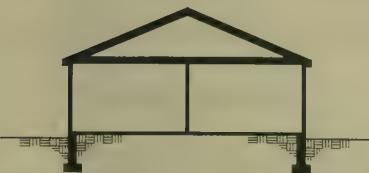
## Alternatives

### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 3.95
Clay Tile Roof	+ 6.90
Slate Roof	+ 7.90
Upgrade Walls to Skim Coat Plaster	+ .44
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 5.02
In Separate Ductwork	+ 7.51
Heating Systems, Hot Water	+ 1.60
Heat Pump	+ 1.18
Electric Heat	- 1.36
Not Heated	- 2.68

## Additional upgrades or components

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Site Improvements	96
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**Average 1 Story**
**Living Area - 1600 S.F.**  
**Perimeter - 163 L.F.**


	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.78	1.78	1.5%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	6.36	7.69	14.05	11.5%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 4" interior partitions.	7.53	10.11	17.64	14.4%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	14.22	5.40	19.62	16.0%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	2.29	2.87	5.16	4.2%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%	13.98	13.62	27.60	22.5%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	5.03	1.54	6.57	5.4%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	4.26	3.67	7.93	6.5%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.64	2.62	4.26	3.5%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	9.39	8.40	17.79	14.5%
<b>Total</b>		64.70	57.70	122.40	

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	600	800	1000	1200	1400	1600	1800	2000	2400	2800	3200
Wood Siding - Wood Frame	206.15	170.75	152.85	143.80	137.60	128.30	123.60	118.90	109.30	105.55	101.35
Brick Veneer - Wood Frame	214.80	177.05	158.65	149.35	142.80	133.00	128.10	123.20	113.15	109.10	104.65
Stucco on Wood Frame	196.10	163.50	146.15	137.60	131.60	122.85	118.50	114.00	105.00	101.40	97.55
Solid Masonry	232.95	190.25	170.85	160.75	153.65	142.90	137.45	132.00	121.00	116.55	111.50
Finished Basement, Add	34.35	30.00	28.65	27.75	27.00	25.95	25.40	24.85	23.75	23.25	22.65
Unfinished Basement, Add	15.00	11.90	11.05	10.40	10.00	9.35	8.95	8.65	8.00	7.70	7.30

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 7278

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.92
End Unit	.96

### Alternatives

#### Add to or deduct from the cost per square foot of living area

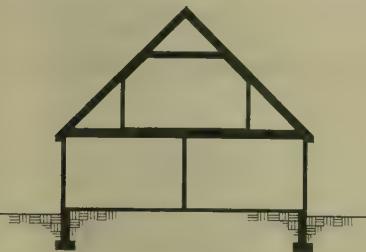
Cedar Shake Roof	+ 2.85
Clay Tile Roof	+ 5
Slate Roof	+ 5.70
Upgrade Walls to Skim Coat Plaster	+ .50
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 3.81
In Separate Ductwork	+ 6.57
Heating Systems, Hot Water	+ 1.51
Heat Pump	+ 1.29
Electric Heat	- 1.23
Not Heated	- 2.58

### Additional upgrades or components

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# Average 1-1/2 Story

Living Area - 1800 S.F.  
Perimeter - 144 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.58	1.58	1.3%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.55	5.65	10.20	8.3%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.51	10.73	19.24	15.6%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	15.72	5.88	21.60	17.5%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.67	2.08	3.75	3.0%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	16.47	15.46	31.93	25.8%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	4.47	1.36	5.83	4.7%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	3.89	3.51	7.40	6.0%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.60	2.52	4.12	3.3%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	9.67	8.28	17.95	14.5%
<b>Total</b>		66.55	57.05	123.60	

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2200	2600	3000	3400	3800
Wood Siding - Wood Frame	156.90	141.70	134.40	129.30	124.15	118.75	115.10	108.15	101.60	98.40	95.65
Brick Veneer - Wood Frame	163.15	147.55	139.85	134.50	129.00	123.45	119.55	112.20	105.35	102.05	99.05
Stucco on Wood Frame	149.90	135.20	128.40	123.60	118.70	113.60	110.15	103.60	97.40	94.45	91.90
Solid Masonry	177.85	161.15	152.60	146.70	140.40	134.50	130.05	121.65	114.10	110.35	106.95
Finished Basement, Add	24.25	23.90	23.15	22.65	22.00	21.65	21.25	20.45	19.90	19.55	19.20
Unfinished Basement, Add	9.55	8.95	8.40	8.10	7.75	7.50	7.30	6.80	6.45	6.20	6.00

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 8040

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

### Alternatives

#### Add to or deduct from the cost per square foot of living area

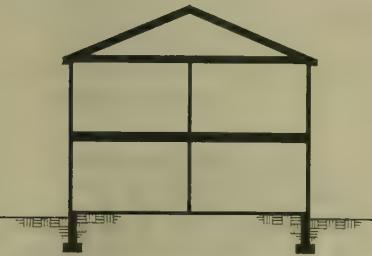
Cedar Shake Roof	+ 1.95
Clay Tile Roof	+ 3.45
Slate Roof	+ 3.95
Upgrade Walls to Skim Coat Plaster	+ .52
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 3.04
In Separate Ductwork	+ 5.97
Heating Systems, Hot Water	+ 1.49
Heat Pump	+ 1.37
Electric Heat	- 1.07
Not Heated	- 2.49

### Additional upgrades or components

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# Average 2 Story

Living Area - 2000 S.F.  
Perimeter - 135 L.F.



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.43	1.43	1.2%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.79	4.72	8.51	7.2%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.14	10.05	18.19	15.3%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	16.36	6.17	22.53	19.0%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.15	1.44	2.59	2.2%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	16.39	15.55	31.94	26.9%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	4.04	1.23	5.27	4.4%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	3.62	3.41	7.03	5.9%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures	1.57	2.45	4.02	3.4%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	9.34	7.90	17.24	14.5%
		<b>Total</b>	64.40	54.35	<b>118.75</b>

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000	4400
Wood Siding - Wood Frame	156.50	146.50	133.55	130.95	126.05	118.15	112.00	105.75	102.60	97.00	95.15
Brick Veneer - Wood Frame	163.35	152.70	139.30	136.65	131.35	123.00	116.65	109.95	106.60	100.70	98.75
Stucco on Wood Frame	148.70	139.50	127.15	124.55	120.05	112.75	106.80	101.05	98.10	92.85	91.15
Solid Masonry	178.70	166.60	152.10	149.50	143.45	133.85	127.10	119.40	115.55	109.00	106.75
Finished Basement, Add	20.45	20.05	19.30	19.25	18.70	17.95	17.65	16.95	16.70	16.35	16.15
Unfinished Basement, Add	7.95	7.35	6.90	6.80	6.50	6.05	5.80	5.45	5.25	5.00	4.90

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 8820

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

### Alternatives

#### Add to or deduct from the cost per square foot of living area

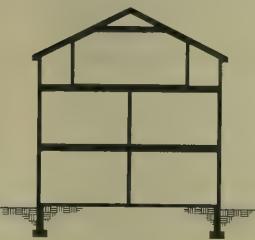
Cedar Shake Roof	+ 1.70
Clay Tile Roof	+ .3
Slate Roof	+ 3.40
Upgrade Walls to Skim Coat Plaster	+ .50
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 2.77
In Separate Ductwork	+ 5.78
Heating Systems, Hot Water	+ 1.36
Heat Pump	+ 1.40
Electric Heat	- 1.90
Not Heated	- 2.91

### Additional upgrades or components

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Garages	96
Site Improvements	96
Wings & Ells	56

# Average 2-1/2 Story

Living Area - 3200 S.F.  
Perimeter - 150 L.F.



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		.89	.89	0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	2.71	3.35	6.06	5.7%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.15	9.86	18.01	17.0%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	14.10	5.22	19.32	18.3%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.02	1.27	2.29	2.2%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	16.15	15.04	31.19	29.5%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	2.51	.76	3.27	3.1%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	2.67	3.04	5.71	5.4%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.46	2.18	3.64	3.4%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	8.28	7.09	15.37	14.5%
		<b>Total</b>	57.05	48.70	<b>105.75</b>

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1500	1800	2100	2500	3000	3500	4000	4500	5000	5500	6000
Wood Siding - Wood Frame	142.15	128.65	122.60	117.75	108.90	104.90	99.45	93.75	91.85	89.65	87.35
Brick Veneer - Wood Frame	148.35	134.35	127.95	122.90	113.50	109.25	103.45	97.40	95.40	93.05	90.60
Stucco on Wood Frame	135.35	122.35	116.70	112.10	103.80	100.10	95.05	89.65	87.90	85.85	83.75
Solid Masonry	163.20	148.15	140.80	135.20	124.65	119.80	113.05	106.25	103.95	101.25	98.35
Finished Basement, Add	17.55	17.35	16.85	16.50	15.90	15.55	15.10	14.70	14.55	14.35	14.10
Unfinished Basement, Add	6.45	6.05	5.70	5.50	5.10	4.90	4.65	4.40	4.30	4.20	4.05

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 8820

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.88
End Unit	.94

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 1.30
Clay Tile Roof	+ 2.30
Slate Roof	+ 2.65
Upgrade Walls to Skim Coat Plaster	+ .52
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 2.77
In Separate Ductwork	+ 5.78
Heating Systems, Hot Water	+ 1.36
Heat Pump	+ 1.40
Electric Heat	- 1.47
Not Heated	- 2.71

### Additional upgrades or components

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Finished Attic	95
Garages	96
Site Improvements	96
Wings & Ells	56

**Average 3 Story**

Living Area - 3000 S.F.

Perimeter - 135 L.F.



		Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1</b>	<b>Site Work</b>		.96	.96	0.9%
<b>2</b>	<b>Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	2.51	3.15	5.66
<b>3</b>	<b>Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.10	9.71	17.81
<b>4</b>	<b>Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	15.63	5.86	21.49
<b>5</b>	<b>Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	.76	.96	1.72
<b>6</b>	<b>Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	16.75	15.64	32.39
<b>7</b>	<b>Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	2.69	.82	3.51
<b>8</b>	<b>Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	2.78	3.08	5.86
<b>9</b>	<b>Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.48	2.21	3.69
<b>10</b>	<b>Overhead</b>	Contractor's overhead and profit and plans.	8.60	7.21	15.81
		<b>Total</b>	59.30	49.60	108.90

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2200	2600	3000	3400	3800
Wood Siding - Wood Frame	146.00	131.65	125.00	120.30	115.65	110.55	107.30	101.10	95.10	92.30	89.85
Brick Veneer - Wood Frame	150.75	136.05	129.10	124.25	119.35	114.15	110.75	104.20	97.95	95.00	92.40
Stucco on Wood Frame	140.65	126.70	120.35	115.90	111.50	106.55	103.50	97.65	91.90	89.25	86.95
Solid Masonry	161.70	146.20	138.55	133.35	127.85	122.35	118.50	111.25	104.45	101.20	98.30
Finished Basement, Add	24.25	23.90	23.15	22.65	22.00	21.65	21.25	20.45	19.90	19.55	19.20
Unfinished Basement, Add	9.55	8.95	8.40	8.10	7.75	7.50	7.30	6.80	6.45	6.20	6.00

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 7278

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.91
End Unit	.96

### Alternatives

#### Add to or deduct from the cost per square foot of living area

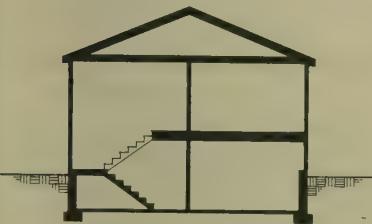
Cedar Shake Roof	+ 1.95
Clay Tile Roof	+ 3.45
Slate Roof	+ 3.95
Upgrade Walls to Skim Coat Plaster	+ .48
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 3.04
In Separate Ductwork	+ 5.97
Heating Systems, Hot Water	+ 1.49
Heat Pump	+ 1.37
Electric Heat	- 1.07
Not Heated	- 2.49

### Additional upgrades or components

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# Average Bi-Level

Living Area - 2000 S.F.  
Perimeter - 135 L.F.



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.43	1.43	1.3%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.79	4.72	8.51	7.7%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.52	9.28	16.80	15.2%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	12.83	4.85	17.68	16.0%
<b>5 Roofing</b>	25 year roof asphalt shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.15	1.44	2.59	2.3%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	16.08	15.09	31.17	28.2%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	4.04	1.23	5.27	4.8%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	3.62	3.41	7.03	6.4%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.57	2.45	4.02	3.6%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	8.60	7.45	16.05	14.5%
		<b>Total</b>	59.20	51.35	<b>110.55</b>

- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1500	1800	2100	2400	2700	3000	3400	3800	4200	4600
Wood Siding - Wood Frame	135.75	124.40	115.85	108.50	103.85	101.15	98.05	95.25	90.75	87.10	85.20
Brick Veneer - Wood Frame	140.20	128.40	119.50	111.80	106.90	104.15	100.85	98.00	93.25	89.50	87.45
Stucco on Wood Frame	130.80	119.90	111.75	104.80	100.40	97.80	94.90	92.25	87.90	84.40	82.65
Solid Masonry	150.20	137.45	127.60	119.20	113.85	110.85	107.20	104.05	98.90	94.80	92.65
Finished Basement, Add*	27.85	27.40	26.25	25.30	24.70	24.40	23.90	23.60	23.05	22.70	22.45
Unfinished Basement, Add*	10.70	9.95	9.20	8.65	8.30	8.10	7.80	7.60	7.35	7.10	6.90

\*Basement under middle level only.

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 7278

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 2.85
Clay Tile Roof	+ 5
Slate Roof	+ 5.70
Upgrade Walls to Skim Coat Plaster	+ .42
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	+ 2.56
In Separate Ductwork	+ 5.61
Heating Systems, Hot Water	+ 1.45
Heat Pump	+ 1.43
Electric Heat	-.90
Not Heated	- 2.41

### Additional upgrades or components

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# Average Tri-Level

Living Area - 2400 S.F.  
Perimeter - 163 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.19	1.19	1.1%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.25	5.12	9.37	9.0%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.16	9.03	16.19	15.6%
<b>4 Exterior Walls</b>	Beveled wood siding and housewrap on insulated wood frame walls; R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	11.29	4.26	15.55	15.0%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.53	1.91	3.44	3.3%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	14.76	13.69	28.45	27.4%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	3.35	1.03	4.38	4.2%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	3.08	3.25	6.33	6.1%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.53	2.33	3.86	3.7%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	8.00	7.09	15.09	14.5%
	<b>Total</b>	54.95	48.90	<b>103.85</b>	

- Post and beam frame
- Log exterior walls
- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	600	800	1000	1200	1400	1600	1800	2000	2400	2800	3200
6" Log - Solid Wall	197.55	178.20	164.05	152.70	143.25	137.10	133.60	129.50	121.45	115.60	111.40
8" Log - Solid Wall	185.10	167.15	154.00	143.65	134.95	129.35	126.10	122.45	115.00	109.70	105.95
Finished Basement, Add	42.20	40.80	38.85	37.15	35.80	34.85	34.40	33.60	32.60	31.80	31.10
Unfinished Basement, Add	17.50	15.85	14.70	13.65	12.80	12.30	11.95	11.50	10.90	10.40	10.00

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 7278

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.92
End Unit	.96

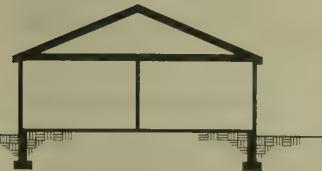
### Alternatives

#### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 3.95
Air Conditioning, in Heating Ductwork	+ 5.02
In Separate Ductwork	+ 7.50
Heating Systems, Hot Water	+ 1.60
Heat Pump	+ 1.17
Electric Heat	- 1.42
Not Heated	- 2.68

### Additional upgrades or components

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**Solid Wall 1 Story**
**Living Area - 1600 S.F.  
Perimeter - 163 L.F.**

	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.78	1.78	1.3%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	6.36	7.69	14.05	10.2%
<b>3 Framing</b>	Exterior walls - precut traditional log home, handcrafted white cedar or pine logs, delivery included; heavy timber roof framing with 2" thick tongue and groove decking, rigid insulation with 5/8" sheathing; 2" x 4" interior partitions.	27.05	16.62	43.67	31.9%
<b>4 Exterior Walls</b>	R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	5.68	2.84	8.52	6.2%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	2.29	2.87	5.16	3.8%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%.	13.02	12.20	25.22	18.4%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	5.03	1.54	6.57	4.8%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	4.26	3.67	7.93	5.8%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.64	2.62	4.26	3.1%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	11.12	8.82	19.94	14.5%
		<b>Total</b>	76.45	60.65	<b>137.10</b>

- Post and beam frame
- Log exterior walls
- Simple design from standard plans
- Single family – 1 full bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Hot air heat
- Gypsum wallboard interior finishes
- Materials and workmanship are average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



## Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2200	2600	3000	3400	3800
6" Log - Solid Wall	168.40	152.85	145.15	139.80	134.35	128.85	124.95	117.60	110.80	107.45	104.50
8" Log - Solid Wall	155.50	140.90	134.05	129.25	124.35	119.15	115.80	109.30	103.10	100.20	97.60
Finished Basement, Add	24.25	23.90	23.15	22.65	22.00	21.65	21.25	20.45	19.90	19.55	19.20
Unfinished Basement, Add	9.55	8.95	8.40	8.10	7.75	7.50	7.30	6.80	6.45	6.20	6.00

## Modifications

### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 6069
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 8150
Half Bath - including plumbing, wall and floor finishes	+ 4865
One Car Attached Garage	+ 15,712
One Car Detached Garage	+ 20,673
Fireplace & Chimney	+ 8040

## Adjustments

### For multi family - add to total cost

Additional Kitchen	\$ + 10,263
Additional Bath	+ 8150
Additional Entry & Exit	+ 1811
Separate Heating	+ 1605
Separate Electric	+ 1912

### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.92
End Unit	.96

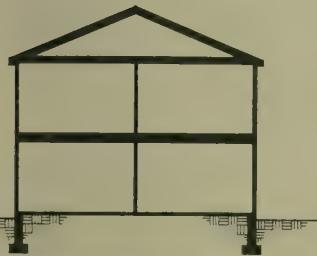
## Alternatives

### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 1.95
Air Conditioning, in Heating Ductwork	+ 3.04
In Separate Ductwork	+ 5.97
Heating Systems, Hot Water	+ 1.49
Heat Pump	+ 1.37
Electric Heat	- 1.07
Not Heated	- 2.49

## Additional upgrades or components

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Site Improvements	96
Wings & Ells	56



# Solid Wall 2 Story

Living Area - 2000 S.F.  
Perimeter - 135 L.F.

	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.43	1.43 1.1%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 10" deep x 20" wide; damproofed and insulated 8" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.79	4.72	8.51 6.6%
<b>3 Framing</b>	Exterior walls - precut traditional log home, handcrafted white cedar or pine logs, delivery included; heavy timber roof framing with 2" thick T. & G. decking, rigid insulation with 5/8" sheathing; heavy timber columns, beams & joists with 2" thick T. & G. decking; 2" x 4" interior partitions.	27.76	15.96	43.72 33.9%
<b>4 Exterior Walls</b>	R38 attic insulation; double hung wood windows; flush solid core doors, frame and hardware, painted finish; aluminum storm and screen doors.	5.71	2.99	8.70 6.8%
<b>5 Roofing</b>	25 year asphalt roof shingles; #15 felt building paper; aluminum gutters, downspouts, drip edge and flashings.	1.15	1.44	2.59 2.0%
<b>6 Interiors</b>	Walls & ceilings, 1/2" taped & finished gypsum wallboard, primed & painted with 2 coats of finish paint; birch faced hollow core interior doors, frames & hardware, painted finish; medium weight carpeting with pad, 40%; sheet vinyl, 15%; oak hardwood, 40%; ceramic tile, 5%; hardwood tread stairway.	15.14	13.70	28.84 22.4%
<b>7 Specialties</b>	Average grade kitchen cabinets and countertop; stainless steel kitchen sink; 40 gallon electric water heater.	4.04	1.23	5.27 4.1%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired hot air heating system.	3.62	3.41	7.03 5.5%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, fans and communications cabling; average grade lighting fixtures.	1.57	2.45	4.02 3.1%
<b>10 Overhead</b>	Contractor's overhead and profit and plans.	10.67	8.07	18.74 14.5%
<b>Total</b>		73.45	55.40	<b>128.85</b>

**1 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	50	100	200	300	400	500	600	700
Wood Siding - Wood Frame	234.00	180.25	156.85	131.50	123.85	119.30	116.20	117.05
Brick Veneer - Wood Frame	234.50	176.75	151.70	123.60	115.35	110.50	107.20	107.85
Stucco on Wood Frame	218.50	169.10	147.50	125.15	118.15	113.95	111.15	112.15
Solid Masonry	285.80	217.25	187.70	152.10	142.40	136.55	134.50	134.50
Finished Basement, Add	67.40	55.85	50.30	41.05	39.20	38.05	37.30	36.80
Unfinished Basement, Add	31.60	23.95	20.80	15.55	14.50	13.85	13.40	13.10

**1-1/2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	300	400	500	600	700	800
Wood Siding - Wood Frame	190.30	153.25	131.05	117.30	110.60	107.30	103.20	102.05
Brick Veneer - Wood Frame	244.65	184.20	153.35	134.25	124.95	119.95	114.50	112.55
Stucco on Wood Frame	218.60	163.30	135.95	120.70	112.40	108.15	103.35	101.50
Solid Masonry	278.50	211.25	175.85	151.85	141.20	135.30	129.00	126.95
Finished Basement, Add	45.45	41.15	37.45	33.35	32.25	31.50	30.80	30.75
Unfinished Basement, Add	19.90	16.70	14.65	12.30	11.70	11.20	10.80	10.80

**2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	400	600	800	1000	1200	1400
Wood Siding - Wood Frame	189.95	142.45	121.70	100.60	93.90	89.80	87.15	88.15
Brick Veneer - Wood Frame	249.30	175.15	141.35	113.70	104.55	99.00	95.35	95.70
Stucco on Wood Frame	220.15	154.25	123.95	102.15	94.20	89.30	86.15	86.80
Solid Masonry	287.20	202.20	163.95	128.80	118.15	111.65	107.35	107.35
Finished Basement, Add	35.85	30.20	27.40	22.75	21.80	21.25	20.85	20.60
Unfinished Basement, Add	15.95	12.20	10.55	7.95	7.45	7.10	6.85	6.75

Base costs do not include bathroom or kitchen facilities. Use Modifications/Adjustments/Alternatives on pages 93-96 where appropriate.

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**1 Story****1-1/2 Story****2 Story****2-1/2 Story****Bi-Level****Tri-Level**

- A distinct residence from designer's plans
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	800	1000	1200	1400	1600	1800	2000	2400	2800	3200	3600
Wood Siding - Wood Frame	224.60	202.70	185.50	171.85	162.55	157.15	151.05	139.90	131.75	126.00	120.15
Brick Veneer - Wood Frame	236.75	213.65	195.40	180.85	170.95	165.30	158.70	146.95	138.20	131.95	125.70
Stone Veneer - Wood Frame	261.10	235.75	215.30	199.00	187.95	181.70	174.05	160.95	151.20	144.05	136.90
Solid Masonry	247.10	223.05	203.90	188.60	178.15	172.30	165.25	152.85	143.70	137.05	130.55
Finished Basement, Add	62.25	62.00	59.30	57.20	55.70	54.90	53.75	52.20	50.95	49.85	48.90
Unfinished Basement, Add	27.15	25.65	24.25	23.15	22.40	22.00	21.40	20.55	19.90	19.30	18.80

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 7575

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 3
Clay Tile Roof	+ 5.95
Slate Roof	+ 6.95
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.64
Heat Pump	+ 1.17
Electric Heat	- 3.99
Not Heated	+ 3.36

### Additional upgrades or components

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Finished Attic	95
Garages	96
Site Improvements	96
Wings & Ells	74

# Custom 1 Story

Living Area - 2400 S.F.

Perimeter - 207 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.33	1.33	1.0%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	7.15	8.16	15.31	10.9%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 4" interior partitions.	7.21	9.67	16.88	12.1%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	12.15	4.22	16.37	11.7%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	5.38	4.09	9.47	6.8%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%.	16.24	13.87	30.11	21.5%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	8.84	1.67	10.51	7.5%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	7.52	3.75	11.27	8.1%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.51	2.82	5.33	3.8%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	13.40	9.92	23.32	16.7%
<b>Total</b>		80.40	59.50	139.90	

- A distinct residence from designer's plans
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



## Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000
Wood Siding - Wood Frame	202.70	188.15	177.80	165.65	158.55	151.65	138.85	132.90	127.35	123.20	117.50
Brick Veneer - Wood Frame	215.75	200.35	189.40	176.25	168.60	161.20	147.30	140.85	134.70	130.35	124.05
Stone Veneer - Wood Frame	242.05	225.05	212.90	197.55	188.85	180.45	164.25	156.90	149.60	144.70	137.40
Solid Masonry	226.80	210.75	199.30	185.20	177.05	169.25	154.45	147.65	140.95	136.35	129.65
Finished Basement, Add	41.25	41.55	40.45	38.75	37.90	37.05	35.30	34.55	33.65	33.25	32.50
Unfinished Basement, Add	18.20	17.45	16.90	16.05	15.55	15.10	14.20	13.85	13.35	13.15	12.75

## Modifications

### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 7575

## Adjustments

### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

## Alternatives

### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 2.15
Clay Tile Roof	+ 4.30
Slate Roof	+ 5
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.58
Heat Pump	+ 1.22
Electric Heat	- 3.50
Not Heated	+ 3.10

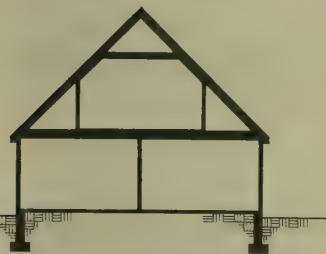
## Additional upgrades or components

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# Custom 1-1/2 Story

Living Area - 2800 S.F.

Perimeter - 175 L.F.



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.14	1.14	0.9%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	5.03	5.82	10.85	8.2%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.03	10.04	18.07	13.6%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	11.89	4.18	16.07	12.1%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	3.90	2.96	6.86	5.2%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	18.29	15.32	33.61	25.3%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	7.55	1.42	8.97	6.7%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.46	3.50	9.96	7.5%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.47	2.73	5.20	3.9%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	12.73	9.44	22.17	16.7%
<b>Total</b>		76.35	56.55	<b>132.90</b>	

- A distinct residence from designer's plans
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000	4400
Wood Siding - Wood Frame	184.90	173.50	165.30	158.05	150.45	139.55	130.25	124.15	120.55	116.65	113.55
Brick Veneer - Wood Frame	197.90	185.60	176.90	168.95	160.95	149.05	138.85	132.25	128.35	124.00	120.55
Stone Veneer - Wood Frame	224.00	210.00	200.15	190.95	182.10	168.05	156.25	148.55	144.00	138.75	134.85
Solid Masonry	209.30	196.30	187.10	178.50	170.15	157.35	146.50	139.35	135.20	130.50	126.80
Finished Basement, Add	33.20	33.45	32.55	31.70	31.05	29.75	28.60	27.95	27.50	27.00	26.55
Unfinished Basement, Add	14.65	14.00	13.55	13.10	12.80	12.15	11.55	11.20	11.00	10.65	10.50

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 8550

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.87
End Unit	.93

### Alternatives

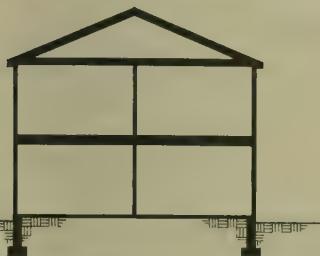
#### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 1.50
Clay Tile Roof	+ 3
Slate Roof	+ 3.50
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.51
Heat Pump	+ 1.36
Electric Heat	- 3.50
Not Heated	+ 2.92

### Additional upgrades or components

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# Custom 2 Story

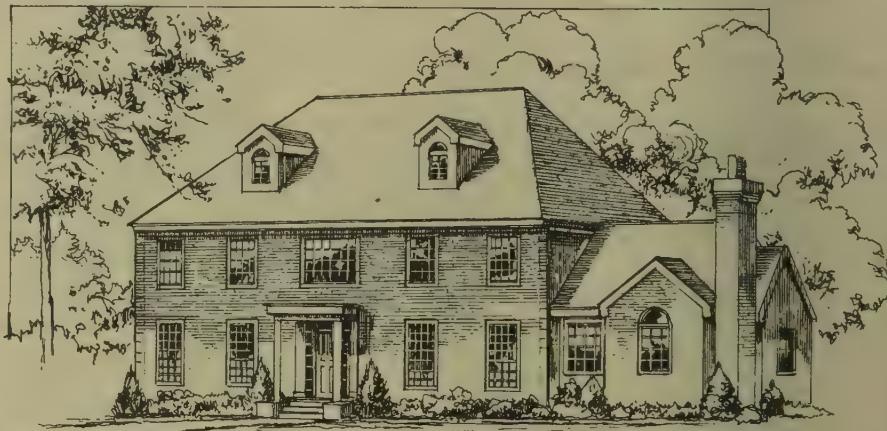


Living Area - 2800 S.F.  
Perimeter - 156 L.F.

	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.14	1.14 0.9%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.26	4.98	9.24 7.1%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.69	9.42	17.11 13.1%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	12.89	4.53	17.42 13.4%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	2.70	2.05	4.75 3.6%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	18.76	15.75	34.51 26.5%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	7.55	1.42	8.97 6.9%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.64	3.55	10.19 7.8%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.47	2.73	5.20 4.0%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	12.59	9.13	21.72 16.7%
<b>Total</b>		75.55	54.70	<b>130.25</b>

- A distinct residence from designer's plans
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1500	1800	2100	2400	2800	3200	3600	4000	4500	5000	5500
Wood Siding - Wood Frame	181.90	163.75	152.90	146.35	137.85	129.90	125.50	118.60	114.90	111.60	108.25
Brick Veneer - Wood Frame	195.80	176.50	164.35	157.15	148.20	139.25	134.35	126.90	122.70	119.00	115.35
Stone Veneer - Wood Frame	223.70	202.25	187.30	179.00	169.00	158.10	152.20	143.45	138.45	134.00	129.60
Solid Masonry	207.80	187.60	174.25	166.60	157.10	147.35	142.05	134.00	129.50	125.50	121.45
Finished Basement, Add	26.35	26.35	24.95	24.30	23.75	22.80	22.25	21.70	21.25	20.85	20.50
Unfinished Basement, Add	11.75	11.15	10.40	10.10	9.80	9.25	9.05	8.70	8.50	8.30	8.15

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 8550

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.87
End Unit	.94

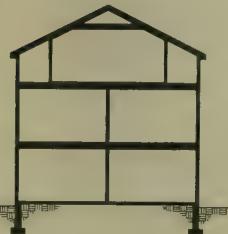
### Alternatives

#### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 1.30
Clay Tile Roof	+ 2.60
Slate Roof	+ 3
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.38
Heat Pump	+ 1.40
Electric Heat	- 6.18
Not Heated	+ 2.92

### Additional upgrades or components

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**Custom 2-1/2 Story**Living Area - 3200 S.F.  
Perimeter - 150 L.F.

	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		.99	.99	0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.53	4.13	7.66	5.9%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.29	10.03	18.32	14.1%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	13.33	4.72	18.05	13.9%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	2.40	1.82	4.22	3.2%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	19.91	16.71	36.62	28.2%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	6.61	1.24	7.85	6.0%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	5.98	3.42	9.40	7.2%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.45	2.67	5.12	3.9%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	12.50	9.17	21.67	16.7%
<b>Total</b>		75.00	54.90	129.90	

- A distinct residence from designer's plans
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1500	1800	2100	2500	3000	3500	4000	4500	5000	5500	6000
Wood Siding - Wood Frame	178.55	160.65	151.85	144.35	133.15	127.40	120.55	113.50	110.80	108.10	105.25
Brick Veneer - Wood Frame	192.35	173.45	163.80	155.70	143.45	137.15	129.45	121.75	118.80	115.75	112.40
Stone Veneer - Wood Frame	220.15	199.15	187.80	178.70	164.25	156.95	147.40	138.30	134.80	131.10	126.95
Solid Masonry	204.60	184.80	174.35	165.85	152.60	145.85	137.40	129.05	125.85	122.45	118.90
Finished Basement, Add	23.15	23.10	22.25	21.65	20.70	20.10	19.40	18.80	18.55	18.25	17.90
Unfinished Basement, Add	10.30	9.75	9.35	9.05	8.55	8.25	7.90	7.60	7.45	7.30	7.15

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 9655

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

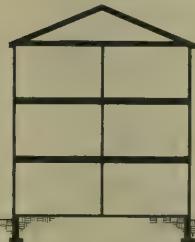
Inner Unit	.85
End Unit	.93

### Alternatives

Add to or deduct from the cost per square foot of living area	
Cedar Shake Roof	+ 1
Clay Tile Roof	+ 2
Slate Roof	+ 2.30
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.38
Heat Pump	+ 1.40
Electric Heat	- 6.18
Not Heated	+ 2.83

### Additional upgrades or components

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Finished Attic	95
Garages	96
Site Improvements	96
Wings & Ells	74

**Custom 3 Story****Living Area - 3000 S.F.****Perimeter - 135 L.F.**

	Cost Per Square Foot Of Living Area	% of Total	
		Mat.	Inst.
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.07 1.07 0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.29	3.91 7.20 5.4%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.25	9.86 18.11 13.6%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	14.83	5.27 20.10 15.1%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	1.80	1.36 3.16 2.4%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	20.62	17.33 37.95 28.5%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	7.06	1.34 8.40 6.3%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.30	3.48 9.78 7.3%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.46	2.70 5.16 3.9%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	12.94	9.28 22.22 16.7%
<b>Total</b>		77.55	55.60 133.15

- A distinct residence from designer's plans
- Single family – 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000	4400
Wood Siding - Wood Frame	175.20	164.45	156.60	149.95	142.55	132.40	123.75	118.10	114.70	111.25	108.20
Brick Veneer - Wood Frame	185.05	173.70	165.40	158.20	150.60	139.65	130.35	124.25	120.65	116.85	113.60
Stone Veneer - Wood Frame	204.90	192.20	183.20	174.90	166.65	154.15	143.55	136.65	132.60	128.05	124.45
Solid Masonry	193.65	181.70	173.10	165.40	157.55	146.00	136.10	129.60	125.80	121.65	118.30
Finished Basement, Add	33.20	33.45	32.55	31.70	31.05	29.75	28.60	27.95	27.50	27.00	26.55
Unfinished Basement, Add	14.65	14.00	13.55	13.10	12.80	12.15	11.55	11.20	11.00	10.65	10.50

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 7575

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.89
End Unit	.95

### Alternatives

#### Add to or deduct from the cost per square foot of living area

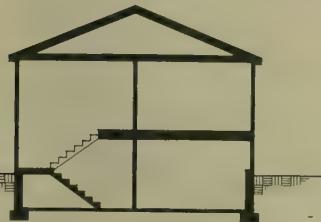
Cedar Shake Roof	+ 1.50
Clay Tile Roof	+ 3
Slate Roof	+ 3.50
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.51
Heat Pump	+ 1.36
Electric Heat	- 3.50
Not Heated	+ 2.83

### Additional upgrades or components

Kitchen Cabinets & Countertops	Page 93
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# Custom Bi-Level

**Living Area - 2800 S.F.  
Perimeter - 156 L.F.**



	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.14	1.14	0.9%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.26	4.98	9.24	7.5%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.18	8.78	15.96	12.9%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	10.27	3.60	13.87	11.2%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	2.70	2.05	4.75	3.8%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	18.49	15.33	33.82	27.3%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	7.55	1.42	8.97	7.2%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.64	3.55	10.19	8.2%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.47	2.73	5.20	4.2%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	11.89	8.72	20.61	16.7%
<b>Total</b>		71.45	52.30	123.75	

- A distinct residence from designer's plans
- Single family – 1 full bath, 1 half bath, 1 kitchen
- No basement
- Asphalt shingles on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Materials and workmanship are above average

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



## Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1500	1800	2100	2400	2800	3200	3600	4000	4500	5000
Wood Siding - Wood Frame	181.20	164.10	151.40	140.90	134.00	128.60	122.60	116.40	113.65	107.80	104.50
Brick Veneer - Wood Frame	191.10	173.10	159.50	148.25	140.90	135.25	128.80	122.15	119.20	112.90	109.35
Stone Veneer - Wood Frame	211.05	191.15	175.85	163.10	154.80	148.65	141.15	133.65	130.35	123.20	119.05
Solid Masonry	199.70	180.85	166.50	154.65	146.85	141.05	134.10	127.05	124.05	117.35	113.55
Finished Basement, Add*	41.50	41.30	39.55	38.10	37.15	36.50	35.55	34.75	34.40	33.60	33.10
Unfinished Basement, Add*	18.10	17.10	16.15	15.35	14.90	14.60	14.10	13.65	13.50	13.05	12.80

\*Basement under middle level only.

## Modifications

### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 1908
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 9780
Half Bath - including plumbing, wall and floor finishes	+ 5838
Two Car Attached Garage	+ 30,463
Two Car Detached Garage	+ 34,885
Fireplace & Chimney	+ 7575

## Adjustments

### For multi family - add to total cost

Additional Kitchen	\$ + 23,040
Additional Full Bath & Half Bath	+ 15,618
Additional Entry & Exit	+ 1811
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.87
End Unit	.94

## Alternatives

### Add to or deduct from the cost per square foot of living area

Cedar Shake Roof	+ 2.15
Clay Tile Roof	+ 4.30
Slate Roof	+ 5
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.47
Heat Pump	+ 1.42
Electric Heat	- 3.14
Not Heated	+ 2.83

## Additional upgrades or components

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# Custom Tri-Level

Living Area - 3200 S.F.  
Perimeter - 198 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		.99	.99	0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 4" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	5.01	5.76	10.77	8.8%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10' rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 10" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.08	8.96	16.04	13.1%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; plastic clad double hung wood windows; raised panel exterior doors, frames and hardware, painted finish; wood storm and screen door.	10.17	3.54	13.71	11.2%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	3.59	2.73	6.32	5.2%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	17.40	14.58	31.98	26.1%
<b>7 Specialties</b>	Custom grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	6.61	1.24	7.85	6.4%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	5.98	3.42	9.40	7.7%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; custom grade lighting fixtures.	2.45	2.67	5.12	4.2%
<b>10 Overhead</b>	Contractor's overhead and profit and design.	11.66	8.76	20.42	16.7%
<b>Total</b>		69.95	52.65	122.60	

**1 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	50	100	200	300	400	500	600	700
Wood Siding - Wood Frame	266.65	206.95	181.00	153.35	144.85	139.70	136.35	137.35
Brick Veneer - Wood Frame	297.80	229.25	199.60	165.75	156.00	150.10	146.25	146.95
Stone Veneer - Wood Frame	360.70	274.20	237.00	190.70	178.40	171.10	166.20	166.15
Solid Masonry	328.85	251.40	218.10	178.05	167.05	160.40	156.05	156.45
Finished Basement, Add	100.60	85.70	77.55	64.05	61.30	59.65	58.60	57.80
Unfinished Basement, Add	73.90	51.15	40.70	31.25	28.80	27.30	26.30	25.55

**1-1/2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	300	400	500	600	700	800
Wood Siding - Wood Frame	212.45	174.00	150.65	136.80	129.65	126.25	121.95	120.70
Brick Veneer - Wood Frame	240.35	196.30	169.20	151.25	142.95	138.90	133.85	132.50
Stone Veneer - Wood Frame	296.45	241.25	206.65	180.40	169.95	164.35	157.95	156.35
Solid Masonry	268.00	218.45	187.70	165.65	156.35	151.50	145.75	144.25
Finished Basement, Add	67.10	62.05	56.60	50.65	49.00	47.95	46.95	46.75
Unfinished Basement, Add	44.25	33.75	28.80	24.50	23.00	22.05	21.20	20.90

**2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	400	600	800	1000	1200	1400
Wood Siding - Wood Frame	211.55	161.05	138.95	117.65	110.40	106.05	103.20	104.60
Brick Veneer - Wood Frame	242.75	183.35	157.55	130.05	121.60	116.50	113.10	114.15
Stone Veneer - Wood Frame	305.60	228.25	194.95	154.95	144.00	137.45	133.10	133.40
Solid Masonry	273.80	205.50	176.05	142.35	132.60	126.80	122.90	123.70
Finished Basement, Add	50.35	42.85	38.85	32.05	30.65	29.90	29.40	28.95
Unfinished Basement, Add	36.95	25.55	20.35	15.65	14.40	13.60	13.15	12.80

Base costs do not include bathroom or kitchen facilities. Use Modifications/Adjustments/Alternatives on pages 93-96 where appropriate.

# Luxury Class

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**1 Story****1-1/2 Story****2 Story****2-1/2 Story****Bi-Level****Tri-Level**

- Unique residence built from an architect's plan
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000
Wood Siding - Wood Frame	237.95	217.25	200.75	189.50	182.95	175.50	162.15	152.55	145.60	138.75	133.10
Brick Veneer - Wood Frame	250.25	228.25	210.85	198.95	192.05	184.05	169.95	159.75	152.30	144.95	138.95
Solid Brick	264.10	240.80	222.25	209.65	202.30	193.75	178.80	167.95	159.90	152.05	145.50
Solid Stone	285.40	260.00	239.75	226.00	218.15	208.55	192.35	180.50	171.45	162.80	155.65
Finished Basement, Add	61.20	65.85	63.20	61.40	60.35	58.95	56.95	55.40	54.00	52.85	51.85
Unfinished Basement, Add	27.40	25.70	24.30	23.45	22.95	22.25	21.15	20.40	19.70	19.10	18.55

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 10,758

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

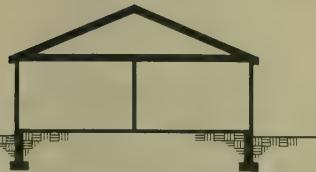
### Alternatives

#### Add to or deduct from the cost per square foot of living area

Heavyweight Asphalt Shingles	- 3
Clay Tile Roof	+ 2.95
Slate Roof	+ 3.95
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.77
Heat Pump	+ 1.26
Electric Heat	- 3.50
Not Heated	+ 3.65

### Additional upgrades or components

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**Luxury 1 Story**
**Living Area - 2800 S.F.**  
**Perimeter - 219 L.F.**


Cost Per Square Foot Of Living Area			% of Total (rounded)
Mat.	Inst.	Total	

<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.23	1.23	0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	8.47	8.49	16.96	11.1%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 4" interior partitions.	7.58	10.11	17.69	11.6%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	12.79	4.29	17.08	11.2%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	5.82	4.42	10.24	6.7%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%.	14.58	15.29	29.87	19.6%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	10.02	1.86	11.88	7.8%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	7.41	3.93	11.34	7.4%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures.	3.77	2.96	6.73	4.4%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	16.91	12.62	29.53	19.4%

<b>Total</b>	87.35	65.20	152.55
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- Unique residence built from an architect's plan
- Single family – 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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### Base cost per square foot of living area

Exterior Wall	Living Area										
	1000	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000
Wood Siding - Wood Frame	238.80	220.75	207.95	193.55	184.85	176.55	161.20	154.00	147.30	142.35	135.60
Brick Veneer - Wood Frame	253.35	234.40	221.00	205.35	196.05	187.20	170.65	162.95	155.50	150.30	143.00
Solid Brick	269.15	249.25	235.15	218.20	208.25	198.75	180.85	172.65	164.40	158.90	151.05
Solid Stone	295.00	273.55	258.30	239.20	228.15	217.65	197.60	188.45	179.05	173.00	164.15
Finished Basement, Add	43.05	46.75	45.30	43.30	42.10	41.10	38.90	38.00	36.85	36.30	35.40
Unfinished Basement, Add	19.75	18.85	18.15	17.10	16.50	16.05	14.95	14.45	13.85	13.60	13.10

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 10,758

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.90
End Unit	.95

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Heavyweight Asphalt Shingles	- 2.15
Clay Tile Roof	+ 2.15
Slate Roof	+ 2.85
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.69
Heat Pump	+ 1.39
Electric Heat	- 3.50
Not Heated	+ 3.37

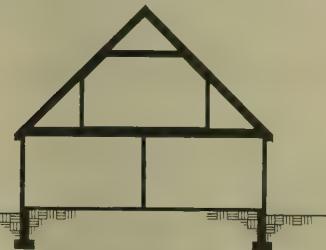
### Additional upgrades or components

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**Luxury 1-1/2 Story**

Living Area - 2800 S.F.

Perimeter - 175 L.F.



	Site preparation for slab; 4' deep trench excavation for foundation wall.	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.23	1.23	0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	6.14	6.41	12.55	8.1%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 12" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.89	10.90	19.79	12.9%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	13.68	4.62	18.30	11.9%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	4.22	3.20	7.42	4.8%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	17.40	17.54	34.94	22.7%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	10.02	1.86	11.88	7.7%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	7.41	3.93	11.34	7.4%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures.	3.77	2.96	6.73	4.4%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	17.17	12.65	29.82	19.4%
<b>Total</b>		88.70	65.30	154.00	

- Unique residence built from an architect's plan
- Single family — 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000	4400
Wood Siding - Wood Frame	216.50	202.60	192.60	183.90	174.80	161.70	150.75	143.50	139.15	134.55	130.75
Brick Veneer - Wood Frame	231.00	216.15	205.55	196.05	186.55	172.30	160.40	152.55	147.85	142.75	138.60
Solid Brick	248.65	232.55	221.25	210.85	200.80	185.20	172.15	163.50	158.45	152.65	148.20
Solid Stone	273.00	255.35	242.95	231.25	220.50	202.90	188.25	178.60	173.05	166.35	161.55
Finished Basement, Add	34.60	37.55	36.45	35.30	34.55	32.95	31.60	30.70	30.25	29.50	29.10
Unfinished Basement, Add	15.85	15.10	14.60	14.05	13.70	12.85	12.15	11.70	11.45	11.10	10.95

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 11,792

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.86
End Unit	.93

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Heavyweight Asphalt Shingles	- 1.50
Clay Tile Roof	+ 1.50
Slate Roof	+ 2
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating/Ductwork	Base System
Heating Systems, Hot Water	+ 1.64
Heat Pump	+ 1.46
Electric Heat	- 3.18
Not Heated	+ 1.19

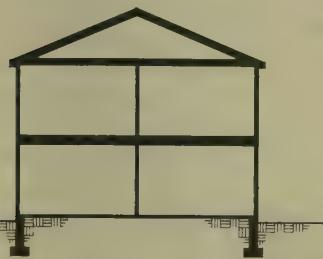
### Additional upgrades or components

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**Luxury 2 Story**

Living Area - 3200 S.F.

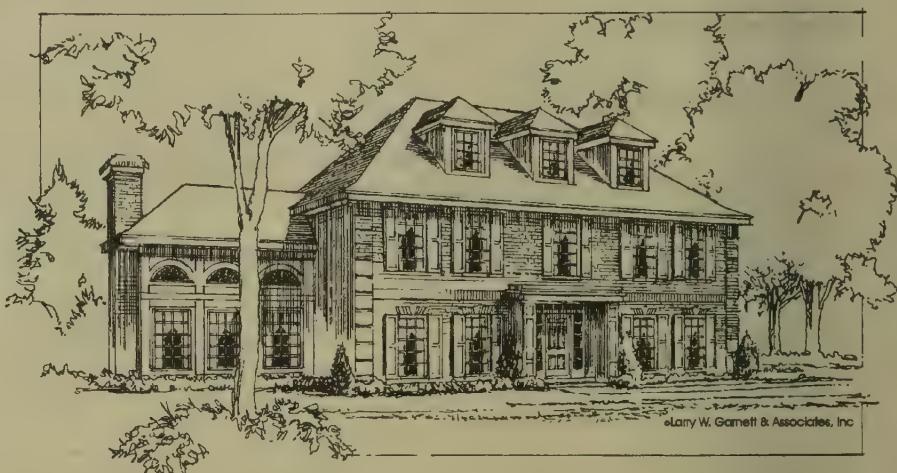
Perimeter - 163 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.07	1.07	0.7%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.99	5.21	10.20	7.1%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 12" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	8.48	10.02	18.50	12.9%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	13.87	4.68	18.55	12.9%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	2.92	2.22	5.14	3.6%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	17.27	17.55	34.82	24.3%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	8.76	1.61	10.37	7.2%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.65	3.79	10.44	7.3%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures.	3.75	2.90	6.65	4.6%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	16.01	11.75	27.76	19.3%
<b>Total</b>		82.70	60.80	143.50	

- Unique residence built from an architect's plan
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



## Base cost per square foot of living area

Exterior Wall	Living Area										
	1500	1800	2100	2500	3000	3500	4000	4500	5000	5500	6000
Wood Siding - Wood Frame	211.75	190.35	177.25	167.60	154.70	145.40	136.65	132.15	128.20	124.40	120.30
Brick Veneer - Wood Frame	227.20	204.60	190.00	179.70	165.65	155.25	145.85	140.85	136.50	132.30	127.85
Solid Brick	245.30	221.30	204.95	193.70	178.45	166.85	156.55	151.05	146.20	141.55	136.75
Solid Stone	271.85	245.70	226.80	214.40	197.20	184.00	172.35	166.05	160.45	155.10	149.75
Finished Basement, Add	27.60	29.65	28.00	27.05	25.80	24.70	23.90	23.30	22.95	22.50	22.10
Unfinished Basement, Add	12.80	12.05	11.20	10.80	10.15	9.60	9.15	8.85	8.65	8.45	8.25

## Modifications

### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 12,905

## Adjustments

### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.86
End Unit	.93

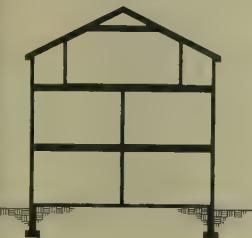
## Alternatives

### Add to or deduct from the cost per square foot of living area

Heavyweight Asphalt Shingles	- 1.30
Clay Tile Roof	+ 1.30
Slate Roof	+ 1.70
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.48
Heat Pump	+ 1.51
Electric Heat	- 6.25
Not Heated	+ 3.19

## Additional upgrades or components

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**Luxury 2-1/2 Story**
**Living Area - 3000 S.F.**  
**Perimeter - 148 L.F.**


	Description	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	Total	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.15	1.15	0.7%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.37	4.70	9.07	5.9%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, steep pitch 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 12" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	9.42	11.01	20.43	13.2%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	16.10	5.46	21.56	13.9%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	2.60	1.97	4.57	3.0%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	19.81	19.53	39.34	25.4%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	9.34	1.73	11.07	7.2%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	7.03	3.85	10.88	7.0%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures.	3.76	2.93	6.69	4.3%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	17.37	12.57	29.94	19.4%
<b>Total</b>		89.80	64.90	154.70	

- Unique residence built from an architect's plan
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1500	1800	2100	2500	3000	3500	4000	4500	5000	5500	6000
Wood Siding - Wood Frame	207.95	186.80	176.15	167.00	153.75	146.90	138.85	130.65	127.45	124.25	120.85
Brick Veneer - Wood Frame	223.40	201.10	189.45	179.75	165.35	157.80	148.80	139.85	136.35	132.80	128.90
Solid Brick	242.60	218.90	206.05	195.60	179.70	171.45	161.20	151.30	147.40	143.40	138.90
Solid Stone	268.15	242.50	228.15	216.70	198.85	189.55	177.65	166.55	162.10	157.55	152.25
Finished Basement, Add	24.15	26.00	24.95	24.25	23.05	22.35	21.45	20.75	20.40	20.10	19.60
Unfinished Basement, Add	11.25	10.55	10.05	9.75	9.10	8.80	8.35	8.00	7.80	7.60	7.35

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 12,905

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.84
End Unit	.92

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Heavyweight Asphalt Shingles	- 1
Clay Tile Roof	+ 1
Slate Roof	+ 1.30
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.48
Heat Pump	+ 1.51
Electric Heat	- 6.25
Not Heated	+ 3.10

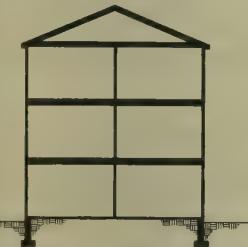
### Additional upgrades or components

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# Luxury 3 Story

Living Area - 3000 S.F.

Perimeter - 135 L.F.



	Cost Per Square Foot Of Living Area	% of Total			
		Mat.	Inst.	Total	(rounded)
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.15	1.15	0.7%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	3.93	4.29	8.22	5.3%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 12" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	9.30	10.70	20.00	13.0%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	17.16	5.83	22.99	15.0%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	1.94	1.47	3.41	2.2%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	19.89	19.71	39.60	25.8%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	9.34	1.73	11.07	7.2%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	7.03	3.85	10.88	7.1%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures.	3.76	2.93	6.69	4.4%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	17.35	12.39	29.74	19.3%
<b>Total</b>		89.70	64.05	153.75	

- Unique residence built from an architect's plan
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



### Base cost per square foot of living area

Exterior Wall	Living Area										
	1200	1400	1600	1800	2000	2400	2800	3200	3600	4000	4400
Wood Siding - Wood Frame	205.25	192.00	182.50	174.45	165.60	153.40	143.25	136.40	132.35	128.15	124.55
Brick Veneer - Wood Frame	216.25	202.30	192.30	183.65	174.55	161.50	150.60	143.30	138.95	134.40	130.60
Solid Brick	229.35	214.55	204.05	194.65	185.20	171.10	159.35	151.45	146.90	141.80	137.75
Solid Stone	248.10	232.10	220.80	210.45	200.40	184.75	171.75	163.15	158.15	152.35	148.00
Finished Basement, Add	34.60	37.55	36.45	35.30	34.55	32.95	31.60	30.70	30.25	29.50	29.10
Unfinished Basement, Add	15.85	15.10	14.60	14.05	13.70	12.85	12.15	11.70	11.45	11.10	10.95

### Modifications

#### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 10,758

### Adjustments

#### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

#### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.89
End Unit	.94

### Alternatives

#### Add to or deduct from the cost per square foot of living area

Heavyweight Asphalt Shingles	- 1.50
Clay Tile Roof	+ 1.50
Slate Roof	+ 2
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.64
Heat Pump	+ 1.46
Electric Heat	- 3.19
Not Heated	+ 3.19

### Additional upgrades or components

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# Luxury Bi-Level

**Living Area - 3200 S.F.  
Perimeter - 163 L.F.**



	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		1.07	1.07 0.8%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	4.99	5.21	10.20 7.5%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 12" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.96	9.37	17.33 12.7%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	11.01	3.68	14.69 10.8%
<b>5 Roofing</b>	Red cedar roof shingles, perfections: #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	2.92	2.22	5.14 3.8%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	17.00	17.12	34.12 25.0%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	8.76	1.61	10.37 7.6%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.65	3.79	10.44 7.7%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures	3.75	2.90	6.65 4.9%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	15.11	11.28	26.39 19.3%
	<b>Total</b>	78.15	58.25	<b>136.40</b>

- Unique residence built from an architect's plan
- Single family - 1 full bath, 1 half bath, 1 kitchen
- No basement
- Cedar shales on roof
- Forced hot air heat/air conditioning
- Gypsum wallboard interior finishes
- Many special features
- Extraordinary materials and workmanship

Note: The illustration shown may contain some optional components (for example: garages and/or fireplaces) whose costs are shown in the modifications, adjustments, & alternatives below or at the end of the square foot section.



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## Base cost per square foot of living area

Exterior Wall	Living Area										
	1500	1800	2100	2400	2800	3200	3600	4000	4500	5000	5500
Wood Siding - Wood Frame	191.45	176.15	163.60	155.25	148.85	141.55	134.35	131.00	124.10	120.15	115.95
Brick Veneer - Wood Frame	201.50	185.20	171.80	162.95	156.30	148.45	140.70	137.20	129.80	125.55	121.05
Solid Brick	213.20	195.75	181.45	171.95	164.95	156.45	148.15	144.45	136.45	131.90	127.05
Solid Stone	230.40	211.35	195.60	185.15	177.65	168.25	159.10	155.00	146.20	141.10	135.75
Finished Basement, Add*	40.80	43.85	42.10	41.00	40.15	39.05	38.00	37.55	36.50	35.90	35.30
Unfinished Basement, Add*	18.30	17.10	16.20	15.65	15.25	14.65	14.15	13.95	13.35	13.05	12.75

\*Basement under middle level only.

## Modifications

### Add to the total cost

Upgrade Kitchen Cabinets	\$ + 2685
Solid Surface Countertops (Included)	
Full Bath - including plumbing, wall and floor finishes	+ 11,736
Half Bath - including plumbing, wall and floor finishes	+ 7006
Two Car Attached Garage	+ 35,170
Two Car Detached Garage	+ 39,959
Fireplace & Chimney	+ 10,758

## Adjustments

### For multi family - add to total cost

Additional Kitchen	\$ + 31,451
Additional Full Bath & Half Bath	+ 18,742
Additional Entry & Exit	+ 2815
Separate Heating & Air Conditioning	+ 7362
Separate Electric	+ 1912

### For Townhouse/Rowhouse - Multiply cost per square foot by

Inner Unit	.86
End Unit	.93

## Alternatives

### Add to or deduct from the cost per square foot of living area

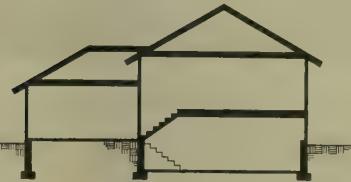
Heavyweight Asphalt Shingles	- 2.15
Clay Tile Roof	+ 2.15
Slate Roof	+ 2.85
Upgrade Ceilings to Textured Finish	+ .62
Air Conditioning, in Heating Ductwork	Base System
Heating Systems, Hot Water	+ 1.59
Heat Pump	+ 1.53
Electric Heat	- 2.79
Not Heated	+ 3.10

## Additional upgrades or components

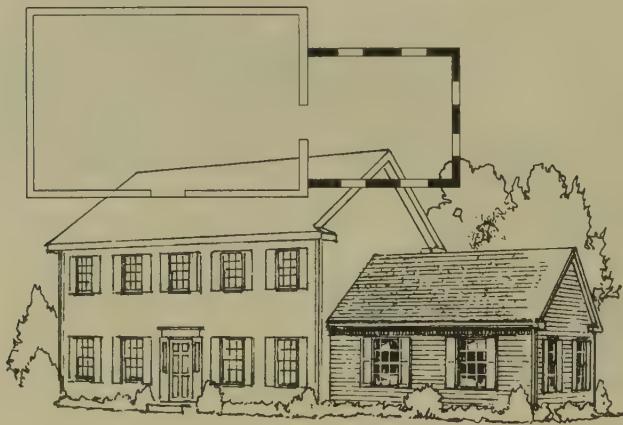
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# Luxury Tri-Level

**Living Area - 3600 S.F.  
Perimeter - 207 L.F.**



	Cost Per Square Foot Of Living Area			% of Total (rounded)
		Mat.	Inst.	
<b>1 Site Work</b>	Site preparation for slab; 4' deep trench excavation for foundation wall.		.96	.96 0.7%
<b>2 Foundation</b>	Continuous reinforced concrete footing, 12" deep x 24" wide; damproofed and insulated 12" thick reinforced concrete block foundation wall, 4' deep; trowel finished 6" thick concrete slab on 4" crushed stone base and polyethylene vapor barrier.	5.93	6.01	11.94 8.9%
<b>3 Framing</b>	Exterior walls - 2" x 6" wood studs, 16" O.C.; 1/2" sheathing; gable end roof framing, 2" x 10" rafters, 16" O.C. with 1/2" plywood sheathing; 2" x 12" floor joists, 16" O.C. with bridging and 5/8" subflooring; 2" x 4" interior partitions.	7.64	9.37	17.01 12.7%
<b>4 Exterior Walls</b>	1" x 6" tongue and groove vertical wood siding and housewrap on insulated wood frame walls; R38 attic insulation; metal clad double hung wood windows; raised panel exterior doors, frame and hardware, painted finish; wood storm and screen door.	10.86	3.63	14.49 10.8%
<b>5 Roofing</b>	Red cedar roof shingles, perfections; #15 felt building paper; aluminum gutters, downspouts and drip edge; copper flashings.	3.88	2.95	6.83 5.1%
<b>6 Interiors</b>	Skim coated 1/2" thick gypsum wallboard walls and ceilings, primed and painted with 2 coats; interior raised panel solid core doors, frames and hardware, painted finish; oak hardwood flooring, 70%; ceramic tile flooring, 30%; hardwood tread stairway.	15.64	15.90	31.54 23.5%
<b>7 Specialties</b>	Luxury grade kitchen cabinets and countertops; double bowl kitchen sink; 75 gallon gas water heater.	7.79	1.44	9.23 6.9%
<b>8 Mechanical</b>	Three fixture bathroom: bathtub, water closet, vanity and sink; gas fired heating and air conditioning system.	6.11	3.66	9.77 7.3%
<b>9 Electrical</b>	200 amp electric service; wiring, duplex & GFI receptacles, wall switches, dimmer switches, door bell, appliance circuits, air conditioning circuit, fans and communications cabling; luxury grade lighting fixtures.	3.73	2.84	6.57 4.9%
<b>10 Overhead</b>	Contractor's overhead and profit and architect's fees.	14.77	11.24	26.01 19.4%
<b>Total</b>		76.35	58.00	134.35

**1 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	50	100	200	300	400	500	600	700
Wood Siding - Wood Frame	290.20	224.00	195.20	164.60	155.15	149.45	145.65	146.90
Brick Veneer - Wood Frame	325.80	249.45	216.40	178.65	167.80	161.30	157.00	157.75
Solid Brick	375.80	285.10	246.15	198.50	185.70	177.95	172.80	173.10
Solid Stone	431.90	325.25	279.55	220.80	205.75	196.65	190.65	190.25
Finished Basement, Add	110.20	99.75	89.40	72.20	68.75	66.65	65.30	64.30
Unfinished Basement, Add	57.50	44.25	38.75	29.55	27.75	26.65	25.90	25.35

**1-1/2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	300	400	500	600	700	800
Wood Siding - Wood Frame	230.55	187.90	161.85	146.60	138.70	134.95	130.15	128.70
Brick Veneer - Wood Frame	262.30	213.25	183.05	163.10	153.90	149.35	143.70	142.15
Solid Brick	306.90	248.95	212.80	186.30	175.35	169.55	162.85	161.15
Solid Stone	357.05	289.05	246.20	212.40	199.40	192.30	184.35	182.40
Finished Basement, Add	72.40	71.55	64.65	57.05	55.00	53.65	52.30	52.10
Unfinished Basement, Add	36.50	31.00	27.35	23.30	22.20	21.45	20.75	20.65

**2 Story****Base cost per square foot of living area**

Exterior Wall	Living Area							
	100	200	400	600	800	1000	1200	1400
Wood Siding - Wood Frame	226.20	170.30	145.70	122.20	114.15	109.40	106.15	107.75
Brick Veneer - Wood Frame	261.80	195.70	166.90	136.30	126.85	121.25	117.50	118.65
Solid Brick	311.80	231.35	196.65	156.10	144.70	137.90	133.30	133.95
Solid Stone	367.95	271.50	230.05	178.45	164.80	156.60	151.10	151.15
Finished Basement, Add	55.10	49.90	44.75	36.10	34.35	33.35	32.65	32.20
Unfinished Basement, Add	28.80	22.15	19.40	14.80	13.85	13.30	12.95	12.70

Base costs do not include bathroom or kitchen facilities. Use Modifications/Adjustments/Alternatives on pages 93-96 where appropriate.

**Kitchen cabinets -  
Base units, hardwood** *(Cost per Unit)*

	Economy	Average	Custom	Luxury
<b>24" deep, 35" high,</b> One top drawer, One door below				
12" wide	\$ 296	\$ 395	\$ 525	\$ 691
15" wide	349	465	618	814
18" wide	278	370	492	648
21" wide	289	385	512	674
24" wide	394	525	698	919
<b>Four drawers</b>				
12" wide	304	405	539	709
15" wide	308	410	545	718
18" wide	334	445	592	779
24" wide	379	505	672	884
<b>Two top drawers,</b> <b>Two doors below</b>				
27" wide	409	545	725	954
30" wide	461	615	818	1076
33" wide	484	645	858	1129
36" wide	506	675	898	1181
42" wide	529	705	938	1234
48" wide	611	815	1084	1426
<b>Range or sink base</b> <i>(Cost per unit)</i>				
<b>Two doors below</b>				
30" wide	413	550	732	963
33" wide	435	580	771	1015
36" wide	443	590	785	1033
42" wide	484	645	858	1129
48" wide	488	650	865	1138
<b>Corner Base Cabinet</b> <i>(Cost per unit)</i>				
36" wide	694	925	1230	1619
<b>Lazy Susan</b> <i>(Cost per unit)</i>				
With revolving door	881	1175	1563	2056

**Kitchen cabinets -  
Wall cabinets, hardwood** *(Cost per Unit)*

	Economy	Average	Custom	Luxury
<b>12" deep, 2 doors</b>				
12" high	\$ 259	\$ 345	\$ 459	\$ 604
30" wide	95	126	168	221
36" wide				
15" high	266	355	472	621
30" wide	319	425	565	744
33" wide	323	430	572	753
36" wide				
24" high	375	500	665	875
30" wide	431	575	765	1006
36" wide	278	370	492	648
42" wide				
30" high, 1 door	266	355	472	621
12" wide	274	365	485	639
15" wide	296	395	525	691
18" wide	345	460	612	805
24" wide				
30" high, 2 doors	394	525	698	919
27" wide	439	585	778	1024
30" wide	420	560	745	980
36" wide	476	635	845	1111
42" wide	551	735	978	1286
48" wide				
<b>Corner wall, 30" high</b>				
24" wide	401	535	712	936
30" wide	409	545	725	954
36" wide	439	585	778	1024
<b>Broom closet</b>				
84" high, 24" deep 18" wide	720	960	1277	1680
<b>Oven Cabinet</b>				
84" high, 24" deep 27" wide	975	1300	1729	2275

**Kitchen countertops** *(Cost per L.F.)*

	Economy	Average	Custom	Luxury
<b>Solid Surface</b>				
24" wide, no backsplash	\$ 110	\$ 146	\$ 194	\$ 256
with backsplash	124	165	219	289
<b>Stock plastic laminate, 24" wide</b>				
with backsplash	27	35	47	62
<b>Custom plastic laminate, no splash</b>				
7/8" thick, alum. molding	41	55	73	96
1-1/4" thick, no splash	45	60	80	106
<b>Marble</b>				
1/2" - 3/4" thick w/splash	64	85	114	150
<b>Maple, laminated</b>				
1-1/2" thick w/splash	103	137	182	240
<b>Stainless steel</b>				
(per S.F.)	167	223	297	390
<b>Cutting blocks, recessed</b>				
16" x 20" x 1" (each)	138	184	245	322

**Vanity bases** (Cost per Unit)

	Economy	Average	Custom	Luxury
2 door, 30" high, 21" deep				
24" wide	\$ 383	\$ 510	\$ 678	\$ 893
30" wide	424	565	751	989
36" wide	383	510	678	893
48" wide	566	755	1004	1321

**Solid surface vanity tops** (Cost Each)

	Economy	Average	Custom	Luxury
Center bowl				
22" x 25"	\$ 420	\$ 454	\$ 490	\$ 529
22" x 31"	485	524	566	611
22" x 37"	555	599	647	699
22" x 49"	680	734	793	856

**Fireplaces & Chimneys** (Cost per Unit)

	1-1/2 Story	2 Story	3 Story
<b>Economy (prefab metal)</b>			
Exterior chimney & 1 fireplace	\$ 6877	\$ 7599	\$ 8335
Interior chimney & 1 fireplace	6590	7326	7665
<b>Average (masonry)</b>			
Exterior chimney & 1 fireplace	7277	8041	8820
Interior chimney & 1 fireplace	6973	7752	8111
For more than 1 flue, add	495	843	1413
For more than 1 fireplace, add	4883	4883	4883
<b>Custom (masonry)</b>			
Exterior chimney & 1 fireplace	7574	8549	9654
Interior chimney & 1 fireplace	7102	8039	8664
For more than 1 flue, add	594	1028	1721
For more than 1 fireplace, add	5440	5440	5440
<b>Luxury (masonry)</b>			
Exterior chimney & 1 fireplace	10757	11792	12904
Interior chimney & 1 fireplace	10263	11220	11877
For more than 1 flue, add	888	1482	2069
For more than 1 fireplace, add	8479	8479	8479

**Windows and Skylights** (Cost Each)

	Economy	Average	Custom	Luxury
Fixed Picture Windows				
3'-6" x 4'-0"	\$ 378	\$ 503	\$ 670	\$ 882
4'-0" x 6'-0"	663	883	1175	1546
5'-0" x 6'-0"	733	977	1300	1711
6'-0" x 6'-0"	747	996	1325	1743
Bay/Bow Windows				
8'-0" x 5'-0"	874	1165	1550	2039
10'-0" x 5'-0"	945	1259	1675	2204
10'-0" x 6'-0"	1537	2048	2725	3586
12'-0" x 6'-0"	2016	2687	3575	4704
Palladian Windows				
3'-2" x 6'-4"	1541	2050	2697	
4'-0" x 6'-0"	1785	2375	3125	
5'-5" x 6'-10"	2312	3075	4046	
8'-0" x 6'-0"	2800	3725	4901	
Skylights				
46" x 21-1/2"	686	1055	1255	1381
46" x 28"	696	1070	1380	1518
57" x 44"	738	1135	1545	1700

**Dormers** (Cost/S.F. of plan area)

	Economy	Average	Custom	Luxury
<b>Framing and Roofing Only</b>				
Gable dormer, 2" x 6" roof frame	\$ 35	\$ 39	\$ 43	\$ 69
2" x 8" roof frame	36	40	44	72
Shed dormer, 2" x 6" roof frame	21	27	30	45
2" x 8" roof frame	23	28	31	46
2" x 10" roof frame	26	30	32	47

**Appliances (Cost per Unit)**

	Economy	Average	Custom	Luxury
<b>Range</b>				
30" free standing, 1 oven	\$ 585	\$ 1593	\$ 2097	\$ 2600
2 oven	1250	1150	1100	1050
30" built-in, 1 oven	1050	1863	2269	2675
2 oven	1625	1869	1991	2113
21" free standing				
1 oven	590	808	917	1025
<b>Counter Top Ranges</b>				
4 burner standard	468	1438	1923	2408
As above with griddle	1625	3013	3707	4400
<b>Microwave Oven</b>	244	517	654	790
<b>Compactor</b>				
4 to 1 compaction	870	1148	1287	1425
<b>Deep Freeze</b>				
15 to 23 C.F.	825	913	957	1000
30 C.F.	1075	1163	1207	1250
<b>Dehumidifier, portable, auto.</b>				
15 pint	365	420	448	475
30 pint	415	478	509	540
<b>Washing Machine, automatic</b>	790	1433	1754	2075
<b>Water Heater</b>				
Electric, glass lined				
30 gal.	1200	1450	1575	1700
80 gal.	2475	3075	3375	3675
<b>Water Heater, Gas, glass lined</b>				
30 gal.	2300	2775	3013	3250
50 gal.	2350	2875	3138	3400
<b>Dishwasher, built-in</b>				
2 cycles	505	665	745	825
4 or more cycles	605	750	1550	2350
<b>Dryer, automatic</b>	805	1428	1739	2050
<b>Garage Door Opener</b>	565	663	712	760
<b>Garbage Disposal</b>	189	247	276	305
<b>Heater, Electric, built-in</b>				
1250 watt ceiling type	273	329	357	385
1250 watt wall type	380	390	395	400
Wall type w/blower	345			720
1500 watt	340	391	417	442
3000 watt	745	857	913	969
<b>Hood For Range, 2 speed</b>				
30" wide	240	770	1035	1300
42" wide	288	1444	2022	2600
<b>Humidifier, portable</b>				
7 gal. per day	174	200	213	226
15 gal. per day	227	261	278	295
<b>Ice Maker, automatic</b>				
13 lb. per day	1575	1812	1930	2048
51 lb. per day	1825	2099	2236	2373
<b>Refrigerator, no frost</b>				
10-12 C.F.	575	658	699	740
14-16 C.F.	750	1025	1163	1300
18-20 C.F.	945	1623	1962	2300
21-29 C.F.	1325	2125	2525	2925
<b>Sump Pump, 1/3 H.P.</b>	330	433	484	535

**Breezeway (Cost per S.F.)**

Class	Type	Area (S.F.)			
		50	100	150	200
Economy	Open	\$ 49.82	\$ 41.26	\$ 36.12	\$ 33.55
	Enclosed	182.87	130.08	106.91	91.90
Average	Open	58.81	47.73	41.76	38.77
	Enclosed	186.51	134.82	111.61	99.74
Custom	Open	71.16	58.18	51.06	47.50
	Enclosed	252.79	181.50	149.47	133.19
Luxury	Open	79.52	65.27	57.73	53.96
	Enclosed	331.82	236.82	193.04	170.88

**Porches (Cost per S.F.)**

Class	Type	Area (S.F.)				
		25	50	100	200	300
Economy	Open	\$ 87.75	\$ 64.78	\$ 48.85	\$ 36.95	\$ 33.06
	Enclosed	192.28	152.33	100.92	76.01	66.08
Average	Open	91.36	69.99	51.46	38.25	33.93
	Enclosed	212.36	167.58	107.92	78.87	67.57
Custom	Open	158.71	114.58	88.16	65.38	63.57
	Enclosed	259.46	206.96	136.96	102.91	109.82
Luxury	Open	172.05	124.59	95.30	69.22	62.89
	Enclosed	298.63	270.00	174.23	126.43	104.22

**Finished attic (Cost per S.F.)**

Class	Area (S.F.)				
	400	500	600	800	1000
Economy	\$ 24.09	\$ 23.28	\$ 22.31	\$ 21.94	\$ 21.12
Average	37.48	36.67	35.77	35.32	34.33
Custom	47.69	46.63	45.56	44.87	43.95
Luxury	60.33	58.87	57.49	56.12	55.20

**Alarm system (Cost per System)**

	Burglar Alarm	Smoke Detector
Economy	\$ 455	\$ 74
Average	515	85
Custom	907	221
Luxury	1575	254

**Sauna, prefabricated**

(Cost per unit, including heater and controls—7' high)

Size	Cost
6' x 4'	\$ 5450
6' x 5'	6425
6' x 6'	6825
6' x 9'	8000
8' x 10'	10,300
8' x 12'	10,700
10' x 12'	16,300

**Garages\***

(Costs include exterior wall systems comparable with the quality of the residence. Included in the cost is an allowance for one personnel door, manual overhead door(s) and electrical fixture.)

Class	Type									
	Detached			Attached			Built-in		Basement	
	One Car	Two Car	Three Car	One Car	Two Car	Three Car	One Car	Two Car	One Car	Two Car
Economy										
Wood	\$18,806	\$28,693	\$38,580	\$14,543	\$24,980	\$34,867	\$-2027	\$-4055	\$1899	\$2607
Masonry	25,496	37,065	48,634	18,729	30,848	42,417	-2849	-5698		
Average										
Wood	20,673	31,030	41,386	15,712	26,618	36,974	-2257	-4514	2161	3131
Masonry	25,891	37,559	49,227	18,976	31,194	42,863	-2897	-4637		
Custom										
Wood	22,769	34,885	47,001	17,639	30,463	42,579	-3237	-3066	3134	5078
Masonry	28,114	41,574	55,035	20,984	35,152	48,613	-3893	-4379		
Luxury										
Wood	25,672	39,959	54,245	20,176	35,170	49,457	-3357	-3307	4259	6790
Masonry	38,733	56,304	73,875	28,349	46,627	64,198	-4961	-6515		

\*See the Introduction to this section for definitions of garage types.

**Swimming pools (Cost per S.F.)**

Residential										
In-ground					\$ 40.50 - 97.50					
Deck equipment						1.30				
Paint pool, preparation & 3 coats (epoxy)						4.96				
Rubber base paint						4.68				
Pool Cover						2.02				
Swimming Pool Heaters										
(not including wiring, external piping, base or pad)										
Gas										
155 MBH					\$ 2975.00					
190 MBH						3600.00				
500 MBH							12,900			
Electric										
15 KW 7200 gallon pool							3000.00			
24 KW 9600 gallon pool							3500.00			
54 KW 24,000 gallon pool							5525.00			

**Wood and coal stoves**

Wood Only										
Free Standing (minimum)					\$ 2422					
Fireplace Insert (minimum)						1924				
Coal Only										
Free Standing					\$ 2174					
Fireplace Insert						2380				
Wood and Coal										
Free Standing					\$ 4473					
Fireplace Insert						4584				

**Sidewalks (Cost per S.F.)**

Concrete, 3000 psi with wire mesh	4" thick	\$ 4.71
	5" thick	5.54
	6" thick	6.23
Precast concrete patio blocks (natural)	2" thick	7.10
Precast concrete patio blocks (colors)	2" thick	7.25
Flagstone, bluestone	1" thick	22.10
Flagstone, bluestone	1-1/2" thick	30.70
Slate (natural, irregular)	3/4" thick	20.10
Slate (random rectangular)	1/2" thick	31.25
Seeding		
Fine grading & seeding includes lime, fertilizer & seed per S.Y.		3.08
Lawn Sprinkler System	per S.F.	1.08

**Fencing (Cost per L.F.)**

Chain Link, 4' high, galvanized	\$ 17.95
Gate, 4' high (each)	246.00
Cedar Picket, 3' high, 2 rail	16.45
Gate (each)	242.00
3 Rail, 4' high	20.00
Gate (each)	259.00
Cedar Stockade, 3 Rail, 6' high	19.50
Gate (each)	280.00
Board & Battens, 2 sides 6' high, pine	40.50
6' high, cedar	40.50
No. 1 Cedar, basketweave, 6' high	37.50
Gate, 6' high (each)	330.00

**Carport (Cost per S.F.)**

Economy	\$ 11.02
Average	16.55
Custom	24.15
Luxury	27.81

# Assemblies Section

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# RSMeans data: Assemblies—How They Work

The following is a detailed explanation of a sample Assemblies Cost Table. Included are an illustration and accompanying system descriptions. Additionally, related systems and price sheets may be included. Next to each bold number below is the item being described with the appropriate

component of the sample entry in parentheses. General contractors should add an additional markup to the figures shown in the Assemblies section. Note: Throughout this section, the words assembly and system will be used interchangeably.

3   FRAMING		12   Gable End Roof Framing Systems					
System Description	QUAN.	UNIT	LABOR HOURS	COST PER S.F.			7
				MAT.	INST.	TOTAL	
<b>2" X 6" RAFTERS, 16" O.C., 4/12 PITCH</b>	<b>4</b>	<b>5</b>	<b>6</b>				
3 Rafters, 2" x 6", 16" O.C., 4/12 pitch	1.170	L.F.	.019	.88	1.11	1.99	
Ceiling joists, 2" x 4", 16" O.C.	1.000	L.F.	.013	.52	.76	1.28	
Ridge board, 2" x 6"	.050	L.F.	.002	.04	.10	.14	
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46	
Rafter tie, 1" x 4", 4' O.C.	.060	L.F.	.001	.04	.07	.11	
Soffit nailer (outrigger), 2" x 4", 24" O.C.	.170	L.F.	.004	.09	.26	.35	
Sheathing, exterior, plywood, CDX, 1/2" thick	1.170	S.F.	.013	.88	.80	1.68	
Furring strips, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84	
Rafter ties	.053	Ea.	.003	.07	.17	.24	
TOTAL		S.F.	.084	3.08	5.01	8.09	
<b>2" X 8" RAFTERS, 16" O.C., 4/12 PITCH</b>							
Rafters, 2" x 8", 16" O.C., 4/12 pitch	1.170	L.F.	.020	1.29	1.17	2.46	
Ceiling joists, 2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51	
Ridge board, 2" x 8"	.050	L.F.	.002	.06	.11	.17	
Fascia board, 2" x 8"	.100	L.F.	.007	.11	.42	.53	
Rafter tie, 1" x 4", 4' O.C.	.060	L.F.	.001	.04	.07	.11	
Soffit nailer (outrigger), 2" x 4", 24" O.C.	.170	L.F.	.004	.09	.26	.35	
Sheathing, exterior, plywood, CDX, 1/2" thick	1.170	S.F.	.013	.88	.80	1.68	
Furring strips, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84	
Rafter ties	.053	Ea.	.003	.07	.17	.24	
TOTAL		S.F.	.086	3.77	5.12	8.89	11

The cost of this system is based on the square foot of plan area.

All quantities have been adjusted accordingly.

Description	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
12						

## **1** System Identification (3 Framing 12)

Each Assemblies section has been assigned a unique identification number, component category, system number, and system description.

## **2** Illustration

Included with most assemblies is an illustration with individual components labeled. Elements involved in the total system function are shown.

## **3** System Description

### (2" x 6" Rafters, 16" O.C., 4/12 Pitch)

The components of a typical system are listed separately to show what has been included in the development of the total system price. Each assembly includes a brief outline of any special conditions to be used when pricing a system. Alternative components can also be found. Simply insert any chosen new element into the chart to develop a custom system.

## **4** Quantities for Each Component

Each material in a system is shown with the quantity required for the system unit. For example, there are 1.170 L.F. of rafter per S.F. of plan area.

## **5** Unit of Measure for Each Component

The abbreviated designation indicates the unit of measure, as defined by industry standards, upon which the individual component has been priced. In this example, items are priced by the linear foot (L.F.) or the square foot (S.F.).

## **6** Labor-Hours

This is the amount of time it takes to install the quantity of the individual component.

## **7** Unit of Measure (Cost per S.F.)

In the three right-hand columns, each cost figure is adjusted to agree with the unit of measure for the entire system. In this case, cost per S.F. is the common unit of measure.

## **8** Labor-Hours (0.086)

The labor-hours column shows the amount of time necessary to install the system per the unit of measure. For example, it takes 0.086 labor-hours to install one square foot (plan area) of this roof framing system.

## **9** Materials (3.77)

This column contains the material cost of each element. These cost figures include 10% for profit.

## **10** Installation (5.12)

This column contains labor and equipment costs. Labor rates include bare cost and the installing contractor's overhead and profit. On the average, the labor cost will be 69.5% over the bare labor cost. Equipment costs include 10% for profit.

## **11** Totals (8.89)

The figure in this column is the sum of the material and installation costs.

## **12** Work Sheet

Using the selective price sheet, it is possible to create estimates with alternative items for any number of systems.



# Division 1 - Site Work

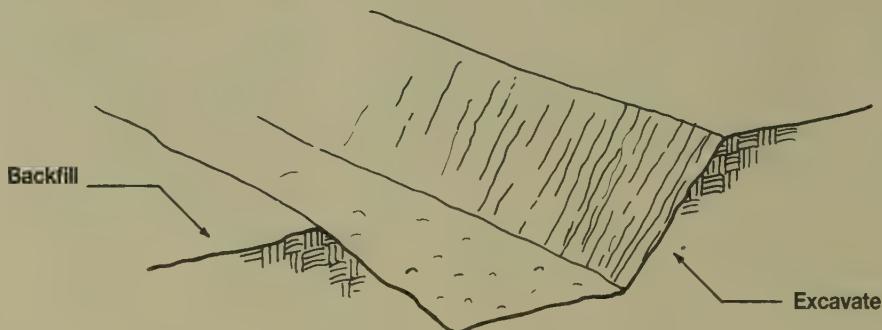
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<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BUILDING, 24' X 38', 4' DEEP</b>						
Cut & chip light trees to 6" diam.	.190	Acre	9.120		788.50	788.50
Excavator, hydraulic, crawler mtd., 1 C.Y. cap. = 100 C.Y./hr.	174.000	C.Y.	3.480		379.32	379.32
Backfill, dozer, 4" lifts, no compaction	87.000	C.Y.	.580		155.73	155.73
Rough grade, dozer, 30' from building	87.000	C.Y.	.580		155.73	155.73
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	25.760		2,595.28	2,595.28
<b>BUILDING, 26' X 46', 4' DEEP</b>						
Cut & chip light trees to 6" diam.	.210	Acre	10.080		871.50	871.50
Excavator, hydraulic, crawler mtd., 1 C.Y. cap. = 100 C.Y./hr.	201.000	C.Y.	4.020		438.18	438.18
Backfill, dozer, 4" lifts, no compaction	100.000	C.Y.	.667		179	179
Rough grade, dozer, 30' from building	100.000	C.Y.	.667		179	179
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	27.434		2,783.68	2,783.68
<b>BUILDING, 26' X 60', 4' DEEP</b>						
Cut & chip light trees to 6" diam.	.240	Acre	11.520		996	996
Excavator, hydraulic, crawler mtd., 1 C.Y. cap. = 100 C.Y./hr.	240.000	C.Y.	4.800		523.20	523.20
Backfill, dozer, 4" lifts, no compaction	120.000	C.Y.	.800		214.80	214.80
Rough grade, dozer, 30' from building	120.000	C.Y.	.800		214.80	214.80
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	29.920		3,064.80	3,064.80
<b>BUILDING, 30' X 66', 4' DEEP</b>						
Cut & chip light trees to 6" diam.	.260	Acre	12.480		1,079	1,079
Excavator, hydraulic, crawler mtd., 1 C.Y. cap. = 100 C.Y./hr.	268.000	C.Y.	5.360		584.24	584.24
Backfill, dozer, 4" lifts, no compaction	134.000	C.Y.	.894		239.86	239.86
Rough grade, dozer, 30' from building	134.000	C.Y.	.894		239.86	239.86
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	31.628		3,258.96	3,258.96

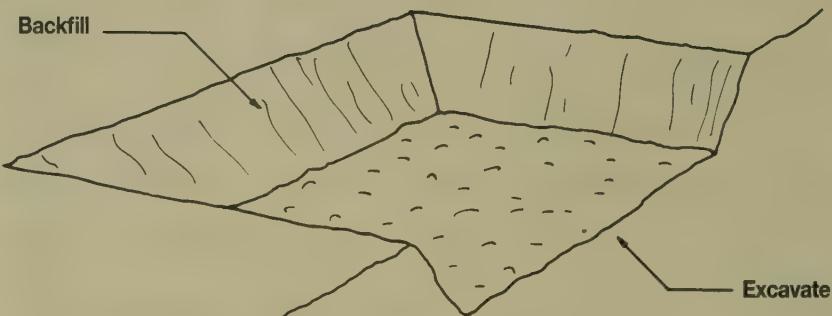
The costs in this system are on a cost each basis.

Quantities are based on 1'-0" clearance on each side of footing.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Footing Excavation Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Clear and grub, medium brush, 30' from building, 24' x 38'	.190	Acre	9.120		785	785
26' x 46'	.210	Acre	10.080		875	875
26' x 60'	.240	Acre	11.520		995	995
30' x 66'	.260	Acre	12.480		1,075	1,075
Light trees, to 6" dia. cut & chip, 24' x 38'	.190	Acre	9.120		785	785
26' x 46'	.210	Acre	10.080		875	875
26' x 60'	.240	Acre	11.520		995	995
30' x 66'	.260	Acre	12.480		1,075	1,075
Medium trees, to 10" dia. cut & chip, 24' x 38'	.190	Acre	13.029		1,125	1,125
26' x 46'	.210	Acre	14.400		1,250	1,250
26' x 60'	.240	Acre	16.457		1,425	1,425
30' x 66'	.260	Acre	17.829		1,550	1,550
Excavation, footing, 24' x 38', 2' deep	68.000	C.Y.	.906		148	148
4' deep	174.000	C.Y.	2.319		380	380
8' deep	384.000	C.Y.	5.119		840	840
26' x 46', 2' deep	79.000	C.Y.	1.053		172	172
4' deep	201.000	C.Y.	2.679		440	440
8' deep	404.000	C.Y.	5.385		880	880
26' x 60', 2' deep	94.000	C.Y.	1.253		204	204
4' deep	240.000	C.Y.	3.199		525	525
8' deep	483.000	C.Y.	6.438		1,050	1,050
30' x 66', 2' deep	105.000	C.Y.	1.400		228	228
4' deep	268.000	C.Y.	3.572		585	585
8' deep	539.000	C.Y.	7.185		1,175	1,175
Backfill, 24' x 38', 2" lifts, no compaction	34.000	C.Y.	.227		61	61
Compaction, air tamped, add	34.000	C.Y.	2.267		540	540
4" lifts, no compaction	87.000	C.Y.	.580		156	156
Compaction, air tamped, add	87.000	C.Y.	5.800		1,375	1,375
8" lifts, no compaction	192.000	C.Y.	1.281		345	345
Compaction, air tamped, add	192.000	C.Y.	12.801		3,050	3,050
26' x 46', 2" lifts, no compaction	40.000	C.Y.	.267		71.50	71.50
Compaction, air tamped, add	40.000	C.Y.	2.667		640	640
4" lifts, no compaction	100.000	C.Y.	.667		179	179
Compaction, air tamped, add	100.000	C.Y.	6.667		1,600	1,600
8" lifts, no compaction	202.000	C.Y.	1.347		360	360
Compaction, air tamped, add	202.000	C.Y.	13.467		3,200	3,200
26' x 60', 2" lifts, no compaction	47.000	C.Y.	.313		84.50	84.50
Compaction, air tamped, add	47.000	C.Y.	3.133		745	745
4" lifts, no compaction	120.000	C.Y.	.800		215	215
Compaction, air tamped, add	120.000	C.Y.	8.000		1,900	1,900
8" lifts, no compaction	242.000	C.Y.	1.614		435	435
Compaction, air tamped, add	242.000	C.Y.	16.134		3,850	3,850
30' x 66', 2" lifts, no compaction	53.000	C.Y.	.354		94.50	94.50
Compaction, air tamped, add	53.000	C.Y.	3.534		845	845
4" lifts, no compaction	134.000	C.Y.	.894		240	240
Compaction, air tamped, add	134.000	C.Y.	8.934		2,125	2,125
8" lifts, no compaction	269.000	C.Y.	1.794		480	480
Compaction, air tamped, add	269.000	C.Y.	17.934		4,275	4,275
Rough grade, 30' from building, 24' x 38'	87.000	C.Y.	.580		156	156
26' x 46'	100.000	C.Y.	.667		179	179
26' x 60'	120.000	C.Y.	.800		215	215
30' x 66'	134.000	C.Y.	.894		240	240
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,125	1,125



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BUILDING, 24' X 38', 8' DEEP</b>						
Medium clearing	.190	Acre	2.027		318.25	318.25
Excavate, track loader, 1-1/2 C.Y. bucket	550.000	C.Y.	7.860		1,100	1,100
Backfill, dozer, 8" lifts, no compaction	180.000	C.Y.	1.201		322.20	322.20
Rough grade, dozer, 30' from building	280.000	C.Y.	1.868		501.20	501.20
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	24.956		3,357.65	3,357.65
<b>BUILDING, 26' X 46', 8' DEEP</b>						
Medium clearing	.210	Acre	2.240		351.75	351.75
Excavate, track loader, 1-1/2 C.Y. bucket	672.000	C.Y.	9.603		1,344	1,344
Backfill, dozer, 8" lifts, no compaction	220.000	C.Y.	1.467		393.80	393.80
Rough grade, dozer, 30' from building	340.000	C.Y.	2.268		608.60	608.60
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	27.578		3,814.15	3,814.15
<b>BUILDING, 26' X 60', 8' DEEP</b>						
Medium clearing	.240	Acre	2.560		402	402
Excavate, track loader, 1-1/2 C.Y. bucket	829.000	C.Y.	11.846		1,658	1,658
Backfill, dozer, 8" lifts, no compaction	270.000	C.Y.	1.801		483.30	483.30
Rough grade, dozer, 30' from building	420.000	C.Y.	2.801		751.80	751.80
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	31.008		4,411.10	4,411.10
<b>BUILDING, 30' X 66', 8' DEEP</b>						
Medium clearing	.260	Acre	2.773		435.50	435.50
Excavate, track loader, 1-1/2 C.Y. bucket	990.000	C.Y.	14.147		1,980	1,980
Backfill, dozer, 8" lifts, no compaction	320.000	C.Y.	2.134		572.80	572.80
Rough grade, dozer, 30' from building	500.000	C.Y.	3.335		895	895
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,116	1,116
<b>TOTAL</b>		Ea.	34.389		4,999.30	4,999.30

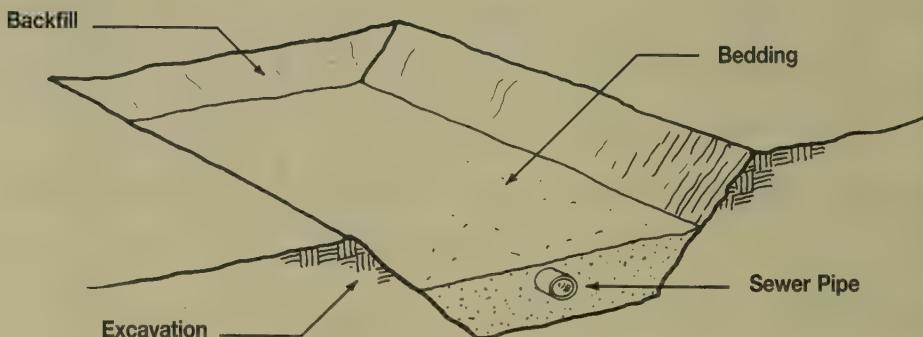
The costs in this system are on a cost each basis.

Quantities are based on 1'-0" clearance beyond footing projection.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Foundation Excavation Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Clear & grub, medium brush, 30' from building, 24' x 38'	.190	Acre	2.027		320	320
26' x 46'	.210	Acre	2.240		350	350
26' x 60'	.240	Acre	2.560		400	400
30' x 66'	.260	Acre	2.773		435	435
Light trees, to 6" dia. cut & chip, 24' x 38'	.190	Acre	9.120		785	785
26' x 46'	.210	Acre	10.080		875	875
26' x 60'	.240	Acre	11.520		995	995
30' x 66'	.260	Acre	12.480		1,075	1,075
Medium trees, to 10" dia. cut & chip, 24' x 38'	.190	Acre	13.029		1,125	1,125
26' x 46'	.210	Acre	14.400		1,250	1,250
26' x 60'	.240	Acre	16.457		1,425	1,425
30' x 66'	.260	Acre	17.829		1,550	1,550
Excavation, basement, 24' x 38', 2' deep	98.000	C.Y.	1.400		196	196
4' deep	220.000	C.Y.	3.144		440	440
8' deep	550.000	C.Y.	7.860		1,100	1,100
26' x 46', 2' deep	123.000	C.Y.	1.758		246	246
4' deep	274.000	C.Y.	3.915		550	550
8' deep	672.000	C.Y.	9.603		1,350	1,350
26' x 60', 2' deep	157.000	C.Y.	2.244		315	315
4' deep	345.000	C.Y.	4.930		690	690
8' deep	829.000	C.Y.	11.846		1,650	1,650
30' x 66', 2' deep	192.000	C.Y.	2.744		385	385
4' deep	419.000	C.Y.	5.988		840	840
8' deep	990.000	C.Y.	14.147		1,975	1,975
Backfill, 24' x 38', 2" lifts, no compaction	32.000	C.Y.	.213		57	57
Compaction, air tamped, add	32.000	C.Y.	2.133		510	510
4" lifts, no compaction	72.000	C.Y.	.480		129	129
Compaction, air tamped, add	72.000	C.Y.	4.800		1,150	1,150
8" lifts, no compaction	180.000	C.Y.	1.201		320	320
Compaction, air tamped, add	180.000	C.Y.	12.001		2,850	2,850
26' x 46', 2" lifts, no compaction	40.000	C.Y.	.267		71.50	71.50
Compaction, air tamped, add	40.000	C.Y.	2.667		640	640
4" lifts, no compaction	90.000	C.Y.	.600		161	161
Compaction, air tamped, add	90.000	C.Y.	6.000		1,425	1,425
8" lifts, no compaction	220.000	C.Y.	1.467		395	395
Compaction, air tamped, add	220.000	C.Y.	14.667		3,500	3,500
26' x 60', 2" lifts, no compaction	50.000	C.Y.	.334		89.50	89.50
Compaction, air tamped, add	50.000	C.Y.	3.334		800	800
4" lifts, no compaction	110.000	C.Y.	.734		197	197
Compaction, air tamped, add	110.000	C.Y.	7.334		1,750	1,750
8" lifts, no compaction	270.000	C.Y.	1.801		485	485
Compaction, air tamped, add	270.000	C.Y.	18.001		4,300	4,300
30' x 66', 2" lifts, no compaction	60.000	C.Y.	.400		108	108
Compaction, air tamped, add	60.000	C.Y.	4.000		950	950
4" lifts, no compaction	130.000	C.Y.	.867		233	233
Compaction, air tamped, add	130.000	C.Y.	8.667		2,050	2,050
8" lifts, no compaction	320.000	C.Y.	2.134		570	570
Compaction, air tamped, add	320.000	C.Y.	21.334		5,100	5,100
Rough grade, 30' from building, 24' x 38'	280.000	C.Y.	1.868		500	500
26' x 46'	340.000	C.Y.	2.268		610	610
26' x 60'	420.000	C.Y.	2.801		750	750
30' x 66'	500.000	C.Y.	3.335		895	895
Mobilize and demobilize equipment	4.000	Ea.	12.000		1,125	1,125



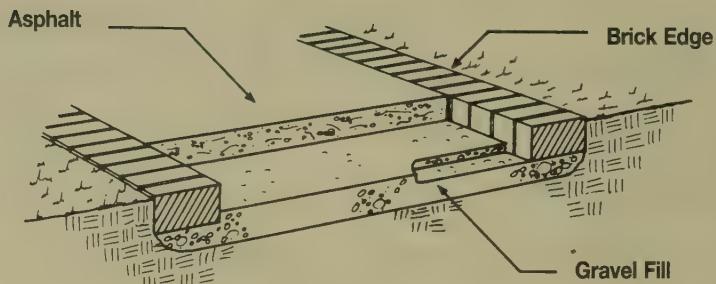
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER L.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2' DEEP</b>						
Excavation, backhoe	.296	C.Y.	.032		2.16	2.16
Alternate pricing method, 4" deep	.111	C.Y.	.044	4.50	2.41	6.91
Utility, sewer, 6" cast iron	1.000	L.F.	.283	39.99	16.30	56.29
Compaction in 12" layers, hand tamp, add to above	.185	C.Y.	.044	1.99		1.99
<b>TOTAL</b>		L.F.	.403	44.49	22.86	67.35
<b>4' DEEP</b>						
Excavation, backhoe	.889	C.Y.	.095		6.51	6.51
Alternate pricing method, 4" deep	.111	C.Y.	.044	4.50	2.41	6.91
Utility, sewer, 6" cast iron	1.000	L.F.	.283	39.99	16.30	56.29
Compaction in 12" layers, hand tamp, add to above	.778	C.Y.	.183	8.36		8.36
<b>TOTAL</b>		L.F.	.605	44.49	33.58	78.07
<b>6' DEEP</b>						
Excavation, backhoe	1.770	C.Y.	.189		12.96	12.96
Alternate pricing method, 4" deep	.111	C.Y.	.044	4.50	2.41	6.91
Utility, sewer, 6" cast iron	1.000	L.F.	.283	39.99	16.30	56.29
Compaction in 12" layers, hand tamp, add to above	1.660	C.Y.	.391	17.85		17.85
<b>TOTAL</b>		L.F.	.907	44.49	49.52	94.01
<b>8' DEEP</b>						
Excavation, backhoe	2.960	C.Y.	.316		21.67	21.67
Alternate pricing method, 4" deep	.111	C.Y.	.044	4.50	2.41	6.91
Utility, sewer, 6" cast iron	1.000	L.F.	.283	39.99	16.30	56.29
Compaction in 12" layers, hand tamp, add to above	2.850	C.Y.	.671	30.64		30.64
<b>TOTAL</b>		L.F.	1.314	44.49	71.02	115.51

The costs in this system are based on a cost per linear foot of trench, and based on 2' wide at bottom of trench up to 6' deep.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER L.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Utility Trenching Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER UNIT		
				MAT.	INST.	TOTAL
Excavation, bottom of trench 2' wide, 2' deep	.296	C.Y.	.032		2.16	2.16
4' deep	.889	C.Y.	.095		6.50	6.50
6' deep	1.770	C.Y.	.142		9.90	9.90
8' deep	2.960	C.Y.	.105		21.50	21.50
Bedding, sand, bottom of trench 2' wide, no compaction, pipe, 2" diameter	.070	C.Y.	.028	2.84	1.51	4.35
4" diameter	.084	C.Y.	.034	3.40	1.83	5.23
6" diameter	.105	C.Y.	.042	4.25	2.28	6.53
8" diameter	.122	C.Y.	.049	4.94	2.65	7.59
Compacted, pipe, 2" diameter	.074	C.Y.	.030	3	1.60	4.60
4" diameter	.092	C.Y.	.037	3.73	2	5.73
6" diameter	.111	C.Y.	.044	4.50	2.41	6.91
8" diameter	.129	C.Y.	.052	5.20	2.80	8
3/4" stone, bottom of trench 2' wide, pipe, 4" diameter	.082	C.Y.	.033	3.32	1.78	5.10
6" diameter	.099	C.Y.	.040	4.01	2.15	6.16
3/8" stone, bottom of trench 2' wide, pipe, 4" diameter	.084	C.Y.	.034	3.40	1.83	5.23
6" diameter	.102	C.Y.	.041	4.13	2.21	6.34
Utilities, drainage & sewerage, corrugated plastic, 6" diameter	1.000	L.F.	.069	4.46	3.21	7.67
8" diameter	1.000	L.F.	.072	7.35	3.35	10.70
Concrete, non-reinforced, 6" diameter	1.000	L.F.	.181	8.55	9.65	18.20
8" diameter	1.000	L.F.	.214	9.40	11.45	20.85
PVC, SDR 35, 4" diameter	1.000	L.F.	.064	1.84	2.99	4.83
6" diameter	1.000	L.F.	.069	4.46	3.21	7.67
8" diameter	1.000	L.F.	.072	7.35	3.35	10.70
Gas & service, polyethylene, 1-1/4" diameter	1.000	L.F.	.059	1.80	3.15	4.95
Steel sched.40, 1" diameter	1.000	L.F.	.107	5.60	7.15	12.75
2" diameter	1.000	L.F.	.114	8.75	7.60	16.35
Sub-drainage, PVC, perforated, 3" diameter	1.000	L.F.	.064	1.84	2.99	4.83
4" diameter	1.000	L.F.	.064	1.84	2.99	4.83
5" diameter	1.000	L.F.	.069	4.46	3.21	7.67
6" diameter	1.000	L.F.	.069	4.46	3.21	7.67
Water service, copper, type K, 3/4"	1.000	L.F.	.083	7.30	5.55	12.85
1" diameter	1.000	L.F.	.093	10.80	6.20	17
PVC, 3/4"	1.000	L.F.	.121	4.54	8	12.54
1" diameter	1.000	L.F.	.134	8	8.90	16.90
Backfill, bottom of trench 2' wide no compact, 2' deep, pipe, 2" diameter	.226	L.F.	.053		2.43	2.43
4" diameter	.212	L.F.	.050		2.28	2.28
6" diameter	.185	L.F.	.044		1.99	1.99
4' deep, pipe, 2" diameter	.819	C.Y.	.193		8.80	8.80
4" diameter	.805	C.Y.	.189		8.65	8.65
6" diameter	.778	C.Y.	.183		8.35	8.35
6' deep, pipe, 2" diameter	1.700	C.Y.	.400		18.30	18.30
4" diameter	1.690	C.Y.	.398		18.15	18.15
6" diameter	1.660	C.Y.	.391		17.85	17.85
8' deep, pipe, 2" diameter	2.890	C.Y.	.680		31	31
4" diameter	2.870	C.Y.	.675		31	31
6" diameter	2.850	C.Y.	.671		30.50	30.50

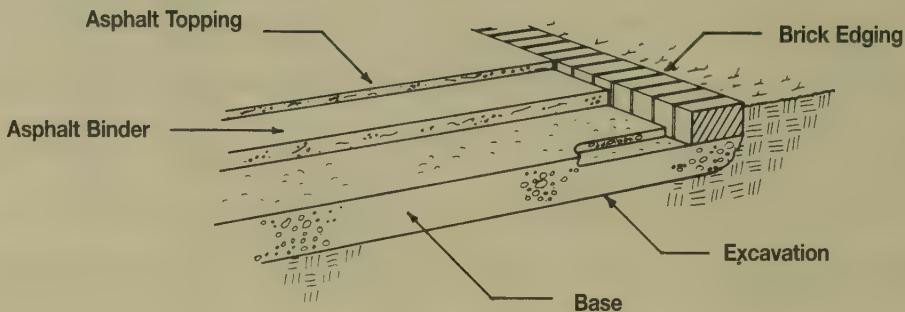


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
ASPHALT SIDEWALK SYSTEM, 3' WIDE WALK						
Gravel fill, 4" deep	1.000	S.F.	.001	.29	.06	.35
Compact fill	.012	C.Y.			.02	.02
Handgrade	1.000	S.F.	.004		.21	.21
Walking surface, bituminous paving, 2" thick	1.000	S.F.	.007	.88	.40	1.28
Edging, brick, laid on edge	.670	L.F.	.079	2.50	4.29	6.79
	<b>TOTAL</b>	<b>S.F.</b>	<b>.091</b>	<b>3.67</b>	<b>4.98</b>	<b>8.65</b>
CONCRETE SIDEWALK SYSTEM, 3' WIDE WALK						
Gravel fill, 4" deep	1.000	S.F.	.001	.29	.06	.35
Compact fill	.012	C.Y.			.02	.02
Handgrade	1.000	S.F.	.004		.21	.21
Walking surface, concrete, 4" thick	1.000	S.F.	.040	2.54	2.17	4.71
Edging, brick, laid on edge	.670	L.F.	.079	2.50	4.29	6.79
	<b>TOTAL</b>	<b>S.F.</b>	<b>.124</b>	<b>5.33</b>	<b>6.75</b>	<b>12.08</b>
PAVERS, BRICK SIDEWALK SYSTEM, 3' WIDE WALK						
Sand base fill, 4" deep	1.000	S.F.	.001	.47	.09	.56
Compact fill	.012	C.Y.			.02	.02
Handgrade	1.000	S.F.	.004		.21	.21
Walking surface, brick pavers	1.000	S.F.	.160	3.36	8.65	12.01
Edging, redwood, untreated, 1" x 4"	.670	L.F.	.032	1.69	1.92	3.61
	<b>TOTAL</b>	<b>S.F.</b>	<b>.197</b>	<b>5.52</b>	<b>10.89</b>	<b>16.41</b>

The costs in this system are based on a cost per square foot of sidewalk area. Concrete used is 3000 p.s.i.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Sidewalk Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Base, crushed stone, 3" deep	1.000	S.F.	.001	.33	.12	.45
6" deep	1.000	S.F.	.001	.66	.12	.78
9" deep	1.000	S.F.	.002	.96	.16	1.12
12" deep	1.000	S.F.	.002	1.79	.19	1.98
Bank run gravel, 6" deep	1.000	S.F.	.001	.44	.09	.53
9" deep	1.000	S.F.	.001	.64	.13	.77
12" deep	1.000	S.F.	.001	.88	.16	1.04
Compact base, 3" deep	.009	C.Y.	.001		.02	.02
6" deep	.019	C.Y.	.001		.03	.03
9" deep	.028	C.Y.	.001		.05	.05
Handgrade	1.000	S.F.	.004		.21	.21
Surface, brick, pavers dry joints, laid flat, running bond	1.000	S.F.	.160	3.36	8.65	12.01
Basket weave	1.000	S.F.	.168	4.43	9.15	13.58
Herringbone	1.000	S.F.	.174	4.43	9.40	13.83
Laid on edge, running bond	1.000	S.F.	.229	5.05	12.40	17.45
Mortar jts. laid flat, running bond	1.000	S.F.	.192	4.03	10.40	14.43
Basket weave	1.000	S.F.	.202	5.30	11	16.30
Herringbone	1.000	S.F.	.209	5.30	11.30	16.60
Laid on edge, running bond	1.000	S.F.	.274	6.05	14.90	20.95
Bituminous paving, 1-1/2" thick	1.000	S.F.	.006	.66	.30	.96
2" thick	1.000	S.F.	.007	.88	.40	1.28
2-1/2" thick	1.000	S.F.	.008	1.11	.44	1.55
Sand finish, 3/4" thick	1.000	S.F.	.001	.34	.12	.46
1" thick	1.000	S.F.	.001	.42	.15	.57
Concrete, reinforced, broom finish, 4" thick	1.000	S.F.	.040	2.54	2.17	4.71
5" thick	1.000	S.F.	.044	3.15	2.39	5.54
6" thick	1.000	S.F.	.047	3.67	2.56	6.23
Crushed stone, white marble, 3" thick	1.000	S.F.	.009	.53	.43	.96
Bluestone, 3" thick	1.000	S.F.	.009	.20	.43	.63
Flagging, bluestone, 1"	1.000	S.F.	.198	11.40	10.70	22.10
1-1/2"	1.000	S.F.	.188	20.50	10.20	30.70
Slate, natural cleft, 3/4"	1.000	S.F.	.174	10.70	9.40	20.10
Random rect., 1/2"	1.000	S.F.	.152	23	8.25	31.25
Granite blocks	1.000	S.F.	.174	23.50	9.40	32.90
Edging, corrugated aluminum, 4", 3' wide walk	.666	L.F.	.008	1.65	.49	2.14
4' wide walk	.500	L.F.	.006	1.24	.37	1.61
6", 3' wide walk	.666	L.F.	.010	2.06	.57	2.63
4' wide walk	.500	L.F.	.007	1.55	.43	1.98
Redwood-cedar-cypress, 1" x 4", 3' wide walk	.666	L.F.	.021	.86	1.27	2.13
4' wide walk	.500	L.F.	.016	.65	.95	1.60
2" x 4", 3' wide walk	.666	L.F.	.032	1.69	1.92	3.61
4' wide walk	.500	L.F.	.024	1.27	1.44	2.71
Brick, dry joints, 3' wide walk	.666	L.F.	.079	2.50	4.29	6.79
4' wide walk	.500	L.F.	.059	1.87	3.20	5.07
Mortar joints, 3' wide walk	.666	L.F.	.095	3	5.15	8.15
4' wide walk	.500	L.F.	.071	2.24	3.84	6.08

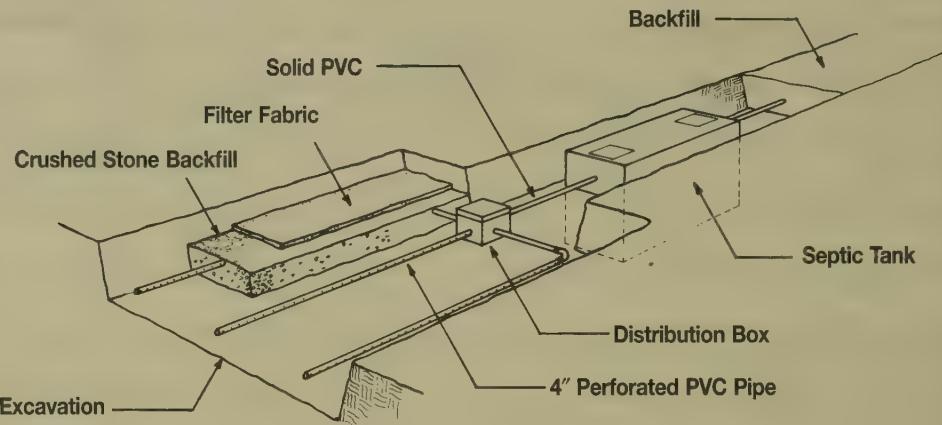


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT DRIVEWAY TO 10' WIDE</b>						
Excavation, driveway to 10' wide, 6" deep	.019	C.Y.			.05	.05
Base, 6" crushed stone	1.000	S.F.	.001	.66	.12	.78
Handgrade base	1.000	S.F.	.004		.21	.21
2" thick base	1.000	S.F.	.002	.88	.20	1.08
1" topping	1.000	S.F.	.001	.42	.15	.57
Edging, brick pavers	.200	L.F.	.024	.75	1.28	2.03
		S.F.	.032	2.71	2.01	4.72
<b>CONCRETE DRIVEWAY TO 10' WIDE</b>						
Excavation, driveway to 10' wide, 6" deep	.019	C.Y.			.05	.05
Base, 6" crushed stone	1.000	S.F.	.001	.66	.12	.78
Handgrade base	1.000	S.F.	.004		.21	.21
Surface, concrete, 4" thick	1.000	S.F.	.040	2.54	2.17	4.71
Edging, brick pavers	.200	L.F.	.024	.75	1.28	2.03
		S.F.	.069	3.95	3.83	7.78
<b>PAVERS, BRICK DRIVEWAY TO 10' WIDE</b>						
Excavation, driveway to 10' wide, 6" deep	.019	C.Y.			.05	.05
Base, 6" sand	1.000	S.F.	.001	.74	.14	.88
Handgrade base	1.000	S.F.	.004		.21	.21
Surface, pavers, brick laid flat, running bond	1.000	S.F.	.160	3.36	8.65	12.01
Edging, redwood, untreated, 2" x 4"	.200	L.F.	.010	.51	.58	1.09
		S.F.	.175	4.61	9.63	14.24

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Driveway Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Excavation, by machine, 10' wide, 6" deep	.019	C.Y.	.001		.05	.05
12" deep	.037	C.Y.	.001		.08	.08
18" deep	.055	C.Y.	.001		.13	.13
20' wide, 6" deep	.019	C.Y.	.001		.05	.05
12" deep	.037	C.Y.	.001		.08	.08
18" deep	.055	C.Y.	.001		.13	.13
Base, crushed stone, 10' wide, 3" deep	1.000	S.F.	.001	.33	.06	.39
6" deep	1.000	S.F.	.001	.66	.12	.78
9" deep	1.000	S.F.	.002	.96	.16	1.12
20' wide, 3" deep	1.000	S.F.	.001	.33	.06	.39
6" deep	1.000	S.F.	.001	.66	.12	.78
9" deep	1.000	S.F.	.002	.96	.16	1.12
Bank run gravel, 10' wide, 3" deep	1.000	S.F.	.001	.22	.05	.27
6" deep	1.000	S.F.	.001	.44	.09	.53
9" deep	1.000	S.F.	.001	.64	.13	.77
20' wide, 3" deep	1.000	S.F.	.001	.22	.05	.27
6" deep	1.000	S.F.	.001	.44	.09	.53
9" deep	1.000	S.F.	.001	.64	.13	.77
Handgrade, 10' wide	1.000	S.F.	.004		.21	.21
20' wide	1.000	S.F.	.004		.21	.21
Surface, asphalt, 10' wide, 3/4" topping, 1" base	1.000	S.F.	.002	1.02	.26	1.28
2" base	1.000	S.F.	.003	1.22	.32	1.54
1" topping, 1" base	1.000	S.F.	.002	1.10	.29	1.39
2" base	1.000	S.F.	.003	1.30	.35	1.65
20' wide, 3/4" topping, 1" base	1.000	S.F.	.002	1.02	.26	1.28
2" base	1.000	S.F.	.003	1.22	.32	1.54
1" topping, 1" base	1.000	S.F.	.002	1.10	.29	1.39
2" base	1.000	S.F.	.003	1.30	.35	1.65
Concrete, 10' wide, 4" thick	1.000	S.F.	.040	2.54	2.17	4.71
6" thick	1.000	S.F.	.047	3.67	2.56	6.23
20' wide, 4" thick	1.000	S.F.	.040	2.54	2.17	4.71
6" thick	1.000	S.F.	.047	3.67	2.56	6.23
Paver, brick 10' wide dry joints, running bond, laid flat	1.000	S.F.	.160	3.36	8.65	12.01
Laid on edge	1.000	S.F.	.229	5.05	12.40	17.45
Mortar joints, laid flat	1.000	S.F.	.192	4.03	10.40	14.43
Laid on edge	1.000	S.F.	.274	6.05	14.90	20.95
20' wide, running bond, dry jts., laid flat	1.000	S.F.	.160	3.36	8.65	12.01
Laid on edge	1.000	S.F.	.229	5.05	12.40	17.45
Mortar joints, laid flat	1.000	S.F.	.192	4.03	10.40	14.43
Laid on edge	1.000	S.F.	.274	6.05	14.90	20.95
Crushed stone, 10' wide, white marble, 3"	1.000	S.F.	.009	.53	.43	.96
Bluestone, 3"	1.000	S.F.	.009	.20	.43	.63
20' wide, white marble, 3"	1.000	S.F.	.009	.53	.43	.96
Bluestone, 3"	1.000	S.F.	.009	.20	.43	.63
Soil cement, 10' wide	1.000	S.F.	.007	.43	1.07	1.50
20' wide	1.000	S.F.	.007	.43	1.07	1.50
Granite blocks, 10' wide	1.000	S.F.	.174	23.50	9.40	32.90
20' wide	1.000	S.F.	.174	23.50	9.40	32.90
Asphalt block, solid 1-1/4" thick	1.000	S.F.	.119	11.20	6.40	17.60
Solid 3" thick	1.000	S.F.	.123	15.70	6.65	22.35
Edging, brick, 10' wide	.200	L.F.	.024	.75	1.28	2.03
20' wide	.100	L.F.	.012	.37	.64	1.01
Redwood, untreated 2" x 4", 10' wide	.200	L.F.	.010	.51	.58	1.09
20' wide	.100	L.F.	.005	.25	.29	.54
Granite, 4 1/2" x 12" straight, 10' wide	.200	L.F.	.032	1.82	2.13	3.95
20' wide	.100	L.F.	.016	.91	1.07	1.98
Finishes, asphalt sealer, 10' wide	1.000	S.F.	.023	.92	1.07	1.99
20' wide	1.000	S.F.	.023	.92	1.07	1.99
Concrete, exposed aggregate 10' wide	1.000	S.F.	.013	.24	.74	.98
20' wide	1.000	S.F.	.013	.24	.74	.98



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>			
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>	
<b>SEPTIC SYSTEM WITH 600 S.F. LEACHING FIELD, 1000 GALLON TANK</b>							
Mobilization	2.000	Ea.	16.000		1,396	1,396	
Tank, precast, 1000 gallon	1.000	Ea.	3.500	1,175	198	1,373	
Effluent filter	1.000	Ea.	1.000	48	61	109	
Distribution box, precast	1.000	Ea.	1.000	114	45.50	159.50	
Flow leveler	3.000	Ea.	.480	8.34	21.90	30.24	
PVC pipe, 4" diameter	25.000	L.F.	1.600	46	74.75	120.75	
Tee	1.000	Ea.	1.000	20.50	61	81.50	
Elbow	2.000	Ea.	1.333	24.90	81	105.90	
Viewport cap	1.000	Ea.	.333	7.55	20.50	28.05	
Filter fabric	67.000	S.Y.	.447	115.91	20.10	136.01	
Detectable marking tape	1.600	C.L.F.	.085	15.84	3.89	19.73	
PVC perforated pipe, 4" diameter	135.000	L.F.	8.640	248.40	403.65	652.05	
Excavation	160.000	C.Y.	17.654		1,800	1,800	
Backfill	133.000	L.C.Y.	2.660		275.31	275.31	
Spoil	55.000	L.C.Y.	3.056		349.25	349.25	
Compaction	113.000	E.C.Y.	15.066		754.84	754.84	
Stone fill	39.000	C.Y.	6.240	1,794	373.23	2,167.23	
		<b>TOTAL</b>	Ea.	80.094	3,618.44	5,939.92	9,558.36
<b>SEPTIC SYSTEM WITH 750 S.F. LEACHING FIELD, 1500 GALLON TANK</b>							
Mobilization	2.000	Ea.	16.000		1,396	1,396	
Tank, precast, 1500 gallon	1.000	Ea.	4.000	1,800	225.50	2,025.50	
Effluent filter	1.000	Ea.	1.000	48	61	109	
Distribution box, precast	1.000	Ea.	1.000	114	45.50	159.50	
Flow leveler	3.000	Ea.	.480	8.34	21.90	30.24	
PVC pipe, 4" diameter	25.000	L.F.	1.600	46	74.75	120.75	
Tee	1.000	Ea.	1.000	20.50	61	81.50	
Elbow	2.000	Ea.	1.333	24.90	81	105.90	
Viewport cap	1.000	Ea.	.333	7.55	20.50	28.05	
Filter fabric	84.000	S.Y.	.560	145.32	25.20	170.52	
Detectable marking tape	1.900	C.L.F.	.101	18.81	4.62	23.43	
PVC perforated pipe, 4" diameter	165.000	L.F.	10.560	303.60	493.35	796.95	
Excavation	199.000	C.Y.	21.958		2,238.75	2,238.75	
Backfill	162.000	L.C.Y.	3.240		335.34	335.34	
Spoil	73.500	L.C.Y.	4.084		466.73	466.73	
Compaction	137.000	E.C.Y.	18.266		915.16	915.16	
Stone fill	48.500	C.Y.	7.760	2,231	464.15	2,695.15	
		<b>TOTAL</b>	Ea.	93.275	4,768.02	6,930.45	11,698.47

The costs in this system include all necessary piping and excavation.

<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>			
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>	
SEPTIC SYSTEM WITH 1000 S.F. LEACHING FIELD, 1500 GALLON TANK							
Mobilization	2.000	Ea.	16.000		1,396	1,396	
Tank, precast, 1500 gallon	1.000	Ea.	4.000	1,800	225.50	2,025.50	
Effluent filter	1.000	Ea.	1.000	48	61	109	
Distribution box, precast	1.000	Ea.	1.000	114	45.50	159.50	
Flow leveler	4.000	Ea.	.640	11.12	29.20	40.32	
PVC pipe, 4" diameter	25.000	L.F.	1.600	46	74.75	120.75	
Tee	1.000	Ea.	1.000	20.50	61	81.50	
Elbow	4.000	Ea.	2.667	49.80	162	211.80	
Viewport cap	1.000	Ea.	.333	7.55	20.50	28.05	
Filter fabric	111.000	S.Y.	.740	192.03	33.30	225.33	
Detectable marking tape	2.400	C.L.F.	.128	23.76	5.83	29.59	
PVC perforated pipe, 4" diameter	215.000	L.F.	13.760	395.60	642.85	1,038.45	
Excavation	229.000	C.Y.	25.268		2,576.25	2,576.25	
Backfill	178.000	L.C.Y.	3.560		368.46	368.46	
Spoil	91.500	L.C.Y.	5.084		581.03	581.03	
Compaction	151.000	E.C.Y.	20.133		1,008.68	1,008.68	
Stone fill	64.000	C.Y.	10.240	2,944	612.48	3,556.48	
	TOTAL		Ea.	107.153	5,652.36	7,904.33	13,556.69

The costs in this system include all necessary piping and excavation.

<b>Septic Systems Price Sheet</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
Tank, precast concrete, 1000 gallon	1.000	Ea.	3.500	1,175	198	1,373
1500 gallon	1.000	Ea.	4.000	1,800	226	2,026
Distribution box, concrete, 5 outlets	1.000	Ea.	1.000	114	45.50	159.50
12 outlets	1.000	Ea.	2.000	600	91.50	691.50
4" pipe, PVC, solid	25.000	L.F.	1.600	46	75	121
Tank and field excavation, 600 S.F. field	160.000	C.Y.	17.654		1,800	1,800
750 S.F. field	199.000	C.Y.	21.958		2,250	2,250
1000 S.F. field	229.000	C.Y.	25.268		2,575	2,575
Tank excavation only, 1000 gallon tank	20.000	C.Y.	2.206		225	225
1500 gallon tank	26.000	C.Y.	2.869		293	293
Backfill, crushed stone, 600 S.F. field	39.000	C.Y.	12.160	1,800	370	2,170
750 S.F. field	48.500	C.Y.	22.400	2,225	465	2,690
1000 S.F. field	64.000	C.Y.	.240	2,950	610	3,560
Backfill with excavated material, 600 S.F. field	133.000	L.C.Y.	.400		275	275
750 S.F. field	162.000	L.C.Y.	.367		335	335
1000 S.F. field	178.000	L.C.Y.	.280		370	370
Filter fabric, 600 S.F. field	67.000	S.Y.	2.376	116	20	136
750 S.F. field	84.000	S.Y.	4.860	145	25	170
1000 S.F. field	111.000	S.Y.	.740	192	33.50	225.50
4" pipe, PVC, perforated, 600 S.F. field	135.000	L.F.	9.280	248	405	653
750 S.F. field	165.000	L.F.	16.960	305	495	800
1000 S.F. field	215.000	L.F.	1.939	395	645	1,040
Pipe fittings, PVC, 600 S.F. field	2.000	Ea.	3.879	25	81	106
750 S.F. field	2.000	Ea.		25	81	106
1000 S.F. field	4.000	Ea.		50	162	212
Mobilization	2.000	Ea.	16.000		1,400	1,400
Effluent filter	1.000	Ea.	1.000	48	61	109
Flow leveler, 600 S.F. field	3.000	Ea.	.480	8.35	22	30.35
750 S.F. field	3.000	Ea.	.480	8.35	22	30.35
1000 S.F. field	4.000	Ea.	.640	11.10	29	40.10
Viewport cap	1.000	Ea.	.333	7.55	20.50	28.05
Detectable marking tape, 600 S.F. field	1.600	C.L.F.	.085	15.85	3.89	19.74
750 S.F. field	1.900	C.L.F.	.101	18.80	4.62	23.42
1000 S.F. field	2.400	C.L.F.	.128	24	5.85	29.85

System Description	QUAN.	UNIT	LABOR HOURS	COST PER UNIT		
				MAT.	INST.	TOTAL
Chain link fence Galv.9ga. wire, 1-5/8"post 10'0.C., 1-3/8"top rail, 2"corner post, 3'hi	1.000	L.F.	.130	10.85	6.05	16.90
4' high	1.000	L.F.	.141	11.35	6.60	17.95
6' high	1.000	L.F.	.209	13.15	9.75	22.90
Add for gate 3' wide 1-3/8" frame 3' high 4' high	1.000	Ea.	2.000	110	93.50	203.50
6' high	1.000	Ea.	2.400	134	112	246
	1.000	Ea.	2.400	157	112	269
Add for gate 4' wide 1-3/8" frame 3' high 4' high	1.000	Ea.	2.667	120	125	245
6' high	1.000	Ea.	2.667	131	125	256
	1.000	Ea.	3.000	175	140	315
Alum.9ga. wire, 1-5/8"post, 10'0.C., 1-3/8"top rail, 2"corner post,3'hi 4' high	1.000	L.F.	.130	11.30	6.05	17.35
6' high	1.000	L.F.	.209	12.95	9.75	22.70
Add for gate 3' wide 1-3/8" frame 3' high 4' high	1.000	Ea.	2.000	186	93.50	279.50
6' high	1.000	Ea.	2.400	185	112	297
	1.000	Ea.	2.400	198	112	310
Add for gate 4' wide 1-3/8" frame 3' high 4' high	1.000	Ea.	2.400	173	112	285
6' high	1.000	Ea.	2.667	160	125	285
	1.000	Ea.	3.000	222	140	362
Vinyl 9ga. wire, 1-5/8"post 10'0.C., 1-3/8"top rail, 2"corner post,3'hi 4' high	1.000	L.F.	.130	9.20	6.05	15.25
6' high	1.000	L.F.	.209	11.20	9.75	20.95
Add for gate 3' wide 1-3/8" frame 3' high 4' high	1.000	Ea.	2.000	129	93.50	222.50
6' high	1.000	Ea.	2.400	150	112	262
	1.000	Ea.	2.400	175	112	287
Add for gate 4' wide 1-3/8" frame 3' high 4' high	1.000	Ea.	2.400	135	112	247
6' high	1.000	Ea.	2.667	141	125	265
	1.000	Ea.	3.000	184	140	324
Tennis court, chain link fence, 10' high Galv.11ga.wire, 2"post 10'0.C., 1-3/8"top rail, 2-1/2"corner post	1.000	L.F.	.253	10.80	11.80	22.60
Add for gate 3' wide 1-3/8" frame	1.000	Ea.	2.400	248	112	360
Alum.11ga.wire, 2"post 10'0.C., 1-3/8"top rail, 2-1/2"corner post Add for gate 3' wide 1-3/8" frame	1.000	L.F.	.253	11.85	11.80	23.65
	1.000	Ea.	2.400	181	112	293
Vinyl 11ga.wire,2"post 10' O.C.,1-3/8"top rail,2-1/2"corner post Add for gate 3' wide 1-3/8" frame	1.000	L.F.	.253	11.20	11.80	23
	1.000	Ea.	2.400	360	112	472
Railings, commercial						
Aluminum balcony rail, 1-1/2" posts with pickets	1.000	L.F.	.164	89	12.30	101.30
With expanded metal panels	1.000	L.F.	.164	116	12.30	128.30
With porcelain enamel panel inserts	1.000	L.F.	.164	180	12.30	192.30
Mild steel, ornamental rounded top rail	1.000	L.F.	.164	164	12.30	176.30
As above, but pitch down stairs	1.000	L.F.	.183	213	13.65	226.65
Steel pipe, welded, 1-1/2" round, painted	1.000	L.F.	.160	34	11.95	45.95
Galvanized	1.000	L.F.	.160	54	11.95	65.95
Residential, stock units, mild steel, deluxe	1.000	L.F.	.102	20.50	7.60	28.10
Economy	1.000	L.F.	.102	15.20	7.60	22.80

System Description	QUAN.	UNIT	LABOR HOURS	COST PER UNIT		
				MAT.	INST.	TOTAL
Basketweave, 3/8"x4" boards, 2"x4" stringers on spreaders, 4"x4" posts No. 1 cedar, 6' high	1.000	L.F.	.150	28.50	9	37.50
Treated pine, 6' high	1.000	L.F.	.160	41.50	9.60	51.10
Board fence, 1"x4" boards, 2"x4" rails, 4"x4" posts Preservative treated, 2 rail, 3' high	1.000	L.F.	.166	13	9.95	22.95
4' high	1.000	L.F.	.178	14.75	10.70	25.45
3 rail, 5' high	1.000	L.F.	.185	14	11.05	25.05
6' high	1.000	L.F.	.192	17.90	11.50	29.40
Western cedar, No. 1, 2 rail, 3' high	1.000	L.F.	.166	14	9.95	23.95
3 rail, 4' high	1.000	L.F.	.178	13.60	10.70	24.30
5' high	1.000	L.F.	.185	16.15	11.05	27.20
6' high	1.000	L.F.	.192	17.05	11.50	28.55
No. 1 cedar, 2 rail, 3' high	1.000	L.F.	.166	15.25	9.95	25.20
4' high	1.000	L.F.	.178	16.75	10.70	27.45
3 rail, 5' high	1.000	L.F.	.185	20	11.05	31.05
6' high	1.000	L.F.	.192	24	11.50	35.50
Shadow box, 1"x6" boards, 2"x4" rails, 4"x4" posts						
Fir, pine or spruce, treated, 3 rail, 6' high	1.000	L.F.	.160	31	9.60	40.60
No. 1 cedar, 3 rail, 4' high	1.000	L.F.	.185	21	11.05	32.05
6' high	1.000	L.F.	.192	29	11.50	40.50
Open rail, split rails, No. 1 cedar, 2 rail, 3' high	1.000	L.F.	.150	10.15	9	19.15
3 rail, 4' high	1.000	L.F.	.160	14.65	9.60	24.25
No. 2 cedar, 2 rail, 3' high	1.000	L.F.	.150	9.50	9	18.50
3 rail, 4' high	1.000	L.F.	.160	9.95	9.60	19.55
Open rail, rustic rails, No. 1 cedar, 2 rail, 3' high	1.000	L.F.	.150	15.25	9	24.25
3 rail, 4' high	1.000	L.F.	.160	15.20	9.60	24.80
No. 2 cedar, 2 rail, 3' high	1.000	L.F.	.150	14	9	23
3 rail, 4' high	1.000	L.F.	.160	8.80	9.60	18.40
Rustic picket, molded pine pickets, 2 rail, 3' high	1.000	L.F.	.171	10.60	10.25	20.85
3 rail, 4' high	1.000	L.F.	.197	12.20	11.80	24
No. 1 cedar, 2 rail, 3' high	1.000	L.F.	.171	12.75	10.25	23
3 rail, 4' high	1.000	L.F.	.197	14.65	11.80	26.45
Picket fence, fir, pine or spruce, preserved, treated						
2 rail, 3' high	1.000	L.F.	.171	9.80	10.25	20.05
3 rail, 4' high	1.000	L.F.	.185	12.05	11.05	23.10
Western cedar, 2 rail, 3' high	1.000	L.F.	.171	11.30	10.25	21.55
3 rail, 4' high	1.000	L.F.	.185	11.45	11.05	22.50
No. 1 cedar, 2 rail, 3' high	1.000	L.F.	.171	15.90	10.25	26.15
3 rail, 4' high	1.000	L.F.	.185	22.50	11.05	33.55
Stockade, No. 1 cedar, 3-1/4" rails, 6' high	1.000	L.F.	.150	15.45	9	24.45
8' high	1.000	L.F.	.155	22.50	9.25	31.75
No. 2 cedar, treated rails, 6' high	1.000	L.F.	.150	16.20	9	25.20
Treated pine, treated rails, 6' high	1.000	L.F.	.150	16.35	9	25.35
Gates, No. 2 cedar, picket, 3'-6" wide 4' high	1.000	Ea.	2.667	90.50	160	250.50
No. 2 cedar, rustic round, 3' wide, 3' high	1.000	Ea.	2.667	121	160	281
No. 2 cedar, stockade screen, 3'-6" wide, 6' high	1.000	Ea.	3.000	105	181	286
General, wood, 3'-6" wide, 4' high	1.000	Ea.	2.400	119	145	264
6' high	1.000	Ea.	3.000	149	181	330



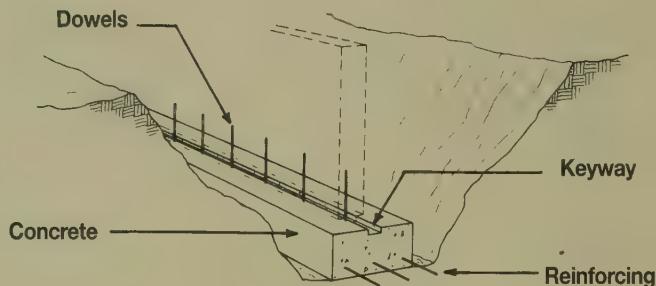
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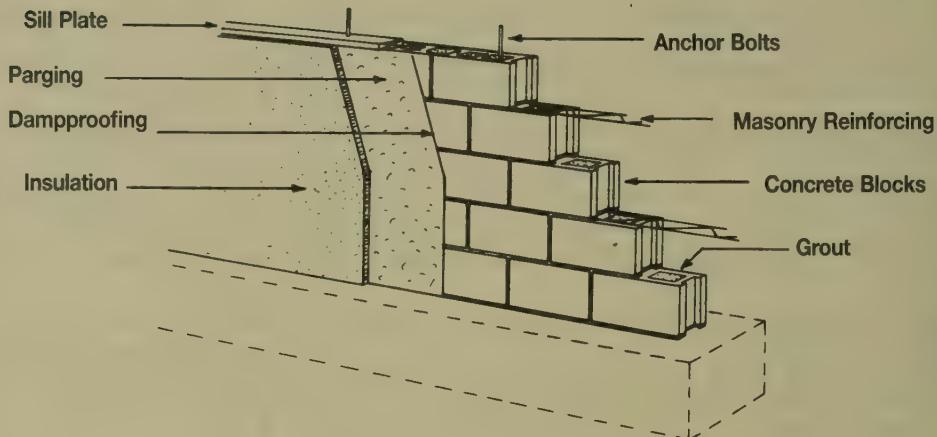


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER L.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>8" THICK BY 18" WIDE FOOTING</b>						
Concrete, 3000 psi	.040	C.Y.		5.68		5.68
Place concrete, direct chute	.040	C.Y.	.016		.79	.79
Forms, footing, 4 uses	1.330	SFCA	.103	1.09	5.41	6.50
Reinforcing, 1/2" diameter bars, 2 each	1.380	Lb.	.011	.86	.69	1.55
Keyway, 2" x 4", beveled, 4 uses	1.000	L.F.	.015	.28	.90	1.18
Dowels, 1/2" diameter bars, 2' long, 6' O.C.	.166	Ea.	.006	.15	.36	.51
		L.F.	.151	8.06	8.15	16.21
<b>12" THICK BY 24" WIDE FOOTING</b>						
Concrete, 3000 psi	.070	C.Y.		9.94		9.94
Place concrete, direct chute	.070	C.Y.	.028		1.38	1.38
Forms, footing, 4 uses	2.000	SFCA	.155	1.64	8.14	9.78
Reinforcing, 1/2" diameter bars, 2 each	1.380	Lb.	.011	.86	.69	1.55
Keyway, 2" x 4", beveled, 4 uses	1.000	L.F.	.015	.28	.90	1.18
Dowels, 1/2" diameter bars, 2' long, 6' O.C.	.166	Ea.	.006	.15	.36	.51
		L.F.	.215	12.87	11.47	24.34
<b>12" THICK BY 36" WIDE FOOTING</b>						
Concrete, 3000 psi	.110	C.Y.		15.62		15.62
Place concrete, direct chute	.110	C.Y.	.044		2.17	2.17
Forms, footing, 4 uses	2.000	SFCA	.155	1.64	8.14	9.78
Reinforcing, 1/2" diameter bars, 2 each	1.380	Lb.	.011	.86	.69	1.55
Keyway, 2" x 4", beveled, 4 uses	1.000	L.F.	.015	.28	.90	1.18
Dowels, 1/2" diameter bars, 2' long, 6' O.C.	.166	Ea.	.006	.15	.36	.51
		L.F.	.231	18.55	12.26	30.81

The footing costs in this system are on a cost per linear foot basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER L.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

<b>Footing Price Sheet</b>	QUAN.	UNIT	LABOR HOURS	COST PER L.F.		
				MAT.	INST.	TOTAL
Concrete, 8" thick by 18" wide footing						
2000 psi concrete	.040	C.Y.		4.68		4.68
2500 psi concrete	.040	C.Y.		4.84		4.84
3000 psi concrete	.040	C.Y.		5.70		5.70
3500 psi concrete	.040	C.Y.		5.50		5.50
4000 psi concrete	.040	C.Y.		5.60		5.60
12" thick by 24" wide footing						
2000 psi concrete	.070	C.Y.		8.20		8.20
2500 psi concrete	.070	C.Y.		8.45		8.45
3000 psi concrete	.070	C.Y.		9.95		9.95
3500 psi concrete	.070	C.Y.		9.60		9.60
4000 psi concrete	.070	C.Y.		9.80		9.80
12" thick by 36" wide footing						
2000 psi concrete	.110	C.Y.		12.85		12.85
2500 psi concrete	.110	C.Y.		13.30		13.30
3000 psi concrete	.110	C.Y.		15.60		15.60
3500 psi concrete	.110	C.Y.		15.05		15.05
4000 psi concrete	.110	C.Y.		15.40		15.40
Place concrete, 8" thick by 18" wide footing, direct chute	.040	C.Y.	.016		.79	.79
Pumped concrete	.040	C.Y.	.017		.98	.98
Crane & bucket	.040	C.Y.	.032		2.13	2.13
12" thick by 24" wide footing, direct chute	.070	C.Y.	.028		1.38	1.38
Pumped concrete	.070	C.Y.	.030		1.71	1.71
Crane & bucket	.070	C.Y.	.056		3.72	3.72
12" thick by 36" wide footing, direct chute	.110	C.Y.	.044		2.17	2.17
Pumped concrete	.110	C.Y.	.047		2.68	2.68
Crane & bucket	.110	C.Y.	.088		5.85	5.85
Forms, 8" thick footing, 1 use	1.330	SFCA	.140	3.34	7.30	10.64
4 uses	1.330	SFCA	.103	1.09	5.40	6.49
12" thick footing, 1 use	2.000	SFCA	.211	5	11	16
4 uses	2.000	SFCA	.155	1.64	8.15	9.79
Reinforcing, 3/8" diameter bar, 1 each	.400	Lb.	.003	.25	.20	.45
2 each	.800	Lb.	.006	.50	.40	.90
3 each	1.200	Lb.	.009	.74	.60	1.34
1/2" diameter bar, 1 each	.700	Lb.	.005	.43	.35	.78
2 each	1.380	Lb.	.011	.86	.69	1.55
3 each	2.100	Lb.	.016	1.30	1.05	2.35
5/8" diameter bar, 1 each	1.040	Lb.	.008	.64	.52	1.16
2 each	2.080	Lb.	.016	1.29	1.04	2.33
Keyway, beveled, 2" x 4", 1 use	1.000	L.F.	.030	.56	1.80	2.36
2 uses	1.000	L.F.	.023	.42	1.35	1.77
2" x 6", 1 use	1.000	L.F.	.032	.74	1.90	2.64
2 uses	1.000	L.F.	.024	.56	1.43	1.99
Dowels, 2 feet long, 6' O.C., 3/8" bar	.166	Ea.	.005	.08	.33	.41
1/2" bar	.166	Ea.	.006	.15	.36	.51
5/8" bar	.166	Ea.	.006	.24	.40	.64
3/4" bar	.166	Ea.	.006	.24	.40	.64



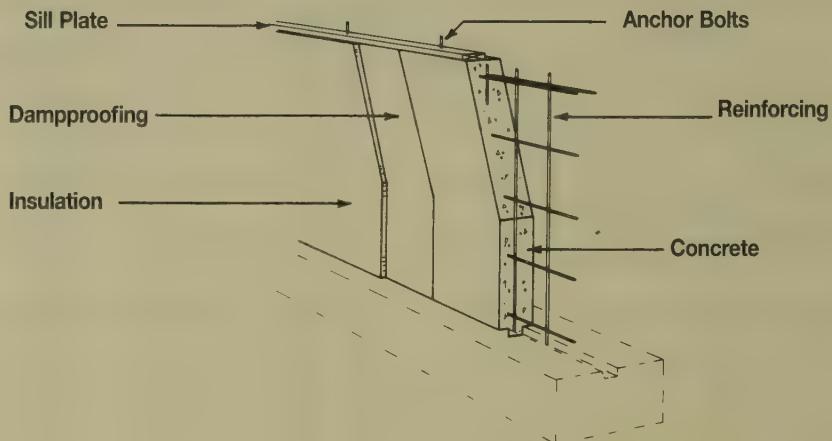
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>8" WALL, GROUTED, FULL HEIGHT</b>						
Concrete block, 8" x 16" x 8"	1.000	S.F.	.094	3.55	5.20	8.75
Masonry reinforcing, every second course	.750	L.F.	.002	.22	.12	.34
Parging, plastering with portland cement plaster, 1 coat	1.000	S.F.	.014	.34	.84	1.18
Dampproofing, bituminous coating, 1 coat	1.000	S.F.	.012	.26	.67	.93
Insulation, 1" rigid polystyrene	1.000	S.F.	.010	.68	.59	1.27
Grout, solid, pumped	1.000	S.F.	.047	1.52	2.70	4.22
Anchor bolts, 1/2" diameter, 8" long, 4' O.C.	.060	Ea.	.004	.11	.21	.32
Sill plate, 2" x 4", treated	.250	L.F.	.007	.16	.43	.59
<b>TOTAL</b>		S.F.	.190	6.84	10.76	17.60
<b>12" WALL, GROUTED, FULL HEIGHT</b>						
Concrete block, 8" x 16" x 12"	1.000	S.F.	.160	5.75	8.65	14.40
Masonry reinforcing, every second course	.750	L.F.	.003	.22	.17	.39
Parging, plastering with portland cement plaster, 1 coat	1.000	S.F.	.014	.34	.84	1.18
Dampproofing, bituminous coating, 1 coat	1.000	S.F.	.012	.26	.67	.93
Insulation, 1" rigid polystyrene	1.000	S.F.	.010	.68	.59	1.27
Grout, solid, pumped	1.000	S.F.	.050	2.49	2.87	5.36
Anchor bolts, 1/2" diameter, 8" long, 4' O.C.	.060	Ea.	.004	.11	.21	.32
Sill plate, 2" x 4", treated	.250	L.F.	.007	.16	.43	.59
<b>TOTAL</b>		S.F.	.260	10.01	14.43	24.44

The costs in this system are based on a square foot of wall. Do not subtract for window or door openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Block Wall Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Concrete, block, 8" x 16" x, 6" thick	1.000	S.F.	.089	3.52	4.84	8.36
8" thick	1.000	S.F.	.093	3.55	5.20	8.75
10" thick	1.000	S.F.	.095	4.10	6.30	10.40
12" thick	1.000	S.F.	.122	5.75	8.65	14.40
Solid block, 8" x 16" x, 6" thick	1.000	S.F.	.091	3.99	5	8.99
8" thick	1.000	S.F.	.096	4.82	5.30	10.12
10" thick	1.000	S.F.	.096	4.82	5.30	10.12
12" thick	1.000	S.F.	.126	7.10	7.45	14.55
Masonry reinforcing, wire strips, to 8" wide, every course	1.500	L.F.	.004	.44	.24	.68
Every 2nd course	.750	L.F.	.002	.22	.12	.34
Every 3rd course	.500	L.F.	.001	.15	.08	.23
Every 4th course	.400	L.F.	.001	.12	.06	.18
Wire strips to 12" wide, every course	1.500	L.F.	.006	.44	.35	.79
Every 2nd course	.750	L.F.	.003	.22	.17	.39
Every 3rd course	.500	L.F.	.002	.15	.12	.27
Every 4th course	.400	L.F.	.002	.12	.09	.21
Parging, plastering with portland cement plaster, 1 coat	1.000	S.F.	.014	.34	.84	1.18
2 coats	1.000	S.F.	.022	.52	1.28	1.80
Dampproofing, bituminous, brushed on, 1 coat	1.000	S.F.	.012	.26	.67	.93
2 coats	1.000	S.F.	.016	.52	.89	1.41
Sprayed on, 1 coat	1.000	S.F.	.010	.26	.53	.79
2 coats	1.000	S.F.	.016	.51	.89	1.40
Troweled on, 1/16" thick	1.000	S.F.	.016	.45	.89	1.34
1/8" thick	1.000	S.F.	.020	.79	1.11	1.90
1/2" thick	1.000	S.F.	.023	2.58	1.27	3.85
Insulation, rigid, fiberglass, 1.5#/C.F., unfaced						
1-1/2" thick R 6.2	1.000	S.F.	.008	.47	.48	.95
2" thick R 8.5	1.000	S.F.	.008	.54	.48	1.02
3" thick R 13	1.000	S.F.	.010	.62	.59	1.21
Perlite, 1" thick R 2.77	1.000	S.F.	.010	.52	.59	1.11
2" thick R 5.55	1.000	S.F.	.011	.95	.65	1.60
Polystyrene, extruded, 1" thick R 5.4	1.000	S.F.	.010	.68	.59	1.27
2" thick R 10.8	1.000	S.F.	.011	1.84	.65	2.49
Molded 1" thick R 3.85	1.000	S.F.	.010	.32	.59	.91
2" thick R 7.7	1.000	S.F.	.011	.96	.65	1.61
Grout, concrete block cores, 6" thick	1.000	S.F.	.044	1.14	2.03	3.17
8" thick	1.000	S.F.	.059	1.52	2.70	4.22
10" thick	1.000	S.F.	.061	2	2.78	4.78
12" thick	1.000	S.F.	.063	2.49	2.87	5.36
Anchor bolts, 2' on center, 1/2" diameter, 8" long	.120	Ea.	.005	.21	.43	.64
12" long	.120	Ea.	.005	.24	.43	.67
3/4" diameter, 8" long	.120	Ea.	.006	.55	.44	.99
12" long	.120	Ea.	.006	.69	.45	1.14
4' on center, 1/2" diameter, 8" long	.060	Ea.	.002	.11	.21	.32
12" long	.060	Ea.	.003	.12	.21	.33
3/4" diameter, 8" long	.060	Ea.	.003	.28	.22	.50
12" long	.060	Ea.	.003	.35	.23	.58
Sill plates, treated, 2" x 4"	.250	L.F.	.007	.16	.43	.59
4" x 4"	.250	L.F.	.007	.38	.41	.79



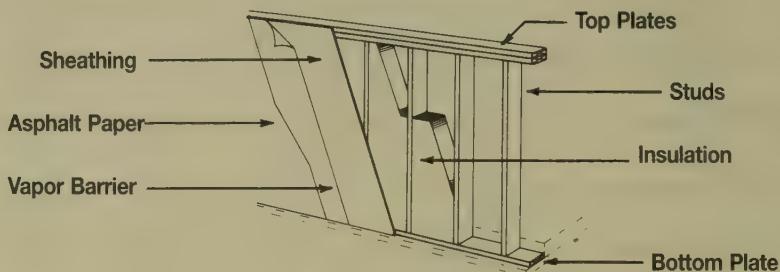
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>8" THICK, POURED CONCRETE WALL</b>						
Concrete, 8" thick , 3000 psi	.025	C.Y.		3.55		3.55
Forms, prefabricated plywood, up to 8' high	2.000	SFCA	.120	2.52	6.38	8.90
Reinforcing, light	.670	Lb.	.004	.42	.23	.65
Placing concrete, direct chute	.025	C.Y.	.013		.66	.66
Dampproofing, brushed on, 2 coats	1.000	S.F.	.016	.52	.89	1.41
Rigid insulation, 1" polystyrene	1.000	S.F.	.010	.68	.59	1.27
Anchor bolts, 1/2" diameter, 12" long, 4' O.C.	.060	Ea.	.004	.12	.21	.33
Sill plates, 2" x 4", treated	.250	L.F.	.007	.16	.43	.59
<b>TOTAL</b>		<b>S.F.</b>	<b>.174</b>	<b>7.97</b>	<b>9.39</b>	<b>17.36</b>
<b>12" THICK, POURED CONCRETE WALL</b>						
Concrete, 12" thick, 3000 psi	.040	C.Y.		5.68		5.68
Forms, prefabricated plywood, up to 8' high	2.000	SFCA	.120	2.52	6.38	8.90
Reinforcing, light	1.000	Lb.	.005	.62	.35	.97
Placing concrete, direct chute	.040	C.Y.	.019		.94	.94
Dampproofing, brushed on, 2 coats	1.000	S.F.	.016	.52	.89	1.41
Rigid insulation, 1" polystyrene	1.000	S.F.	.010	.68	.59	1.27
Anchor bolts, 1/2" diameter, 12" long, 4' O.C.	.060	Ea.	.004	.12	.21	.33
Sill plates, 2" x 4" treated	.250	L.F.	.007	.16	.43	.59
<b>TOTAL</b>		<b>S.F.</b>	<b>.181</b>	<b>10.30</b>	<b>9.79</b>	<b>20.09</b>

The costs in this system are based on sq. ft. of wall. Do not subtract for window and door openings. The costs assume a 4' high wall.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Concrete Wall Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Formwork, prefabricated plywood, up to 8' high	2.000	SFCA	.081	2.52	6.40	8.92
Over 8' to 16' high	2.000	SFCA	.076	2.64	8.50	11.14
Job built forms, 1 use per month	2.000	SFCA	.320	6.60	13.80	20.40
4 uses per month	2.000	SFCA	.221	2.48	10.10	12.58
Reinforcing, 8" wall, light reinforcing	.670	Lb.	.004	.42	.23	.65
Heavy reinforcing	1.500	Lb.	.008	.93	.53	1.46
10" wall, light reinforcing	.850	Lb.	.005	.53	.30	.83
Heavy reinforcing	2.000	Lb.	.011	1.24	.70	1.94
12" wall light reinforcing	1.000	Lb.	.005	.62	.35	.97
Heavy reinforcing	2.250	Lb.	.012	1.40	.79	2.19
Placing concrete, 8" wall, direct chute	.025	C.Y.	.013		.66	.66
Pumped concrete	.025	C.Y.	.016		.93	.93
Crane & bucket	.025	C.Y.	.023		1.50	1.50
10" wall, direct chute	.030	C.Y.	.016		.79	.79
Pumped concrete	.030	C.Y.	.019		1.11	1.11
Crane & bucket	.030	C.Y.	.027		1.80	1.80
12" wall, direct chute	.040	C.Y.	.019		.94	.94
Pumped concrete	.040	C.Y.	.023		1.35	1.35
Crane & bucket	.040	C.Y.	.032		2.13	2.13
Dampproofing, bituminous, brushed on, 1 coat	1.000	S.F.	.012	.26	.67	.93
2 coats	1.000	S.F.	.016	.52	.89	1.41
Sprayed on, 1 coat	1.000	S.F.	.010	.26	.53	.79
2 coats	1.000	S.F.	.016	.51	.89	1.40
Troweled on, 1/16" thick	1.000	S.F.	.016	.45	.89	1.34
1/8" thick	1.000	S.F.	.020	.79	1.11	1.90
1/2" thick	1.000	S.F.	.023	2.58	1.27	3.85
Insulation rigid, fiberglass, 1.5#/C.F., unfaced						
1-1/2" thick, R 6.2	1.000	S.F.	.008	.47	.48	.95
2" thick, R 8.3	1.000	S.F.	.008	.54	.48	1.02
3" thick, R 12.4	1.000	S.F.	.010	.62	.59	1.21
Perlite, 1" thick R 2.77	1.000	S.F.	.010	.52	.59	1.11
2" thick R 5.55	1.000	S.F.	.011	.95	.65	1.60
Polystyrene, extruded, 1" thick R 5.40	1.000	S.F.	.010	.68	.59	1.27
2" thick R 10.8	1.000	S.F.	.011	1.84	.65	2.49
Molded, 1" thick R 3.85	1.000	S.F.	.010	.32	.59	.91
2" thick R 7.70	1.000	S.F.	.011	.96	.65	1.61
Anchor bolts, 2" on center, 1/2" diameter, 8" long	.120	Ea.	.005	.21	.43	.64
12" long	.120	Ea.	.005	.24	.43	.67
3/4" diameter, 8" long	.120	Ea.	.006	.55	.44	.99
12" long	.120	Ea.	.006	.69	.45	1.14
Sill plates, treated lumber, 2" x 4"	.250	L.F.	.007	.16	.43	.59
4" x 4"	.250	L.F.	.007	.38	.41	.79

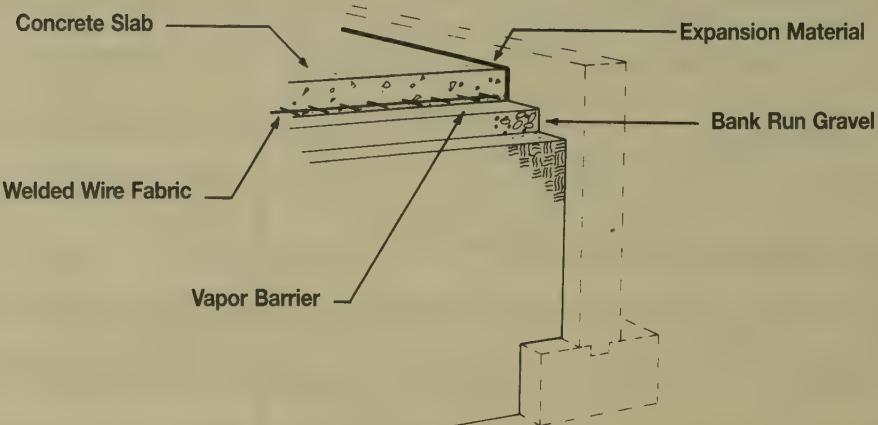


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 4" STUDS, 16" O.C., WALL</b>						
Studs, 2" x 4", 16" O.C., treated	1.000	L.F.	.015	.63	.86	1.49
Plates, double top plate, single bottom plate, treated, 2" x 4"	.750	L.F.	.011	.47	.65	1.12
Sheathing, 1/2", exterior grade, CDX, treated	1.000	S.F.	.014	1	.84	1.84
Asphalt paper, 15# roll	1.100	S.F.	.002	.07	.14	.21
Vapor barrier, 4 mil polyethylene	1.000	S.F.	.002	.04	.13	.17
Fiberglass insulation, 3-1/2" thick	1.000	S.F.	.007	.37	.41	.78
<b>TOTAL</b>		S.F.	.051	2.58	3.03	5.61
<b>2" X 6" STUDS, 16" O.C., WALL</b>						
Studs, 2" x 6", 16" O.C., treated	1.000	L.F.	.016	.84	.95	1.79
Plates, double top plate, single bottom plate, treated, 2" x 6"	.750	L.F.	.012	.63	.71	1.34
Sheathing, 5/8" exterior grade, CDX, treated	1.000	S.F.	.015	1.41	.91	2.32
Asphalt paper, 15# roll	1.100	S.F.	.002	.07	.14	.21
Vapor barrier, 4 mil polyethylene	1.000	S.F.	.002	.04	.13	.17
Fiberglass insulation, 6" thick	1.000	S.F.	.007	.48	.41	.89
<b>TOTAL</b>		S.F.	.054	3.47	3.25	6.72
<b>2" X 8" STUDS, 16" O.C., WALL</b>						
Studs, 2" x 8", 16" O.C. treated	1.000	L.F.	.018	1.35	1.06	2.41
Plates, double top plate, single bottom plate, treated, 2" x 8"	.750	L.F.	.013	1.01	.80	1.81
Sheathing, 3/4" exterior grade, CDX, treated	1.000	S.F.	.016	1.41	.97	2.38
Asphalt paper, 15# roll	1.100	S.F.	.002	.07	.14	.21
Vapor barrier, 4 mil polyethylene	1.000	S.F.	.002	.04	.13	.17
Fiberglass insulation, 9" thick	1.000	S.F.	.006	.95	.35	1.30
<b>TOTAL</b>		S.F.	.057	4.83	3.45	8.28

The costs in this system are based on a sq. ft. of wall area. Do not subtract for window or door openings. The costs assume a 4' high wall.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>4" THICK SLAB</b>						
Concrete, 4" thick, 3000 psi concrete	.012	C.Y.		1.70		1.70
Place concrete, direct chute	.012	C.Y.	.005		.26	.26
Bank run gravel, 4" deep	1.000	S.F.	.001	.33	.07	.40
Polyethylene vapor barrier, .006" thick	1.000	S.F.	.002	.04	.13	.17
Edge forms, expansion material	.100	L.F.	.005	.04	.28	.32
Welded wire fabric, 6 x 6, 10/10 (W1.4/W1.4)	1.100	S.F.	.005	.20	.33	.53
Steel trowel finish	1.000	S.F.	.014		.81	.81
	<b>TOTAL</b>	S.F.	.032	2.31	1.88	4.19
<b>6" THICK SLAB</b>						
Concrete, 6" thick, 3000 psi concrete	.019	C.Y.		2.70		2.70
Place concrete, direct chute	.019	C.Y.	.008		.41	.41
Bank run gravel, 4" deep	1.000	S.F.	.001	.33	.07	.40
Polyethylene vapor barrier, .006" thick	1.000	S.F.	.002	.04	.13	.17
Edge forms, expansion material	.100	L.F.	.005	.04	.28	.32
Welded wire fabric, 6 x 6, 10/10 (W1.4/W1.4)	1.100	S.F.	.005	.20	.33	.53
Steel trowel finish	1.000	S.F.	.014		.81	.81
	<b>TOTAL</b>	S.F.	.035	3.31	2.03	5.34

The slab costs in this section are based on a cost per square foot of floor area.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Floor Slab Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Concrete, 4" thick slab, 2000 psi concrete	.012	C.Y.		1.40		1.40
2500 psi concrete	.012	C.Y.		1.45		1.45
3000 psi concrete	.012	C.Y.		1.70		1.70
3500 psi concrete	.012	C.Y.		1.64		1.64
4000 psi concrete	.012	C.Y.		1.68		1.68
4500 psi concrete	.012	C.Y.		1.73		1.73
5" thick slab, 2000 psi concrete	.015	C.Y.		1.76		1.76
2500 psi concrete	.015	C.Y.		1.82		1.82
3000 psi concrete	.015	C.Y.		2.13		2.13
3500 psi concrete	.015	C.Y.		2.06		2.06
4000 psi concrete	.015	C.Y.		2.10		2.10
4500 psi concrete	.015	C.Y.		2.16		2.16
6" thick slab, 2000 psi concrete	.019	C.Y.		2.22		2.22
2500 psi concrete	.019	C.Y.		2.30		2.30
3000 psi concrete	.019	C.Y.		2.70		2.70
3500 psi concrete	.019	C.Y.		2.60		2.60
4000 psi concrete	.019	C.Y.		2.66		2.66
4500 psi concrete	.019	C.Y.		2.74		2.74
Place concrete, 4" slab, direct chute	.012	C.Y.	.005		.26	.26
Pumped concrete	.012	C.Y.	.006		.34	.34
Crane & bucket	.012	C.Y.	.008		.53	.53
5" slab, direct chute	.015	C.Y.	.007		.33	.33
Pumped concrete	.015	C.Y.	.007		.43	.43
Crane & bucket	.015	C.Y.	.010		.66	.66
6" slab, direct chute	.019	C.Y.	.008		.41	.41
Pumped concrete	.019	C.Y.	.009		.54	.54
Crane & bucket	.019	C.Y.	.012		.84	.84
Gravel, bank run, 4" deep	1.000	S.F.	.001	.33	.07	.40
6" deep	1.000	S.F.	.001	.44	.09	.53
9" deep	1.000	S.F.	.001	.64	.13	.77
12" deep	1.000	S.F.	.001	.88	.16	1.04
3/4" crushed stone, 3" deep	1.000	S.F.	.001	.33	.06	.39
6" deep	1.000	S.F.	.001	.66	.12	.78
9" deep	1.000	S.F.	.002	.96	.16	1.12
12" deep	1.000	S.F.	.002	1.79	.19	1.98
Vapor barrier polyethylene, .004" thick	1.000	S.F.	.002	.03	.13	.16
.006" thick	1.000	S.F.	.002	.04	.13	.17
Edge forms, expansion material, 4" thick slab	.100	L.F.	.004	.02	.19	.21
6" thick slab	.100	L.F.	.005	.04	.28	.32
Welded wire fabric 6 x 6, 10/10 (W1.4/W1.4)	1.100	S.F.	.005	.20	.33	.53
6 x 6, 6/6 (W2.9/W2.9)	1.100	S.F.	.006	.33	.40	.73
4 x 4, 10/10 (W1.4/W1.4)	1.100	S.F.	.006	.30	.37	.67
Finish concrete, screed finish	1.000	S.F.	.009		.32	.32
Float finish	1.000	S.F.	.011		.32	.32
Steel trowel, for resilient floor	1.000	S.F.	.013		1.02	1.02
For finished floor	1.000	S.F.	.015		.81	.81



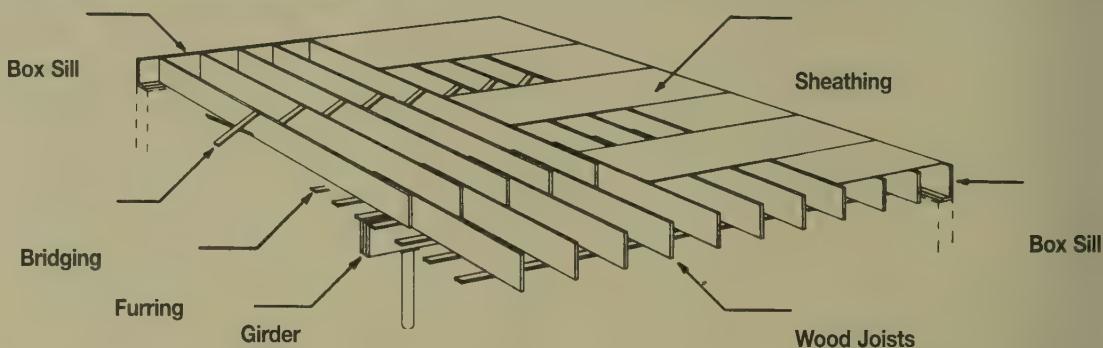
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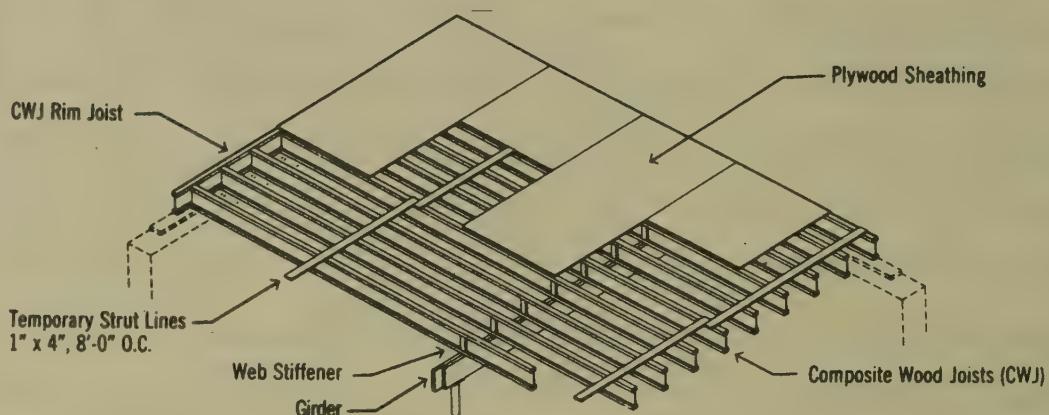


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 8", 16" O.C.</b>						
Wood joists, 2" x 8", 16" O.C.	1.000	L.F.	.015	1.10	.86	1.96
Bridging, 1" x 3", 6' O.C.	.080	Pr.	.005	.06	.29	.35
Box sills, 2" x 8"	.150	L.F.	.002	.17	.13	.30
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girder, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Joist hangers	.036	Ea.	.002	.06	.10	.16
<b>TOTAL</b>		S.F.	.067	4.14	3.94	8.08
<b>2" X 10", 16" O.C.</b>						
Wood joists, 2" x 10", 16" OC	1.000	L.F.	.018	1.46	1.06	2.52
Bridging, 1" x 3", 6' OC	.080	Pr.	.005	.06	.29	.35
Box sills, 2" x 10"	.150	L.F.	.003	.22	.16	.38
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girder, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
Furring, 1" x 3", 16" OC	1.000	L.F.	.023	.48	1.36	1.84
Joist hangers	.036	Ea.	.002	.06	.10	.16
<b>TOTAL</b>		S.F.	.071	4.55	4.17	8.72
<b>2" X 12", 16" O.C.</b>						
Wood joists, 2" x 12", 16" O.C.	1.000	L.F.	.018	1.91	1.09	3
Bridging, 1" x 3", 6' O.C.	.080	Pr.	.005	.06	.29	.35
Box sills, 2" x 12"	.150	L.F.	.003	.29	.16	.45
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girder, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Joist hangers	.036	Ea.	.002	.06	.10	.16
<b>TOTAL</b>		S.F.	.071	5.07	4.20	9.27

Floor costs on this page are given on a cost per square foot basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Floor Framing Price Sheet (Wood)	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Joists, #2 or better, pine, 2" x 4", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.016 .013	.65 .52	.95 .76	1.60 1.28
2" x 6", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.016 .013	.94 .75	.95 .76	1.89 1.51
2" x 8", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.018 .015	1.38 1.10	1.08 .86	2.46 1.96
2" x 10", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.022 .018	1.83 1.46	1.33 1.06	3.16 2.52
2" x 12", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.023 .018	2.39 1.91	1.36 1.09	3.75 3
Bridging, wood 1" x 3", joists 12" O.C. 16" O.C.	.100 .080	Pr. Pr.	.006 .005	.08 .06	.37 .29	.45 .35
Metal, galvanized, joists 12" O.C. 16" O.C.	.100 .080	Pr. Pr.	.006 .005	.19 .15	.37 .29	.56 .44
Compression type, joists 12" O.C. 16" O.C.	.100 .080	Pr. Pr.	.004 .003	.16 .13	.24 .19	.40 .32
Box sills, #2 or better, 2" x 4" 2" x 6"	.150 .150	L.F. L.F.	.002 .002	.08 .11	.11 .11	.19 .22
2" x 8" 2" x 10"	.150 .150	L.F. L.F.	.002 .003	.17 .22	.13 .16	.30 .38
2" x 12"	.150	L.F.	.003	.29	.16	.45
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.015	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.016	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.017	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.040	L.F.	.007	1.42	.50	1.92
Solid wood, 3" x 8" 3" x 10"	.040 .040	L.F. L.F.	.004 .004	.54 .57	.34 .35	.88 .92
3" x 12" 4" x 8"	.040 .040	L.F. L.F.	.004 .004	.63 .61	.36 .36	.99 .97
4" x 10" 4" x 12"	.040 .040	L.F. L.F.	.004 .004	.66 .67	.37 .38	1.03 1.05
Steel girders, bolted & including fabrication, wide flange shapes						
12" deep, 14#/l.f.	.040	L.F.	.003	1.14	.28	1.42
10" deep, 15#/l.f.	.040	L.F.	.003	1.14	.28	1.42
8" deep, 10#/l.f.	.040	L.F.	.003	.76	.28	1.04
6" deep, 9#/l.f.	.040	L.F.	.003	.68	.28	.96
5" deep, 16#/l.f.	.040	L.F.	.003	1.14	.28	1.42
Sheathing, plywood exterior grade CDX, 1/2" thick	1.000	S.F.	.011	.75	.68	1.43
5/8" thick	1.000	S.F.	.012	.85	.70	1.55
3/4" thick	1.000	S.F.	.013	1.04	.76	1.80
Boards, 1" x 8" laid regular Laid diagonal	1.000 1.000	S.F. S.F.	.016 .019	2.26 2.26	.95 1.12	3.21 3.38
1" x 10" laid regular Laid diagonal	1.000 1.000	S.F. S.F.	.015 .018	2.74 2.74	.86 1.06	3.60 3.80
Furring, 1" x 3", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.029 .023	.60 .48	1.70 1.36	2.30 1.84
24" O.C.	.750	L.F.	.017	.36	1.02	1.38



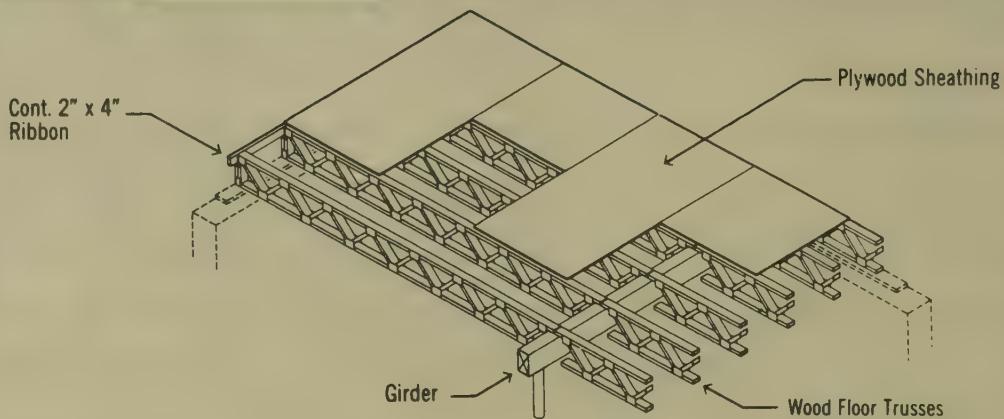
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>9-1/2" COMPOSITE WOOD JOISTS, 16" O.C.</b>						
CWJ, 9-1/2", 16" O.C., 15' span	1.000	L.F.	.018	1.75	1.05	2.80
Temp. strut line, 1" x 4", 8' O.C.	.160	L.F.	.003	.09	.19	.28
CWJ rim joist, 9-1/2"	.150	L.F.	.003	.26	.16	.42
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girders, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
<b>TOTAL</b>		S.F.	.044	4.37	2.60	6.97
<b>11-1/2" COMPOSITE WOOD JOISTS, 16" O.C.</b>						
CWJ, 11-1/2", 16" O.C., 18' span	1.000	L.F.	.018	2.20	1.08	3.28
Temp. strut line, 1" x 4", 8' O.C.	.160	L.F.	.003	.09	.19	.28
CWJ rim joist, 11-1/2"	.150	L.F.	.003	.33	.16	.49
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girders, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
<b>TOTAL</b>		S.F.	.044	4.89	2.63	7.52
<b>14" COMPOSITE WOOD JOISTS, 16" O.C.</b>						
CWJ, 14", 16" O.C., 22' span	1.000	L.F.	.020	2.60	1.15	3.75
Temp. strut line, 1" x 4", 8' O.C.	.160	L.F.	.003	.09	.19	.28
CWJ rim joist, 14"	.150	L.F.	.003	.39	.17	.56
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girders, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
<b>TOTAL</b>		S.F.	.046	5.35	2.71	8.06

Floor costs on this page are given on a cost per square foot basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Floor Framing Price Sheet (Wood)**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Composite wood joist 9-1/2" deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.022 .018	2.19 1.75	1.31 1.05	3.50 2.80
11-1/2" deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.023 .018	2.75 2.20	1.34 1.08	4.09 3.28
14" deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.024 .020	3.25 2.60	1.44 1.15	4.69 3.75
16 " deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.026 .021	5.80 4.63	1.53 1.23	7.33 5.86
CWJ rim joist, 9-1/2" 11-1/2"	.150 .150	L.F. L.F.	.003 .003	.26 .33	.16 .16	.42 .49
14" 16"	.150 .150	L.F. L.F.	.003 .003	.39 .69	.17 .18	.56 .87
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.015	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.016	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.017	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14" Solid girders, 3" x 8"	.040 .040	L.F. L.F.	.008 .004	1.42 .54	.50 .34	1.92 .88
3" x 10" 3" x 12"	.040 .040	L.F. L.F.	.004 .004	.57 .63	.35 .36	.92 .99
4" x 8" 4" x 10"	.040 .040	L.F. L.F.	.004 .004	.61 .66	.36 .37	.97 1.03
4" x 12"	.040	L.F.	.004	.67	.38	1.05
Steel girders, bolted & including fabrication, wide flange shapes						
12" deep, 14#/l.f. 10" deep, 15#/l.f.	.040 .040	L.F. L.F.	.061 .067	1.14 1.14	.28 .28	1.42 1.42
8" deep, 10#/l.f. 6" deep, 9#/l.f.	.040 .040	L.F. L.F.	.067 .067	.76 .68	.28 .28	1.04 .96
5" deep, 16#/l.f.	.040	L.F.	.064	1.14	.28	1.42
Sheathing, plywood exterior grade CDX, 1/2" thick	1.000	S.F.	.011	.75	.68	1.43
5/8" thick 3/4" thick	1.000 1.000	S.F. S.F.	.012 .013	.85 1.04	.70 .76	1.55 1.80
Borads, 1" x 8" laid regular	1.000	S.F.	.016	2.26	.95	3.21
Laid diagonal 1" x 10" laid regular	1.000 1.000	S.F. S.F.	.019 .015	2.26 2.74	1.12 .86	3.38 3.60
Laid diagonal	1.000	S.F.	.018	2.74	1.06	3.80
Furring, 1" x 3", 12" O.C.	1.250	L.F.	.029	.60	1.70	2.30
16" O.C. 24" O.C.	1.000 .750	L.F. L.F.	.023 .017	.48 .36	1.36 1.02	1.84 1.38



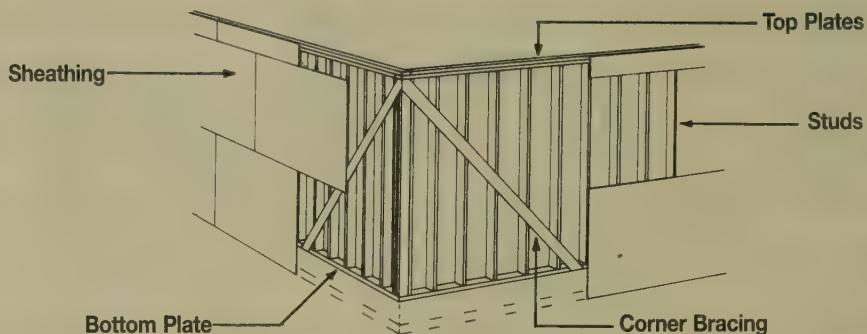
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>12" OPEN WEB JOISTS, 16" O.C.</b>						
OWJ 12", 16" O.C., 21' span	1.000	L.F.	.018	4.25	1.08	5.33
Continuous ribbing, 2" x 4"	.150	L.F.	.002	.08	.11	.19
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girder, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
<b>TOTAL</b>		S.F.	.063	7.08	3.75	10.83
<b>14" OPEN WEB WOOD JOISTS, 16" O.C.</b>						
OWJ 14", 16" O.C., 22' span	1.000	L.F.	.020	4.30	1.15	5.45
Continuous ribbing, 2" x 4"	.150	L.F.	.002	.08	.11	.19
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girder, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
<b>TOTAL</b>		S.F.	.065	7.13	3.82	10.95
<b>16" OPEN WEB WOOD JOISTS, 16" O.C.</b>						
OWJ 16", 16" O.C., 24' span	1.000	L.F.	.021	4.63	1.23	5.86
Continuous ribbing, 2" x 4"	.150	L.F.	.002	.08	.11	.19
Concrete filled steel column, 4" diameter	.005	Ea.	.004	.41	.24	.65
Girder, including lally columns, 3 LVL, 1-3/4" x 14"	.125	L.F.	.004	1.01	.26	1.27
Sheathing, plywood, subfloor, 5/8" CDX	1.000	S.F.	.012	.85	.70	1.55
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
<b>TOTAL</b>		S.F.	.066	7.46	3.90	11.36

Floor costs on this page are given on a cost per square foot basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Floor Framing Price Sheet (Wood)**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Open web joists, 12" deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.023 .018	5.30 4.25	1.34 1.08	6.64 5.33
14" deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.024 .020	5.40 4.30	1.44 1.15	6.84 5.45
16 " deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.026 .021	5.80 4.63	1.53 1.23	7.33 5.86
18" deep, 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.027 .022	6.05 4.83	1.59 1.28	7.64 6.11
Continuous ribbing, 2" x 4" 2" x 6"	.150 .150	L.F. L.F.	.002 .002	.08 .11	.11 .11	.19 .22
2" x 8" 2" x 10"	.150 .150	L.F. L.F.	.002 .003	.17 .22	.13 .16	.30 .38
2" x 12"	.150	L.F.	.003	.29	.16	.45
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.015	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.016	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.125	L.F.	.017	1.42	.50	1.92
Girders, including lally columns, laminated veneer lumber, triple 1-3/4" x 14"	.040	L.F.	.008	1.42	.50	1.92
Solid girders, 3" x 8" 3" x 10"	.040 .040	L.F. L.F.	.004 .004	.54 .57	.34 .35	.88 .92
3" x 12" 4" x 8"	.040 .040	L.F. L.F.	.004 .004	.63 .61	.36 .36	.99 .97
4" x 10" 4" x 12"	.040 .040	L.F. L.F.	.004 .004	.66 .67	.37 .38	1.03 1.05
Steel girders, bolted & including fabrication, wide flange shapes						
12" deep, 14#/l.f.	.040	L.F.	.061	1.14	.28	1.42
10" deep, 15#/l.f.	.040	L.F.	.067	1.14	.28	1.42
8" deep, 10#/l.f.	.040	L.F.	.067	.76	.28	1.04
6" deep, 9#/l.f.	.040	L.F.	.067	.68	.28	.96
5" deep, 16#/l.f.	.040	L.F.	.064	1.14	.28	1.42
Sheathing, plywood exterior grade CDX, 1/2" thick	1.000	S.F.	.011	.75	.68	1.43
5/8" thick	1.000	S.F.	.012	.85	.70	1.55
3/4" thick	1.000	S.F.	.013	1.04	.76	1.80
Borads, 1" x 8" laid regular Laid diagonal	1.000 1.000	S.F. S.F.	.016 .019	2.26 2.26	.95 1.12	3.21 3.38
1" x 10" laid regular Laid diagonal	1.000 1.000	S.F. S.F.	.015 .018	2.74 2.74	.86 1.06	3.60 3.80
Furring, 1" x 3", 12" O.C. 16" O.C.	1.250 1.000	L.F. L.F.	.029 .023	.60 .48	1.70 1.36	2.30 1.84
24" O.C.	.750	L.F.	.017	.36	1.02	1.38



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
2" X 4", 16" O.C.						
2" x 4" studs, 16" O.C.	1.000	L.F.	.015	.51	.86	1.37
Plates, 2" x 4", double top, single bottom	.375	L.F.	.005	.19	.32	.51
Corner bracing, let-in, 1" x 6"	.063	L.F.	.003	.06	.20	.26
Sheathing, 1/2" plywood, CDX	1.000	S.F.	.011	.75	.68	1.43
Framing connectors, holddowns	.013	Ea.	.013	.66	.77	1.43
TOTAL		S.F.	.047	2.17	2.83	5
2" X 4", 24" O.C.						
2" x 4" studs, 24" O.C.	.750	L.F.	.011	.38	.65	1.03
Plates, 2" x 4", double top, single bottom	.375	L.F.	.005	.19	.32	.51
Corner bracing, let-in, 1" x 6"	.063	L.F.	.002	.06	.13	.19
Sheathing, 1/2" plywood, CDX	1.000	S.F.	.011	.75	.68	1.43
Framing connectors, holddowns	.013	Ea.	.013	.66	.77	1.43
TOTAL		S.F.	.042	2.04	2.55	4.59
2" X 6", 16" O.C.						
2" x 6" studs, 16" O.C.	1.000	L.F.	.016	.75	.95	1.70
Plates, 2" x 6", double top, single bottom	.375	L.F.	.006	.28	.36	.64
Corner bracing, let-in, 1" x 6"	.063	L.F.	.003	.06	.20	.26
Sheathing, 1/2" plywood, CDX	1.000	S.F.	.014	.75	.84	1.59
Framing connectors, holddowns	.013	Ea.	.013	.66	.77	1.43
TOTAL		S.F.	.052	2.50	3.12	5.62
2" X 6", 24" O.C.						
2" x 6" studs, 24" O.C.	.750	L.F.	.012	.56	.71	1.27
Plates, 2" x 6", double top, single bottom	.375	L.F.	.006	.28	.36	.64
Corner bracing, let-in, 1" x 6"	.063	L.F.	.002	.06	.13	.19
Sheathing, 1/2" plywood, CDX	1.000	S.F.	.011	.75	.68	1.43
Framing connectors, holddowns	.013	Ea.	.013	.66	.77	1.43
TOTAL		S.F.	.044	2.31	2.65	4.96

The wall costs on this page are given in cost per square foot of wall.

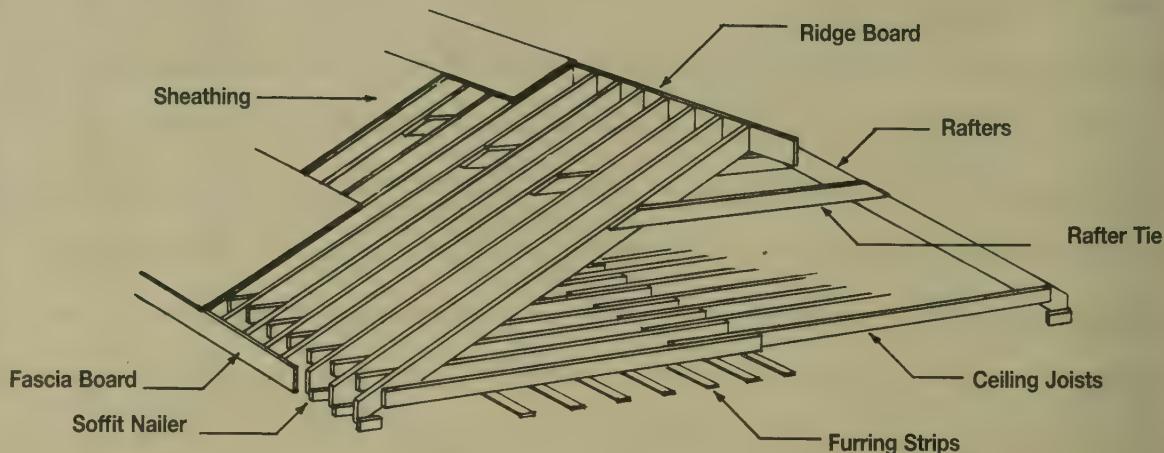
For window and door openings see below.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Exterior Wall Framing Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Studs, #2 or better, 2" x 4", 12" O.C. 16" O.C.	1.250	L.F.	.018	.64	1.08	1.72
24" O.C. 32" O.C.	1.000	L.F.	.015	.51	.86	1.37
2" x 6", 12" O.C. 16" O.C.	.750	L.F.	.011	.38	.65	1.03
24" O.C. 32" O.C.	.600	L.F.	.009	.31	.52	.83
2" x 6", 12" O.C. 16" O.C.	1.250	L.F.	.020	.94	1.19	2.13
24" O.C. 32" O.C.	1.000	L.F.	.016	.75	.95	1.70
2" x 8", 12" O.C. 16" O.C.	.750	L.F.	.012	.56	.71	1.27
24" O.C. 32" O.C.	.600	L.F.	.010	.45	.57	1.02
2" x 8", 12" O.C. 16" O.C.	1.250	L.F.	.025	1.89	1.49	3.38
24" O.C. 32" O.C.	1.000	L.F.	.020	1.51	1.19	2.70
Plates, #2 or better, double top, single bottom, 2" x 4" 2" x 6"	.750	L.F.	.005	.19	.32	.51
2" x 8"	.375	L.F.	.006	.28	.36	.64
Corner bracing, let-in 1" x 6" boards, studs, 12" O.C. 16" O.C.	.375	L.F.	.008	.57	.45	1.02
24" O.C. 32" O.C.	.070	L.F.	.004	.06	.22	.28
Let-in steel ("T" shape), studs, 12" O.C. 16" O.C.	.063	L.F.	.003	.06	.20	.26
24" O.C. 32" O.C.	.063	L.F.	.002	.06	.13	.19
32" O.C.	.057	L.F.	.002	.05	.12	.17
Sheathing, plywood CDX, 3/8" thick 1/2" thick	1.000	S.F.	.010	.58	.62	1.20
5/8" thick 3/4" thick	1.000	S.F.	.011	.75	.68	1.43
Boards, 1" x 6", laid regular Laid diagonal	1.000	S.F.	.025	1.97	1.46	3.43
1" x 8", laid regular Laid diagonal	1.000	S.F.	.027	1.97	1.62	3.59
Wood fiber, regular, no vapor barrier, 1/2" thick 5/8" thick	1.000	S.F.	.021	2.26	1.24	3.50
Asphalt impregnated 25/32" thick 1/2" thick	1.000	S.F.	.025	2.26	1.46	3.72
Polystyrene, regular, 3/4" thick 2" thick	1.000	S.F.	.013	.70	.79	1.49
Fiberglass, foil faced, 1" thick 2" thick	1.000	S.F.	.013	.77	.79	1.56
2" x 8" double, 4' long 5' long	1.000	S.F.	.013	.35	.79	1.14
4' long 5' long	1.000	S.F.	.013	.37	.79	1.16
2" x 10" double, 4' long 6' long	8.000	L.F.	.376	8.80	22.50	31.30
8' long	10.000	L.F.	.471	11	28	39
6' long 8' long	12.000	L.F.	.565	13.20	33.50	46.70
2" x 12" double, 4' long 6' long	16.000	L.F.	.753	17.60	45	62.60
8' long 10' long	16.000	L.F.	.400	11.70	24	35.70
2" x 12" double, 8' long 12' long	12.000	L.F.	.600	17.50	35.50	53
8' long 10' long	16.000	L.F.	.800	23.50	47.50	71
2" x 12" double, 12' long	20.000	L.F.	1.000	29	59.50	88.50
16.000	L.F.	.853	30.50	50.50	81	
24.000	L.F.	1.280	46	76	122	

### Window & Door Openings

QUAN.	UNIT	LABOR HOURS	COST EACH		
			MAT.	INST.	TOTAL
The following costs are to be added to the total costs of the wall for each opening. Do not subtract the area of the openings.					
Headers, 2" x 6" double, 2' long 3' long	4.000	L.F.	.178	3	10.55
4' long 5' long	6.000	L.F.	.267	4.50	15.85
2" x 8" double, 4' long 5' long	8.000	L.F.	.356	6	21
6' long 8' long	10.000	L.F.	.444	7.50	26.50
2" x 10" double, 4' long 6' long	8.000	L.F.	.376	8.80	22.50
8' long 10' long	10.000	L.F.	.471	11	28
2" x 12" double, 4' long 6' long	12.000	L.F.	.565	13.20	33.50
8' long 10' long	16.000	L.F.	.753	17.60	45
2" x 12" double, 8' long 12' long	16.000	L.F.	.400	11.70	24
24.000	L.F.	.600	17.50	35.50	53
8' long 10' long	16.000	L.F.	.800	23.50	47.50
2" x 12" double, 12' long	20.000	L.F.	1.000	29	59.50
16.000	L.F.	.853	30.50	50.50	81
24.000	L.F.	1.280	46	76	122



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6" RAFTERS, 16" O.C., 4/12 PITCH</b>						
Rafters, 2" x 6", 16" O.C., 4/12 pitch	1.170	L.F.	.019	.88	1.11	1.99
Ceiling joists, 2" x 4", 16" O.C.	1.000	L.F.	.013	.52	.76	1.28
Ridge board, 2" x 6"	.050	L.F.	.002	.04	.10	.14
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Rafter tie, 1" x 4", 4' O.C.	.060	L.F.	.001	.04	.07	.11
Soffit nailer (outrigger), 2" x 4", 24" O.C.	.170	L.F.	.004	.09	.26	.35
Sheathing, exterior, plywood, CDX, 1/2" thick	1.170	S.F.	.013	.88	.80	1.68
Furring strips, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.053	Ea.	.003	.07	.17	.24
<b>TOTAL</b>		<b>S.F.</b>	<b>.084</b>	<b>3.08</b>	<b>5.01</b>	<b>8.09</b>
<b>2" X 8" RAFTERS, 16" O.C., 4/12 PITCH</b>						
Rafters, 2" x 8", 16" O.C., 4/12 pitch	1.170	L.F.	.020	1.29	1.17	2.46
Ceiling joists, 2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51
Ridge board, 2" x 8"	.050	L.F.	.002	.06	.11	.17
Fascia board, 2" x 8"	.100	L.F.	.007	.11	.42	.53
Rafter tie, 1" x 4", 4' O.C.	.060	L.F.	.001	.04	.07	.11
Soffit nailer (outrigger), 2" x 4", 24" O.C.	.170	L.F.	.004	.09	.26	.35
Sheathing, exterior, plywood, CDX, 1/2" thick	1.170	S.F.	.013	.88	.80	1.68
Furring strips, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.053	Ea.	.003	.07	.17	.24
<b>TOTAL</b>		<b>S.F.</b>	<b>.086</b>	<b>3.77</b>	<b>5.12</b>	<b>8.89</b>

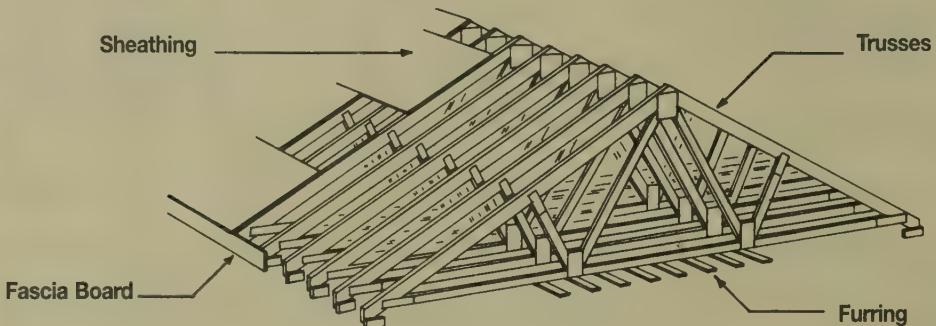
The cost of this system is based on the square foot of plan area.

All quantities have been adjusted accordingly.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Gable End Roof Framing Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Rafters, #2 or better, 16" O.C., 2" x 6", 4/12 pitch	1.170	L.F.	.019	.88	1.11	1.99
8/12 pitch	1.330	L.F.	.027	1	1.58	2.58
2" x 8", 4/12 pitch	1.170	L.F.	.020	1.29	1.17	2.46
8/12 pitch	1.330	L.F.	.028	1.46	1.69	3.15
2" x 10", 4/12 pitch	1.170	L.F.	.030	1.71	1.77	3.48
8/12 pitch	1.330	L.F.	.043	1.94	2.55	4.49
24" O.C., 2" x 6", 4/12 pitch	.940	L.F.	.015	.71	.89	1.60
8/12 pitch	1.060	L.F.	.021	.80	1.26	2.06
2" x 8", 4/12 pitch	.940	L.F.	.016	1.03	.94	1.97
8/12 pitch	1.060	L.F.	.023	1.17	1.35	2.52
2" x 10", 4/12 pitch	.940	L.F.	.024	1.37	1.42	2.79
8/12 pitch	1.060	L.F.	.034	1.55	2.04	3.59
Ceiling joist, #2 or better, 2" x 4", 16" O.C.	1.000	L.F.	.013	.52	.76	1.28
24" O.C.	.750	L.F.	.010	.39	.57	.96
2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51
24" O.C.	.750	L.F.	.010	.56	.57	1.13
2" x 8", 16" O.C.	1.000	L.F.	.015	1.10	.86	1.96
24" O.C.	.750	L.F.	.011	.83	.65	1.48
2" x 10", 16" O.C.	1.000	L.F.	.018	1.46	1.06	2.52
24" O.C.	.750	L.F.	.013	1.10	.80	1.90
Ridge board, #2 or better, 1" x 6"	.050	L.F.	.001	.05	.08	.13
1" x 8"	.050	L.F.	.001	.07	.09	.16
1" x 10"	.050	L.F.	.002	.11	.10	.21
2" x 6"	.050	L.F.	.002	.04	.10	.14
2" x 8"	.050	L.F.	.002	.06	.11	.17
2" x 10"	.050	L.F.	.002	.07	.12	.19
Fascia board, #2 or better, 1" x 6"	.100	L.F.	.004	.06	.23	.29
1" x 8"	.100	L.F.	.005	.07	.27	.34
1" x 10"	.100	L.F.	.005	.08	.30	.38
2" x 6"	.100	L.F.	.006	.09	.34	.43
2" x 8"	.100	L.F.	.007	.11	.42	.53
2" x 10"	.100	L.F.	.004	.29	.21	.50
Rafter tie, #2 or better, 4' O.C., 1" x 4"	.060	L.F.	.001	.04	.07	.11
1" x 6"	.060	L.F.	.001	.04	.08	.12
2" x 4"	.060	L.F.	.002	.05	.10	.15
2" x 6"	.060	L.F.	.002	.06	.12	.18
Soffit nailing (outtrigger), 2" x 4", 16" O.C.	.220	L.F.	.006	.11	.34	.45
24" O.C.	.170	L.F.	.004	.09	.26	.35
2" x 6", 16" O.C.	.220	L.F.	.006	.13	.38	.51
24" O.C.	.170	L.F.	.005	.10	.31	.41
Sheathing, plywood CDX, 4/12 pitch, 3/8" thick.	1.170	S.F.	.012	.68	.73	1.41
1/2" thick	1.170	S.F.	.013	.88	.80	1.68
5/8" thick	1.170	S.F.	.014	.99	.85	1.84
8/12 pitch, 3/8"	1.330	S.F.	.014	.77	.82	1.59
1/2" thick	1.330	S.F.	.015	1	.90	1.90
5/8" thick	1.330	S.F.	.016	1.13	.97	2.10
Birds, 4/12 pitch roof, 1" x 6"	1.170	S.F.	.026	2.30	1.53	3.83
1" x 8"	1.170	S.F.	.021	2.64	1.28	3.92
8/12 pitch roof, 1" x 6"	1.330	S.F.	.029	2.62	1.74	4.36
1" x 8"	1.330	S.F.	.024	3.01	1.45	4.46
Furring, 1" x 3", 12" O.C.	1.200	L.F.	.027	.58	1.63	2.21
16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
24" O.C.	.800	L.F.	.018	.38	1.09	1.47



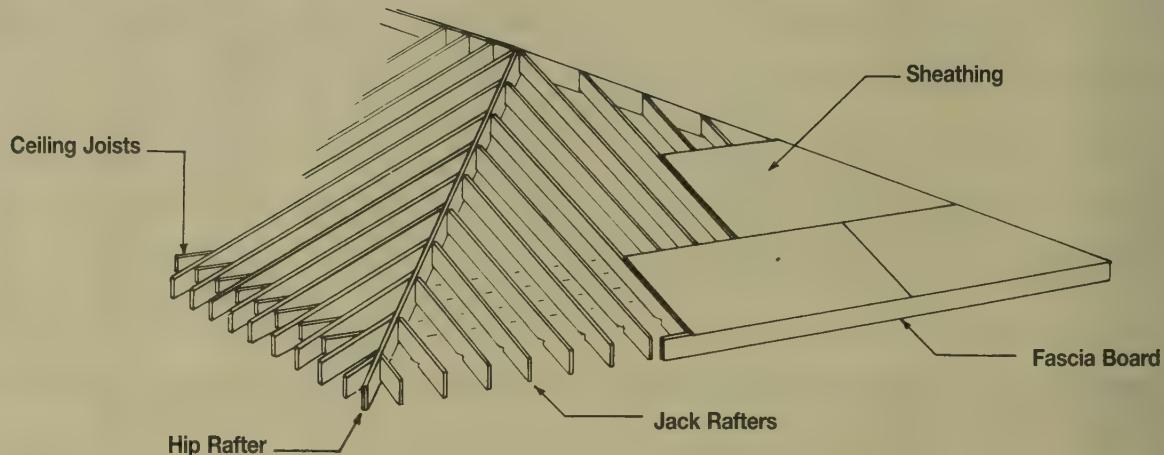
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>TRUSS, 16" O.C., 4/12 PITCH, 1' OVERHANG, 26' SPAN</b>						
Truss, 40# loading, 16" O.C., 4/12 pitch, 26' span	.030	Ea.	.021	2.61	1.43	4.04
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Sheathing, exterior, plywood, CDX, 1/2" thick	1.170	S.F.	.013	.88	.80	1.68
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.053	Ea.	.003	.07	.17	.24
	<b>TOTAL</b>		<b>S.F.</b>	<b>.066</b>	<b>4.12</b>	<b>4.14</b>
						8.26
<b>TRUSS, 16" O.C., 8/12 PITCH, 1' OVERHANG, 26' SPAN</b>						
Truss, 40# loading, 16" O.C., 8/12 pitch, 26' span	.030	Ea.	.023	3.45	1.56	5.01
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Sheathing, exterior, plywood, CDX, 1/2" thick	1.330	S.F.	.015	1	.90	1.90
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.053	Ea.	.003	.07	.17	.24
	<b>TOTAL</b>		<b>S.F.</b>	<b>.070</b>	<b>5.08</b>	<b>4.37</b>
						9.45
<b>TRUSS, 24" O.C., 4/12 PITCH, 1' OVERHANG, 26' SPAN</b>						
Truss, 40# loading, 24" O.C., 4/12 pitch, 26' span	.020	Ea.	.014	1.74	.95	2.69
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Sheathing, exterior, plywood, CDX, 1/2" thick	1.170	S.F.	.013	.88	.80	1.68
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.035	Ea.	.002	.04	.11	.15
	<b>TOTAL</b>		<b>S.F.</b>	<b>.058</b>	<b>3.22</b>	<b>3.60</b>
						6.82
<b>TRUSS, 24" O.C., 8/12 PITCH, 1' OVERHANG, 26' SPAN</b>						
Truss, 40# loading, 24" O.C., 8/12 pitch, 26' span	.020	Ea.	.015	2.30	1.04	3.34
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Sheathing, exterior, plywood, CDX, 1/2" thick	1.330	S.F.	.015	1	.90	1.90
Furring, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.035	Ea.	.002	.04	.11	.15
	<b>TOTAL</b>		<b>S.F.</b>	<b>.061</b>	<b>3.90</b>	<b>3.79</b>
						7.69

The cost of this system is based on the square foot of plan area.

A one foot overhang is included.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>



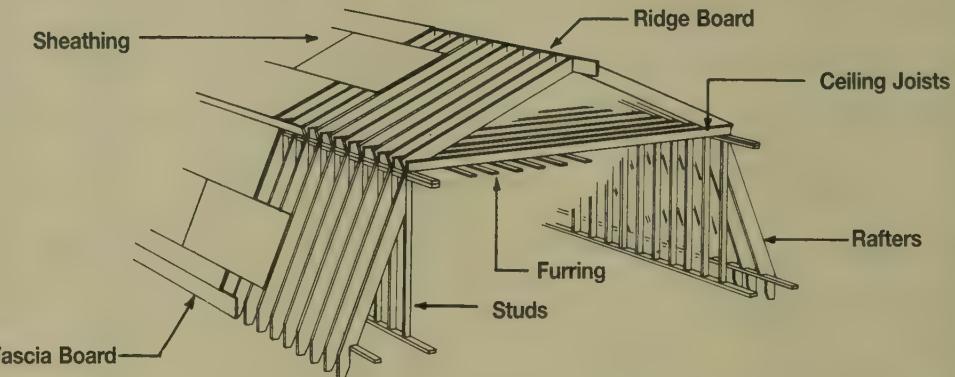


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6", 16" O.C., 4/12 PITCH</b>						
Hip rafters, 2" x 8", 4/12 pitch	.160	L.F.	.004	.18	.21	.39
Jack rafters, 2" x 6", 16" O.C., 4/12 pitch	1.430	L.F.	.038	1.07	2.26	3.33
Ceiling joists, 2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51
Fascia board, 2" x 8"	.170	L.F.	.012	.19	.72	.91
Soffit nailer (outrigger), 2" x 4", 24" O.C.	.220	L.F.	.006	.11	.34	.45
Sheathing, 1/2" exterior plywood, CDX	1.570	S.F.	.018	1.18	1.07	2.25
Furring strips, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.070	Ea.	.004	.09	.23	.32
<b>TOTAL</b>		<b>S.F.</b>	<b>.118</b>	<b>4.05</b>	<b>6.95</b>	<b>11</b>
<b>2" X 8", 16" O.C., 4/12 PITCH</b>						
Hip rafters, 2" x 10", 4/12 pitch	.160	L.F.	.004	.23	.27	.50
Jack rafters, 2" x 8", 16" O.C., 4/12 pitch	1.430	L.F.	.047	1.57	2.77	4.34
Ceiling joists, 2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51
Fascia board, 2" x 8"	.170	L.F.	.012	.19	.72	.91
Soffit nailer (outrigger), 2" x 4", 24" O.C.	.220	L.F.	.006	.11	.34	.45
Sheathing, 1/2" exterior plywood, CDX	1.570	S.F.	.018	1.18	1.07	2.25
Furring strips, 1" x 3", 16" O.C.	1.000	L.F.	.023	.48	1.36	1.84
Rafter ties	.070	Ea.	.004	.09	.23	.32
<b>TOTAL</b>		<b>S.F.</b>	<b>.127</b>	<b>4.60</b>	<b>7.52</b>	<b>12.12</b>

The cost of this system is based on S.F. of plan area. Measurement is area under the hip roof only. See gable roof system for added costs.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Hip Roof Framing Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Hip rafters, #2 or better, 2" x 6", 4/12 pitch 8/12 pitch	.160 .210	L.F. L.F.	.003 .006	.12 .16	.20 .34	.32 .50
2" x 8", 4/12 pitch 8/12 pitch	.160 .210	L.F. L.F.	.004 .006	.18 .23	.21 .37	.39 .60
2" x 10", 4/12 pitch 8/12 pitch roof	.160 .210	L.F. L.F.	.004 .008	.23 .31	.27 .45	.50 .76
Jack rafters, #2 or better, 16" O.C., 2" x 6", 4/12 pitch 8/12 pitch	1.430 1.800	L.F. L.F.	.038 .061	1.07 1.35	2.26 3.60	3.33 4.95
2" x 8", 4/12 pitch 8/12 pitch	1.430 1.800	L.F. L.F.	.047 .075	1.57 1.98	2.77 4.45	4.34 6.43
2" x 10", 4/12 pitch 8/12 pitch	1.430 1.800	L.F. L.F.	.051 .082	2.09 2.63	3.02 4.90	5.11 7.53
24" O.C., 2" x 6", 4/12 pitch 8/12 pitch	1.150 1.440	L.F. L.F.	.031 .048	.86 1.08	1.82 2.88	2.68 3.96
2" x 8", 4/12 pitch 8/12 pitch	1.150 1.440	L.F. L.F.	.038 .060	1.27 1.58	2.23 3.56	3.50 5.14
2" x 10", 4/12 pitch 8/12 pitch	1.150 1.440	L.F. L.F.	.041 .066	1.68 2.10	2.43 3.92	4.11 6.02
Ceiling joists, #2 or better, 2" x 4", 16" O.C. 24" O.C.	1.000 .750	L.F. L.F.	.013 .010	.52 .39	.76 .57	1.28 .96
2" x 6", 16" O.C. 24" O.C.	1.000 .750	L.F. L.F.	.013 .010	.75 .56	.76 .57	1.51 1.13
2" x 8", 16" O.C. 24" O.C.	1.000 .750	L.F. L.F.	.015 .011	1.10 .83	.86 .65	1.96 1.48
2" x 10", 16" O.C. 24" O.C.	1.000 .750	L.F. L.F.	.018 .013	1.46 1.10	1.06 .80	2.52 1.90
Fascia board, #2 or better, 1" x 6" 1" x 8"	.220 .220	L.F. L.F.	.009 .010	.13 .16	.51 .60	.64 .76
1" x 10"	.220	L.F.	.011	.17	.67	.84
2" x 6"	.220	L.F.	.013	.19	.74	.93
2" x 8"	.220	L.F.	.016	.19	.72	.91
2" x 10"	.220	L.F.	.020	.32	1.17	1.49
Soffit nailer (outrigger), 2" x 4", 16" O.C. 24" O.C.	.280 .220	L.F. L.F.	.007 .006	.15 .11	.43 .34	.58 .45
2" x 8", 16" O.C. 24" O.C.	.280 .220	L.F. L.F.	.007 .005	.23 .19	.40 .32	.63 .51
Sheathing, plywood CDX, 4/12 pitch, 3/8" thick 1/2" thick	1.570 1.570	S.F. S.F.	.016 .018	.91 1.18	.97 1.07	1.88 2.25
5/8" thick 8/12 pitch, 3/8" thick	1.570 1.900	S.F. S.F.	.019 .020	1.33 1.10	1.15 1.18	2.48 2.28
1/2" thick 5/8" thick	1.900 1.900	S.F. S.F.	.022 .023	1.43 1.62	1.29 1.39	2.72 3.01
Bands, 4/12 pitch, 1" x 6" boards 1" x 8" boards	1.450 1.450	S.F. S.F.	.032 .027	2.86 3.28	1.90 1.58	4.76 4.86
8/12 pitch, 1" x 6" boards 1" x 8" boards	1.750 1.750	S.F. S.F.	.039 .032	3.45 3.96	2.29 1.91	5.74 5.87
Furring, 1" x 3", 12" O.C. 16" O.C. 24" O.C.	1.200 1.000 .800	L.F. L.F. L.F.	.027 .023 .018	.58 .48 .38	1.63 1.36 1.09	2.21 1.84 1.47

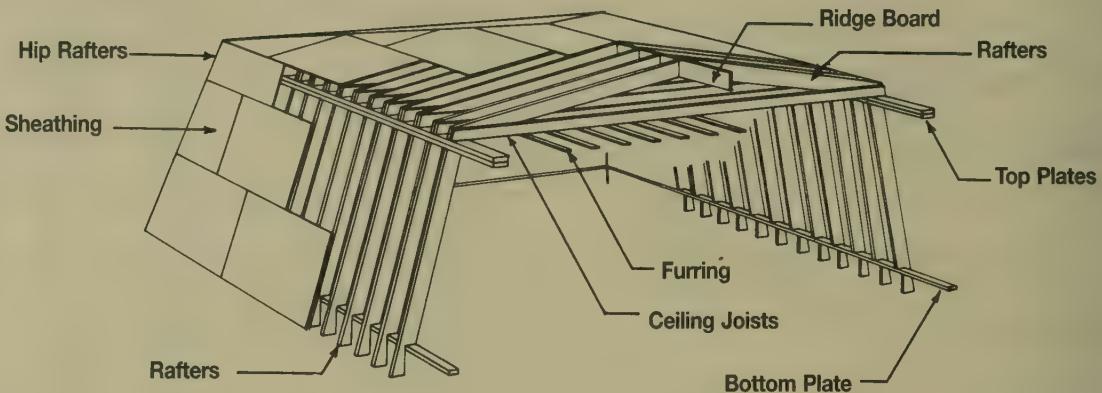


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6" RAFTERS, 16" O.C.</b>						
Roof rafters, 2" x 6", 16" O.C.	.1430	L.F.	.029	1.07	1.70	2.77
Ceiling joists, 2" x 6", 16" O.C.	.710	L.F.	.009	.53	.54	1.07
Stud wall, 2" x 4", 16" O.C., including plates	.790	L.F.	.012	.41	.74	1.15
Furring strips, 1" x 3", 16" O.C.	.710	L.F.	.016	.34	.97	1.31
Ridge board, 2" x 8"	.050	L.F.	.002	.06	.11	.17
Fascia board, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Sheathing, exterior grade plywood, 1/2" thick	1.450	S.F.	.017	1.09	.99	2.08
Rafter ties	.106	Ea.	.006	.13	.35	.48
<b>TOTAL</b>		<b>S.F.</b>	<b>.097</b>	<b>3.71</b>	<b>5.78</b>	<b>9.49</b>
<b>2" X 8" RAFTERS, 16" O.C.</b>						
Roof rafters, 2" x 8", 16" O.C.	1.430	L.F.	.031	1.57	1.82	3.39
Ceiling joists, 2" x 6", 16" O.C.	.710	L.F.	.009	.53	.54	1.07
Stud wall, 2" x 4", 16" O.C., including plates	.790	L.F.	.012	.41	.74	1.15
Furring strips, 1" x 3", 16" O.C.	.710	L.F.	.016	.34	.97	1.31
Ridge board, 2" x 8"	.050	L.F.	.002	.06	.11	.17
Fascia board, 2" x 8"	.100	L.F.	.007	.11	.42	.53
Sheathing, exterior grade plywood, 1/2" thick	1.450	S.F.	.017	1.09	.99	2.08
Rafter ties	.106	Ea.	.006	.13	.35	.48
<b>TOTAL</b>		<b>S.F.</b>	<b>.100</b>	<b>4.24</b>	<b>5.94</b>	<b>10.18</b>

The cost of this system is based on the square foot of plan area on the first floor.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>



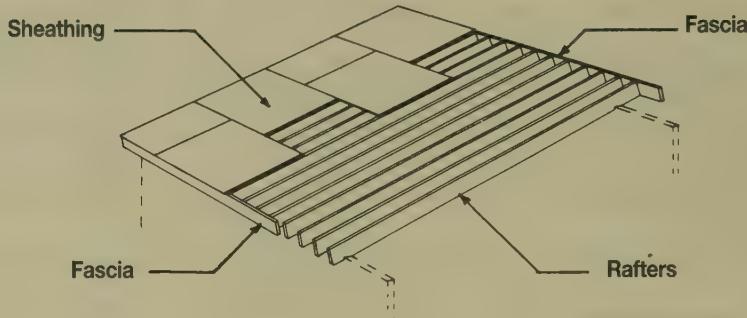


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6" RAFTERS, 16" O.C.</b>						
Roof rafters, 2" x 6", 16" O.C.	1.210	L.F.	.033	.91	1.95	2.86
Rafter plates, 2" x 6", double top, single bottom	.364	L.F.	.010	.27	.59	.86
Ceiling joists, 2" x 4", 16" O.C.	.920	L.F.	.012	.48	.70	1.18
Hip rafter, 2" x 6"	.070	L.F.	.002	.05	.13	.18
Jack rafter, 2" x 6", 16" O.C.	1.000	L.F.	.039	.75	2.32	3.07
Ridge board, 2" x 6"	.018	L.F.	.001	.01	.03	.04
Sheathing, exterior grade plywood, 1/2" thick	2.210	S.F.	.025	1.66	1.50	3.16
Furring strips, 1" x 3", 16" O.C.	.920	L.F.	.021	.44	1.25	1.69
Rafter ties	.140	Ea.	.008	.18	.46	.64
	<b>TOTAL</b>	<b>S.F.</b>	<b>.151</b>	<b>4.75</b>	<b>8.93</b>	<b>13.68</b>
<b>2" X 8" RAFTERS, 16" O.C.</b>						
Roof rafters, 2" x 8", 16" O.C.	1.210	L.F.	.036	1.33	2.13	3.46
Rafter plates, 2" x 8", double top, single bottom	.364	L.F.	.011	.40	.64	1.04
Ceiling joists, 2" x 6", 16" O.C.	.920	L.F.	.012	.69	.70	1.39
Hip rafter, 2" x 8"	.070	L.F.	.002	.08	.14	.22
Jack rafter, 2" x 8", 16" O.C.	1.000	L.F.	.048	1.10	2.84	3.94
Ridge board, 2" x 8"	.018	L.F.	.001	.02	.04	.06
Sheathing, exterior grade plywood, 1/2" thick	2.210	S.F.	.025	1.66	1.50	3.16
Furring strips, 1" x 3", 16" O.C.	.920	L.F.	.021	.44	1.25	1.69
Rafter ties	.140	Ea.	.008	.18	.46	.64
	<b>TOTAL</b>	<b>S.F.</b>	<b>.164</b>	<b>5.90</b>	<b>9.70</b>	<b>15.60</b>

The cost of this system is based on the square foot of plan area.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





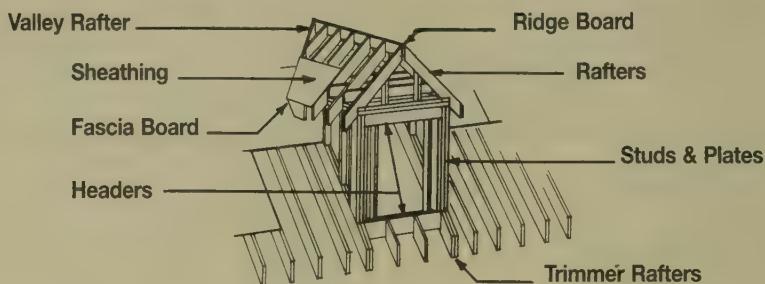
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6", 16" O.C., 4/12 PITCH</b>						
Rafters, 2" x 6", 16" O.C., 4/12 pitch	.1170	L.F.	.019	.88	1.11	1.99
Fascia, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Bridging, 1" x 3", 6' O.C.	.080	Pr.	.005	.06	.29	.35
Sheathing, exterior grade plywood, 1/2" thick	1.230	S.F.	.014	.92	.84	1.76
Rafter ties	.053	Ea.	.003	.07	.17	.24
<b>TOTAL</b>		S.F.	.047	2.01	2.79	4.80
<b>2" X 6", 24" O.C., 4/12 PITCH</b>						
Rafters, 2" x 6", 24" O.C., 4/12 pitch	.940	L.F.	.015	.71	.89	1.60
Fascia, 2" x 6"	.100	L.F.	.006	.08	.38	.46
Bridging, 1" x 3", 6' O.C.	.060	Pr.	.004	.05	.22	.27
Sheathing, exterior grade plywood, 1/2" thick	1.230	S.F.	.014	.92	.84	1.76
Rafter ties	.035	Ea.	.002	.04	.11	.15
<b>TOTAL</b>		S.F.	.041	1.80	2.44	4.24
<b>2" X 8", 16" O.C., 4/12 PITCH</b>						
Rafters, 2" x 8", 16" O.C., 4/12 pitch	1.170	L.F.	.020	1.29	1.17	2.46
Fascia, 2" x 8"	.100	L.F.	.007	.11	.42	.53
Bridging, 1" x 3", 6' O.C.	.080	Pr.	.005	.06	.29	.35
Sheathing, exterior grade plywood, 1/2" thick	1.230	S.F.	.014	.92	.84	1.76
Rafter ties	.053	Ea.	.003	.07	.17	.24
<b>TOTAL</b>		S.F.	.049	2.45	2.89	5.34
<b>2" X 8", 24" O.C., 4/12 PITCH</b>						
Rafters, 2" x 8", 24" O.C., 4/12 pitch	.940	L.F.	.016	1.03	.94	1.97
Fascia, 2" x 8"	.100	L.F.	.007	.11	.42	.53
Bridging, 1" x 3", 6' O.C.	.060	Pr.	.004	.05	.22	.27
Sheathing, exterior grade plywood, 1/2" thick	1.230	S.F.	.014	.92	.84	1.76
Rafter ties	.035	Ea.	.002	.04	.11	.15
<b>TOTAL</b>		S.F.	.043	2.15	2.53	4.68

The cost of this system is based on the square foot of plan area.

A 1' overhang is assumed. No ceiling joists or furring are included.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6", 16" O.C.</b>						
Dormer rafter, 2" x 6", 16" O.C.	1.330	L.F.	.036	1	2.14	3.14
Ridge board, 2" x 6"	.280	L.F.	.009	.21	.53	.74
Trimmer rafters, 2" x 6"	.880	L.F.	.014	.66	.84	1.50
Wall studs & plates, 2" x 4", 16" O.C.	3.160	L.F.	.056	1.64	3.32	4.96
Fascia, 2" x 6"	.170	L.F.	.012	.19	.72	.91
Valley rafter, 2" x 6", 16" O.C.	.280	L.F.	.009	.21	.52	.73
Cripple rafter, 2" x 6", 16" O.C.	.560	L.F.	.022	.42	1.30	1.72
Headers, 2" x 6", doubled	.670	L.F.	.030	.50	1.77	2.27
Ceiling joist, 2" x 4", 16" O.C.	1.000	L.F.	.013	.52	.76	1.28
Sheathing, exterior grade plywood, 1/2" thick	3.610	S.F.	.041	2.71	2.45	5.16
	<b>TOTAL</b>	S.F.	.242	8.06	14.35	22.41
<b>2" X 8", 16" O.C.</b>						
Dormer rafter, 2" x 8", 16" O.C.	1.330	L.F.	.039	1.46	2.34	3.80
Ridge board, 2" x 8"	.280	L.F.	.010	.31	.59	.90
Trimmer rafter, 2" x 8"	.880	L.F.	.015	.97	.88	1.85
Wall studs & plates, 2" x 4", 16" O.C.	3.160	L.F.	.056	1.64	3.32	4.96
Fascia, 2" x 8"	.170	L.F.	.012	.19	.72	.91
Valley rafter, 2" x 8", 16" O.C.	.280	L.F.	.010	.31	.57	.88
Cripple rafter, 2" x 8", 16" O.C.	.560	L.F.	.027	.62	1.59	2.21
Headers, 2" x 8", doubled	.670	L.F.	.032	.74	1.88	2.62
Ceiling joist, 2" x 4", 16" O.C.	1.000	L.F.	.013	.52	.76	1.28
Sheathing,, exterior grade plywood, 1/2" thick	3.610	S.F.	.041	2.71	2.45	5.16
	<b>TOTAL</b>	S.F.	.255	9.47	15.10	24.57

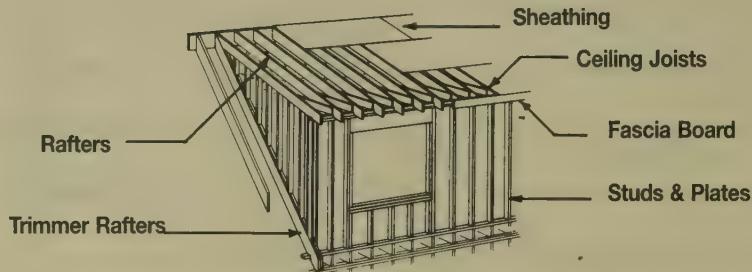
The cost in this system is based on the square foot of plan area.

The measurement being the plan area of the dormer only.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Gable Dormer Framing Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Dormer rafters, #2 or better, 2" x 4", 16" O.C. 24" O.C.	1.330 1.060	L.F. L.F.	.029 .023	.80 .64	1.71 1.37	2.51 2.01
2" x 6", 16" O.C. 24" O.C.	1.330 1.060	L.F. L.F.	.036 .029	1 .80	2.14 1.71	3.14 2.51
2" x 8", 16" O.C. 24" O.C.	1.330 1.060	L.F. L.F.	.039 .031	1.46 1.17	2.34 1.87	3.80 3.04
Ridge board, #2 or better, 1" x 4" 1" x 6"	.280 .280	L.F. L.F.	.006 .007	.20 .25	.35 .44	.55 .69
1" x 8" 2" x 4"	.280 .280	L.F. L.F.	.008 .007	.40 .17	.48 .43	.88 .60
2" x 6" 2" x 8"	.280 .280	L.F. L.F.	.009 .010	.21 .31	.53 .59	.74 .90
Trimmer rafters, #2 or better, 2" x 4" 2" x 6"	.880 .880	L.F. L.F.	.011 .014	.53 .66	.67 .84	1.20 1.50
2" x 8" 2" x 10"	.880 .880	L.F. L.F.	.015 .022	.97 1.28	.88 1.33	1.85 2.61
Wall studs & plates, #2 or better, 2" x 4" studs, 16" O.C. 24" O.C.	3.160 2.800	L.F. L.F.	.056 .050	1.64 1.46	3.32 2.94	4.96 4.40
2" x 6" studs, 16" O.C. 24" O.C.	3.160 2.800	L.F. L.F.	.063 .056	2.37 2.10	3.76 3.33	6.13 5.43
Fascia, #2 or better, 1" x 4" 1" x 6"	.220 .220	L.F. L.F.	.006 .008	.10 .12	.38 .46	.48 .58
1" x 8" 2" x 4"	.220 .220	L.F. L.F.	.009 .011	.14 .17	.54 .63	.68 .80
2" x 6" 2" x 8"	.220 .220	L.F. L.F.	.014 .016	.21 .24	.80 .93	1.01 1.17
Valley rafter, #2 or better, 2" x 4" 2" x 6"	.280 .280	L.F. L.F.	.007 .009	.17 .21	.42 .52	.59 .73
2" x 8" 2" x 10"	.280 .280	L.F. L.F.	.010 .012	.31 .41	.57 .70	.88 1.11
Cripple rafter, #2 or better, 2" x 4", 16" O.C. 24" O.C.	.560 .450	L.F. L.F.	.018 .014	.34 .27	1.04 .84	1.38 1.11
2" x 6", 16" O.C. 24" O.C.	.560 .450	L.F. L.F.	.022 .018	.42 .34	1.30 1.04	1.72 1.38
2" x 8", 16" O.C. 24" O.C.	.560 .450	L.F. L.F.	.027 .021	.62 .50	1.59 1.28	2.21 1.78
Headers, #2 or better double header, 2" x 4" 2" x 6"	.670 .670	L.F. L.F.	.024 .030	.41 .50	1.43 1.77	1.84 2.27
2" x 8" 2" x 10"	.670 .670	L.F. L.F.	.032 .034	.74 .98	1.88 1.99	2.62 2.97
Ceiling joist, #2 or better, 2" x 4", 16" O.C. 24" O.C.	1.000 .800	L.F. L.F.	.013 .010	.52 .42	.76 .61	1.28 1.03
2" x 6", 16" O.C. 24" O.C.	1.000 .800	L.F. L.F.	.013 .010	.75 .60	.76 .61	1.51 1.21
Sheathing, plywood exterior grade, 3/8" thick 1/2" thick	3.610 3.610	S.F. S.F.	.038 .041	2.09 2.71	2.24 2.45	4.33 5.16
5/8" thick 3/4" thick	3.610 3.610	S.F. S.F.	.044 .048	3.07 3.75	2.64 2.85	5.71 6.60
Boards, 1" x 6", laid regular Laid diagonal	3.610 3.610	S.F. S.F.	.089 .099	7.10 7.10	5.25 5.85	12.35 12.95
1" x 8", laid regular Laid diagonal	3.610 3.610	S.F. S.F.	.076 .089	8.15 8.15	4.48 5.25	12.63 13.40



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 6" RAFTERS, 16" O.C.</b>						
Dormer rafter, 2" x 6", 16" O.C.	1.080	L.F.	.029	.81	1.74	2.55
Trimmer rafter, 2" x 6"	.400	L.F.	.006	.30	.38	.68
Studs & plates, 2" x 4", 16" O.C.	2.750	L.F.	.049	1.43	2.89	4.32
Fascia, 2" x 6"	.250	L.F.	.018	.28	1.06	1.34
Ceiling joist, 2" x 4", 16" O.C.	1.000	L.F.	.013	.52	.76	1.28
Sheathing, exterior grade plywood, CDX, 1/2" thick	2.940	S.F.	.034	2.21	2	4.21
<b>TOTAL</b>		<b>S.F.</b>	<b>.149</b>	<b>5.55</b>	<b>8.83</b>	<b>14.38</b>
<b>2" X 8" RAFTERS, 16" O.C.</b>						
Dormer rafter, 2" x 8", 16" O.C.	1.080	L.F.	.032	1.19	1.90	3.09
Trimmer rafter, 2" x 8"	.400	L.F.	.007	.44	.40	.84
Studs & plates, 2" x 4", 16" O.C.	2.750	L.F.	.049	1.43	2.89	4.32
Fascia, 2" x 8"	.250	L.F.	.018	.28	1.06	1.34
Ceiling joist, 2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51
Sheathing, exterior grade plywood, CDX, 1/2" thick	2.940	S.F.	.034	2.21	2	4.21
<b>TOTAL</b>		<b>S.F.</b>	<b>.153</b>	<b>6.30</b>	<b>9.01</b>	<b>15.31</b>
<b>2" X 10" RAFTERS, 16" O.C.</b>						
Dormer rafter, 2" x 10", 16" O.C.	1.080	L.F.	.041	1.58	2.42	4
Trimmer rafter, 2" x 10"	.400	L.F.	.010	.58	.60	1.18
Studs & plates, 2" x 4", 16" O.C.	2.750	L.F.	.049	1.43	2.89	4.32
Fascia, 2" x 10"	.250	L.F.	.022	.37	1.33	1.70
Ceiling joist, 2" x 6", 16" O.C.	1.000	L.F.	.013	.75	.76	1.51
Sheathing, exterior grade plywood, CDX, 1/2" thick	2.940	S.F.	.034	2.21	2	4.21
<b>TOTAL</b>		<b>S.F.</b>	<b>.169</b>	<b>6.92</b>	<b>10</b>	<b>16.92</b>

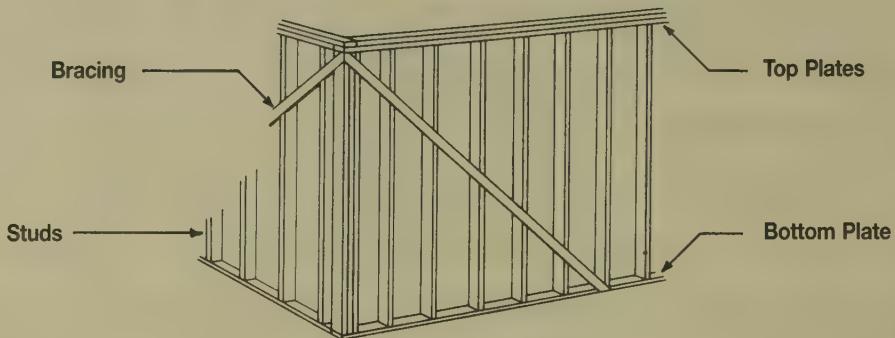
The cost in this system is based on the square foot of plan area.

The measurement is the plan area of the dormer only.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Shed Dormer Framing Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.				
				MAT.	INST.	TOTAL		
Dormer rafters, #2 or better, 2" x 4", 16" O.C. 24" O.C.	1.080 .860	L.F. L.F.	.023 .019	.65 .52	1.39 1.11	2.04 1.63		
2" x 6", 16" O.C. 24" O.C.	1.080 .860	L.F. L.F.	.029 .023	.81 .65	1.74 1.38	2.55 2.03		
2" x 8", 16" O.C. 24" O.C.	1.080 .860	L.F. L.F.	.032 .025	1.19 .95	1.90 1.51	3.09 2.46		
2" x 10", 16" O.C. 24" O.C.	1.080 .860	L.F. L.F.	.041 .032	1.58 1.26	2.42 1.93	4 3.19		
Trimmer rafter, #2 or better, 2" x 4" 2" x 6"	.400 .400	L.F. L.F.	.005 .006	.24 .30	.30 .38	.54 .68		
2" x 8"	.400	L.F.	.007	.44	.40	.84		
2" x 10"	.400	L.F.	.010	.58	.60	1.18		
Studs & plates, #2 or better, 2" x 4", 16" O.C. 24" O.C.	2.750 2.200	L.F. L.F.	.049 .039	1.43 1.14	2.89 2.31	4.32 3.45		
2" x 6", 16" O.C. 24" O.C.	2.750 2.200	L.F. L.F.	.055 .044	2.06 1.65	3.27 2.62	5.33 4.27		
Fascia, #2 or better, 1" x 4" 1" x 6"	.250 .250	L.F. L.F.	.006 .008	.10 .12	.38 .46	.48 .58		
1" x 8"	.250	L.F.	.009	.14	.54	.68		
2" x 4"	.250	L.F.	.011	.17	.63	.80		
2" x 6"	.250	L.F.	.014	.21	.80	1.01		
2" x 8"	.250	L.F.	.018	.28	1.06	1.34		
Ceiling joist, #2 or better, 2" x 4", 16" O.C. 24" O.C.	1.000 .800	L.F. L.F.	.013 .010	.52 .42	.76 .61	1.28 1.03		
2" x 6", 16" O.C. 24" O.C.	1.000 .800	L.F. L.F.	.013 .010	.75 .60	.76 .61	1.51 1.21		
2" x 8", 16" O.C. 24" O.C.	1.000 .800	L.F. L.F.	.015 .012	1.10 .88	.86 .69	1.96 1.57		
Sheathing, plywood exterior grade, 3/8" thick 1/2" thick	2.940 2.940	S.F. S.F.	.031 .034	1.71 2.21	1.82 2	3.53 4.21		
5/8" thick	2.940	S.F.	.036	2.50	2.15	4.65		
3/4" thick	2.940	S.F.	.039	3.06	2.32	5.38		
Boards, 1" x 6", laid regular Laid diagonal	2.940 2.940	S.F. S.F.	.072 .080	5.80 5.80	4.29 4.76	10.09 10.56		
1" x 8", laid regular Laid diagonal	2.940 2.940	S.F. S.F.	.062 .072	6.65 6.65	3.65 4.29	10.30 10.94		
Window Openings			QUAN.	UNIT	LABOR HOURS	COST EACH		
						MAT.	INST.	TOTAL
The following are to be added to the total cost of the dormers for window openings. Do not subtract window area from the stud wall quantities.								
Headers, 2" x 6" doubled, 2' long 3' long	4.000 6.000	L.F. L.F.	.178 .267	3 4.50	10.55 15.85	13.55 20.35		
4' long	8.000	L.F.	.356	6	21	27		
5' long	10.000	L.F.	.444	7.50	26.50	34		
2" x 8" doubled, 4' long 5' long	8.000 10.000	L.F. L.F.	.376 .471	8.80 11	22.50 28	31.30 39		
6' long	12.000	L.F.	.565	13.20	33.50	46.70		
8' long	16.000	L.F.	.753	17.60	45	62.60		
2" x 10" doubled, 4' long 6' long	8.000 12.000	L.F. L.F.	.400 .600	11.70 17.50	24 35.50	35.70 53		
8' long	16.000	L.F.	.800	23.50	47.50	71		
10' long	20.000	L.F.	1.000	29	59.50	88.50		



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2" X 4", 16" O.C.</b>						
2" x 4" studs, #2 or better, 16" O.C.	1.000	L.F.	.015	.51	.86	1.37
Plates, double top, single bottom	.375	L.F.	.005	.19	.32	.51
Cross bracing, let-in, 1" x 6"	.080	L.F.	.004	.07	.25	.32
	<b>TOTAL</b>	<b>S.F.</b>	<b>.024</b>	<b>.77</b>	<b>1.43</b>	<b>2.20</b>
<b>2" X 4", 24" O.C.</b>						
2" x 4" studs, #2 or better, 24" O.C.	.800	L.F.	.012	.41	.69	1.10
Plates, double top, single bottom	.375	L.F.	.005	.19	.32	.51
Cross bracing, let-in, 1" x 6"	.080	L.F.	.003	.07	.17	.24
	<b>TOTAL</b>	<b>S.F.</b>	<b>.020</b>	<b>.67</b>	<b>1.18</b>	<b>1.85</b>
<b>2" X 6", 16" O.C.</b>						
2" x 6" studs, #2 or better, 16" O.C.	1.000	L.F.	.016	.75	.95	1.70
Plates, double top, single bottom	.375	L.F.	.006	.28	.36	.64
Cross bracing, let-in, 1" x 6"	.080	L.F.	.004	.07	.25	.32
	<b>TOTAL</b>	<b>S.F.</b>	<b>.026</b>	<b>1.10</b>	<b>1.56</b>	<b>2.66</b>
<b>2" X 6", 24" O.C.</b>						
2" x 6" studs, #2 or better, 24" O.C.	.800	L.F.	.013	.60	.76	1.36
Plates, double top, single bottom	.375	L.F.	.006	.28	.36	.64
Cross bracing, let-in, 1" x 6"	.080	L.F.	.003	.07	.17	.24
	<b>TOTAL</b>	<b>S.F.</b>	<b>.022</b>	<b>.95</b>	<b>1.29</b>	<b>2.24</b>

The costs in this system are based on a square foot of wall area. Do not subtract for door or window openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Partition Framing Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Wood studs, #2 or better, 2" x 4", 12" O.C.	1.250	L.F.	.018	.64	1.08	1.72
16" O.C.	1.000	L.F.	.015	.51	.86	1.37
24" O.C.	.800	L.F.	.012	.41	.69	1.10
32" O.C.	.650	L.F.	.009	.33	.56	.89
2" x 6", 12" O.C.	1.250	L.F.	.020	.94	1.19	2.13
16" O.C.	1.000	L.F.	.016	.75	.95	1.70
24" O.C.	.800	L.F.	.013	.60	.76	1.36
32" O.C.	.650	L.F.	.010	.49	.62	1.11
Plates, #2 or better double top single bottom, 2" x 4"	.375	L.F.	.005	.19	.32	.51
2" x 6"	.375	L.F.	.006	.28	.36	.64
2" x 8"	.375	L.F.	.005	.41	.32	.73
Cross bracing, let-in, 1" x 6" boards studs, 12" O.C.	.080	L.F.	.005	.09	.32	.41
16" O.C.	.080	L.F.	.004	.07	.25	.32
24" O.C.	.080	L.F.	.003	.07	.17	.24
32" O.C.	.080	L.F.	.002	.06	.13	.19
Let-in steel (T shaped) studs, 12" O.C.	.080	L.F.	.001	.09	.08	.17
16" O.C.	.080	L.F.	.001	.08	.07	.15
24" O.C.	.080	L.F.	.001	.08	.06	.14
32" O.C.	.080	L.F.	.001	.06	.05	.11
Steel straps studs, 12" O.C.	.080	L.F.	.001	.10	.07	.17
16" O.C.	.080	L.F.	.001	.10	.06	.16
24" O.C.	.080	L.F.	.001	.10	.06	.16
32" O.C.	.080	L.F.	.001	.09	.06	.15
Metal studs, load bearing 24" O.C., 20 ga. galv., 2-1/2" wide	1.000	S.F.	.015	.65	.89	1.54
3-5/8" wide	1.000	S.F.	.015	.77	.91	1.68
4" wide	1.000	S.F.	.016	.80	.93	1.73
6" wide	1.000	S.F.	.016	1.03	.94	1.97
16 ga., 2-1/2" wide	1.000	S.F.	.017	.80	1.01	1.81
3-5/8" wide	1.000	S.F.	.017	.94	1.04	1.98
4" wide	1.000	S.F.	.018	.99	1.06	2.05
6" wide	1.000	S.F.	.018	1.24	1.08	2.32
Non-load bearing 24" O.C., 25 ga. galv., 1-5/8" wide	1.000	S.F.	.011	.21	.63	.84
2-1/2" wide	1.000	S.F.	.011	.28	.63	.91
3-5/8" wide	1.000	S.F.	.011	.33	.64	.97
4" wide	1.000	S.F.	.011	.37	.64	1.01
6" wide	1.000	S.F.	.011	.44	.66	1.10
20 ga., 2-1/2" wide	1.000	S.F.	.013	.36	.79	1.15
3-5/8" wide	1.000	S.F.	.014	.42	.81	1.23
4" wide	1.000	S.F.	.014	.51	.81	1.32
6" wide	1.000	S.F.	.014	.62	.82	1.44
Window & Door Openings		QUAN.	UNIT	LABOR HOURS	COST EACH	
					MAT.	INST.
The following costs are to be added to the total costs of the walls.						
Do not subtract openings from total wall area.						
Headers, 2" x 6" double, 2' long	4.000	L.F.	.178	3	10.55	13.55
3' long	6.000	L.F.	.267	4.50	15.85	20.35
4' long	8.000	L.F.	.356	6	21	27
5' long	10.000	L.F.	.444	7.50	26.50	34
2" x 8" double, 4' long	8.000	L.F.	.376	8.80	22.50	31.30
5' long	10.000	L.F.	.471	11	28	39
6' long	12.000	L.F.	.565	13.20	33.50	46.70
8' long	16.000	L.F.	.753	17.60	45	62.60
2" x 10" double, 4' long	8.000	L.F.	.400	11.70	24	35.70
6' long	12.000	L.F.	.600	17.50	35.50	53
8' long	16.000	L.F.	.800	23.50	47.50	71
10' long	20.000	L.F.	1.000	29	59.50	88.50
2" x 12" double, 8' long	16.000	L.F.	.853	30.50	50.50	81
12' long	24.000	L.F.	1.280	46	76	122



# Division 4 - Exterior Walls

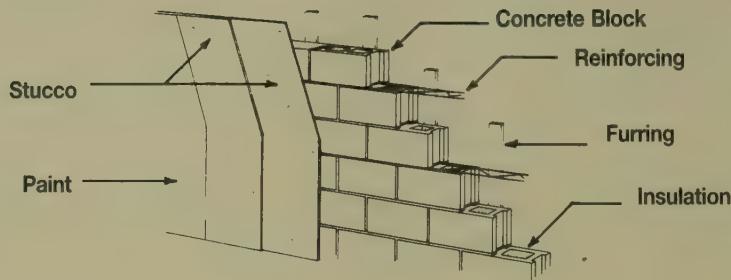
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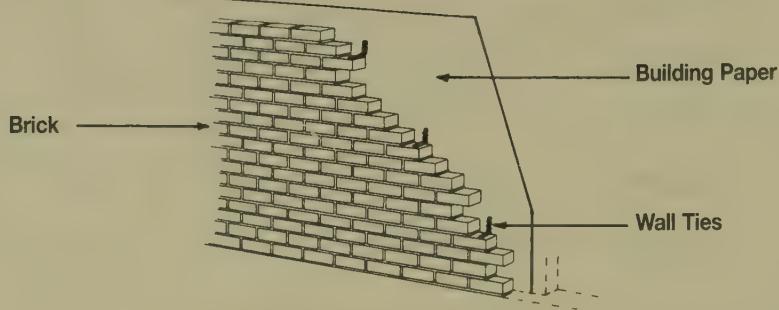


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>6" THICK CONCRETE BLOCK WALL</b>						
6" thick concrete block, 6" x 8" x 16" Masonry reinforcing, truss strips every other course Furring, 1" x 3", 16" O.C. Masonry insulation, poured perlite Stucco, 2 coats Masonry paint, 2 coats	1.000	S.F.	.100	2.88	5.50	8.38
	.625	L.F.	.002	.18	.10	.28
	1.000	L.F.	.016	.52	.96	1.48
	1.000	S.F.	.013	1.93	.79	2.72
	1.000	S.F.	.069	.68	3.94	4.62
	1.000	S.F.	.016	.26	.79	1.05
	TOTAL		S.F.	.216	6.45	12.08
<b>8" THICK CONCRETE BLOCK WALL</b>						
8" thick concrete block, 8" x 8" x 16" Masonry reinforcing, truss strips every other course Furring, 1" x 3", 16" O.C. Masonry insulation, poured perlite Stucco, 2 coats Masonry paint, 2 coats	1.000	S.F.	.107	2.89	5.85	8.74
	.625	L.F.	.002	.18	.10	.28
	1.000	L.F.	.016	.52	.96	1.48
	1.000	S.F.	.018	2.55	1.05	3.60
	1.000	S.F.	.069	.68	3.94	4.62
	1.000	S.F.	.016	.26	.79	1.05
	TOTAL		S.F.	.228	7.08	12.69
<b>12" THICK CONCRETE BLOCK WALL</b>						
12" thick concrete block, 12" x 8" x 16" Masonry reinforcing, truss strips every other course Furring, 1" x 3", 16" O.C. Masonry insulation, poured perlite Stucco, 2 coats Masonry paint, 2 coats	1.000	S.F.	.141	5.10	7.65	12.75
	.625	L.F.	.003	.18	.14	.32
	1.000	L.F.	.016	.52	.96	1.48
	1.000	S.F.	.026	3.77	1.55	5.32
	1.000	S.F.	.069	.68	3.94	4.62
	1.000	S.F.	.016	.26	.79	1.05
	TOTAL		S.F.	.271	10.51	15.03
Costs for this system are based on a square foot of wall area. Do not subtract for window openings.						

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Masonry Block Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Block concrete, 8" x 16" regular, 4" thick	1.000	S.F.	.093	2.27	5.10	7.37
6" thick	1.000	S.F.	.100	2.88	5.50	8.38
8" thick	1.000	S.F.	.107	2.89	5.85	8.74
10" thick	1.000	S.F.	.111	3.46	6.10	9.56
12" thick	1.000	S.F.	.141	5.10	7.65	12.75
Solid block, 4" thick	1.000	S.F.	.096	2.45	5.30	7.75
6" thick	1.000	S.F.	.104	3.35	5.70	9.05
8" thick	1.000	S.F.	.111	4.16	6.10	10.26
10" thick	1.000	S.F.	.133	5.80	7.20	13
12" thick	1.000	S.F.	.148	6.45	8	14.45
Lightweight, 4" thick	1.000	S.F.	.093	2.27	5.10	7.37
6" thick	1.000	S.F.	.100	2.88	5.50	8.38
8" thick	1.000	S.F.	.107	2.89	5.85	8.74
10" thick	1.000	S.F.	.111	3.46	6.10	9.56
12" thick	1.000	S.F.	.141	5.10	7.65	12.75
Split rib profile, 4" thick	1.000	S.F.	.116	5.10	6.40	11.50
6" thick	1.000	S.F.	.123	5.80	6.80	12.60
8" thick	1.000	S.F.	.131	7.25	7.35	14.60
10" thick	1.000	S.F.	.157	7.45	8.50	15.95
12" thick	1.000	S.F.	.175	8.25	9.45	17.70
Masonry reinforcing, wire truss strips, every course, 8" block	1.375	L.F.	.004	.40	.22	.62
12" block	1.375	L.F.	.006	.40	.32	.72
Every other course, 8" block	.625	L.F.	.002	.18	.10	.28
12" block	.625	L.F.	.003	.18	.14	.32
Furring, wood, 1" x 3", 12" O.C.	1.250	L.F.	.020	.65	1.20	1.85
16" O.C.	1.000	L.F.	.016	.52	.96	1.48
24" O.C.	.800	L.F.	.013	.42	.77	1.19
32" O.C.	.640	L.F.	.010	.33	.61	.94
Steel, 3/4" channels, 12" O.C.	1.250	L.F.	.034	.46	1.97	2.43
16" O.C.	1.000	L.F.	.030	.41	1.74	2.15
24" O.C.	.800	L.F.	.023	.27	1.32	1.59
32" O.C.	.640	L.F.	.018	.22	1.06	1.28
Masonry insulation, vermiculite or perlite poured 4" thick	1.000	S.F.	.009	1.25	.51	1.76
6" thick	1.000	S.F.	.013	1.91	.79	2.70
8" thick	1.000	S.F.	.018	2.55	1.05	3.60
10" thick	1.000	S.F.	.021	3.09	1.27	4.36
12" thick	1.000	S.F.	.026	3.77	1.55	5.32
Block inserts polystyrene, 6" thick	1.000	S.F.		1.38		1.38
8" thick	1.000	S.F.		1.73		1.73
10" thick	1.000	S.F.		1.62		1.62
12" thick	1.000	S.F.		2.04		2.04
Stucco, 1 coat	1.000	S.F.	.057	.56	3.25	3.81
2 coats	1.000	S.F.	.069	.68	3.94	4.62
3 coats	1.000	S.F.	.081	.80	4.64	5.44
Painting, 1 coat	1.000	S.F.	.011	.17	.55	.72
2 coats	1.000	S.F.	.016	.26	.79	1.05
Primer & 1 coat	1.000	S.F.	.013	.24	.64	.88
2 coats	1.000	S.F.	.018	.34	.89	1.23
Lath, metal lath expanded 2.5 lb/S.Y., painted	1.000	S.F.	.010	.44	.60	1.04
Galvanized	1.000	S.F.	.012	.48	.66	1.14

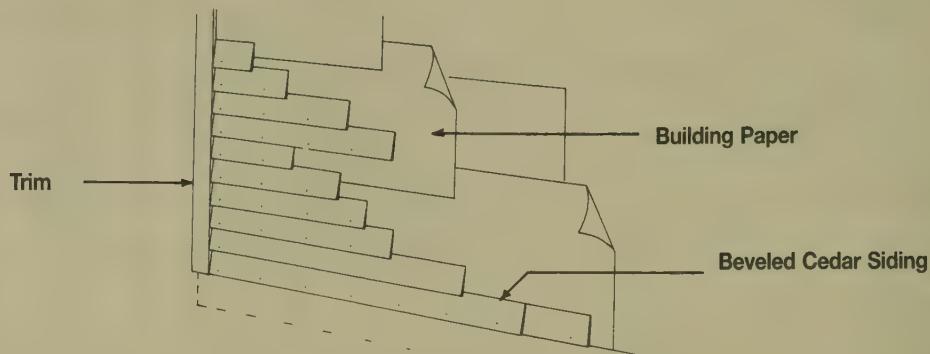


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>SELECT COMMON BRICK</b>						
Brick, select common, running bond	1.000	S.F.	.174	4.98	9.60	14.58
Wall ties, 7/8" x 7", 22 gauge	1.000	Ea.	.008	.18	.45	.63
Building paper, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, pine, painted	.125	L.F.	.004	.08	.24	.32
		S.F.	.188	5.44	10.42	15.86
<b>RED FACED COMMON BRICK</b>						
Brick, common, red faced, running bond	1.000	S.F.	.182	5.35	10	15.35
Wall ties, 7/8" x 7", 22 gauge	1.000	Ea.	.008	.18	.45	.63
Building paper, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, pine, painted	.125	L.F.	.004	.08	.24	.32
		S.F.	.196	5.81	10.82	16.63
<b>BUFF OR GREY FACE BRICK</b>						
Brick, buff or grey	1.000	S.F.	.182	5.65	10	15.65
Wall ties, 7/8" x 7", 22 gauge	1.000	Ea.	.008	.18	.45	.63
Building paper, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, pine, painted	.125	L.F.	.004	.08	.24	.32
		S.F.	.196	6.11	10.82	16.93
<b>STONE WORK, ROUGH STONE, AVERAGE</b>						
Field stone veneer	1.000	S.F.	.333	14.25	18.35	32.60
Wall ties, 7/8" x 7", 22 gauge	1.000	Ea.	.008	.18	.45	.63
Building paper, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, pine, painted	.125	L.F.	.004	.08	.24	.32
		S.F.	.347	14.71	19.17	33.88

The costs in this system are based on a square foot of wall area. Do not subtract area for window & door openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





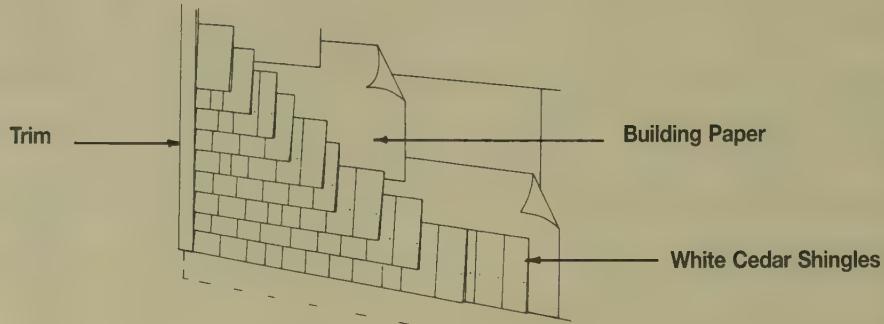
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>1/2" X 6" BEVELED CEDAR SIDING, "A" GRADE</b>						
1/2" x 6" beveled cedar siding	1.000	S.F.	.027	4.91	1.61	6.52
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, cedar	.125	L.F.	.005	.17	.30	.47
Paint, primer & 2 coats	1.000	S.F.	.017	.25	.85	1.10
<b>TOTAL</b>		<b>S.F.</b>	<b>.051</b>	<b>5.53</b>	<b>2.89</b>	<b>8.42</b>
<b>1/2" X 8" BEVELED CEDAR SIDING, "A" GRADE</b>						
1/2" x 8" beveled cedar siding	1.000	S.F.	.024	9.35	1.44	10.79
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, cedar	.125	L.F.	.005	.17	.30	.47
Paint, primer & 2 coats	1.000	S.F.	.017	.25	.85	1.10
<b>TOTAL</b>		<b>S.F.</b>	<b>.048</b>	<b>9.97</b>	<b>2.72</b>	<b>12.69</b>
<b>1" X 4" TONGUE &amp; GROOVE, REDWOOD, VERTICAL GRAIN</b>						
Redwood, clear, vertical grain, 1" x 10"	1.000	S.F.	.020	5.50	1.17	6.67
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, redwood	.125	L.F.	.005	.17	.30	.47
Sealer, 1 coat, stain, 1 coat	1.000	S.F.	.013	.16	.66	.82
<b>TOTAL</b>		<b>S.F.</b>	<b>.040</b>	<b>6.03</b>	<b>2.26</b>	<b>8.29</b>
<b>1" X 6" TONGUE &amp; GROOVE, REDWOOD, VERTICAL GRAIN</b>						
Redwood, clear, vertical grain, 1" x 10"	1.000	S.F.	.020	5.66	1.20	6.86
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, redwood	.125	L.F.	.005	.17	.30	.47
Sealer, 1 coat, stain, 1 coat	1.000	S.F.	.013	.16	.66	.82
<b>TOTAL</b>		<b>S.F.</b>	<b>.040</b>	<b>6.19</b>	<b>2.29</b>	<b>8.48</b>

The costs in this system are based on a square foot of wall area.

Do not subtract area for door or window openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Wood Siding Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Siding, beveled cedar, "A" grade, 1/2" x 6" 1/2" x 8"	1.000	S.F.	.028	4.91	1.61	6.52
"B" grade, 1/2" x 6" 1/2" x 8"	1.000	S.F.	.032	5.45	1.79	7.24
Clear grade, 1/2" x 6" 1/2" x 8"	1.000	S.F.	.028	6.15	2.01	8.16
Redwood, clear vertical grain, 1/2" x 6" 1/2" x 8"	1.000	S.F.	.036	5.85	1.61	7.46
Clear all heart vertical grain, 1/2" x 6" 1/2" x 8"	1.000	S.F.	.028	6.50	1.79	8.29
Siding board & batten, cedar, "B" grade, 1" x 10" 1" x 12"	1.000	S.F.	.031	5.25	1.13	6.38
Redwood, clear vertical grain, 1" x 6" 1" x 8"	1.000	S.F.	.043	5.95	1.61	7.56
White pine, #2 & better, 1" x 10" 1" x 12"	1.000	S.F.	.029	2.81	1.44	4.25
Siding vertical, tongue & groove, cedar "B" grade, 1" x 4" 1" x 6"	1.000	S.F.	.033	6.95	1.17	8.12
1" x 8" 1" x 10"	1.000	S.F.	.024	7.35	1.23	8.58
"A" grade, 1" x 4" 1" x 6"	1.000	S.F.	.033	6.35	1.07	7.42
1" x 8" 1" x 10"	1.000	S.F.	.024	6.70	1.12	7.82
Clear vertical grain, 1" x 4" 1" x 6"	1.000	S.F.	.033	5.85	.98	6.83
1" x 8" 1" x 10"	1.000	S.F.	.024	6	1.01	7.01
Redwood, clear vertical grain, 1" x 4" 1" x 6"	1.000	S.F.	.033	5.50	1.17	6.67
1" x 8" 1" x 10"	1.000	S.F.	.024	5.65	1.20	6.85
Clear all heart vertical grain, 1" x 4" 1" x 6"	1.000	S.F.	.033	5.05	1.07	6.12
1" x 8" 1" x 10"	1.000	S.F.	.024	5.15	1.09	6.24
White pine, 1" x 10"	1.000	S.F.	.024	4.58	1.27	5.85
Siding plywood, texture 1-11 cedar, 3/8" thick 5/8" thick	1.000	S.F.	.024	1.41	1.41	2.82
Redwood, 3/8" thick 5/8" thick	1.000	S.F.	.024	2.85	1.41	4.26
Fir, 3/8" thick 5/8" thick	1.000	S.F.	.024	1.41	1.41	2.82
Southern yellow pine, 3/8" thick 5/8" thick	1.000	S.F.	.024	2.26	1.41	3.67
Paper, #15 asphalt felt	1.100	S.F.	.002	1.07	1.41	2.48
Trim, cedar Fir	.125	L.F.	.005	.13	.30	.47
Redwood White pine	.125	L.F.	.005	.17	.30	.47
Painting, primer, & 1 coat 2 coats	1.000	S.F.	.013	.16	.66	.82
Stain, sealer, & 1 coat 2 coats	1.000	S.F.	.017	.25	.85	1.10
	1.000	S.F.	.019	.18	.85	1.03
	1.000	S.F.	.019	.30	.93	1.23



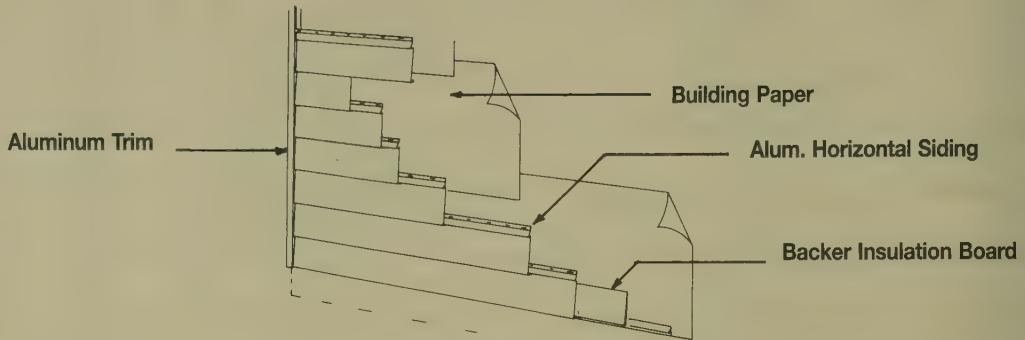
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>WHITE CEDAR SHINGLES, 5" EXPOSURE</b>						
White cedar shingles, 16" long, grade "A", 5" exposure	1.000	S.F.	.033	2.13	1.98	4.11
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, cedar	.125	S.F.	.005	.17	.30	.47
Paint, primer & 1 coat	1.000	S.F.	.017	.18	.85	1.03
	<b>TOTAL</b>	S.F.	<b>.057</b>	<b>2.68</b>	<b>3.26</b>	<b>5.94</b>
<b>RESQUARED &amp; REBUTTED PERFECTIONS, 5-1/2" EXPOSURE</b>						
Resquared & rebutted perfections, 5-1/2" exposure	1.000	S.F.	.027	3.10	1.58	4.68
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, cedar	.125	S.F.	.005	.17	.30	.47
Stain, sealer & 1 coat	1.000	S.F.	.017	.18	.85	1.03
	<b>TOTAL</b>	S.F.	<b>.051</b>	<b>3.65</b>	<b>2.86</b>	<b>6.51</b>
<b>HAND-SPLIT SHAKES, 8-1/2" EXPOSURE</b>						
Hand-split red cedar shakes, 18" long, 8-1/2" exposure	1.000	S.F.	.040	3.25	2.38	5.63
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
Trim, cedar	.125	S.F.	.005	.17	.30	.47
Stain, sealer & 1 coat	1.000	S.F.	.017	.18	.85	1.03
	<b>TOTAL</b>	S.F.	<b>.064</b>	<b>3.80</b>	<b>3.66</b>	<b>7.46</b>

The costs in this system are based on a square foot of wall area.

Do not subtract area for door or window openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Shingle Siding Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Shingles wood, white cedar 16" long, "A" grade, 5" exposure	1.000	S.F.	.033	2.13	1.98	4.11
7" exposure	1.000	S.F.	.030	1.92	1.78	3.70
8-1/2" exposure	1.000	S.F.	.032	1.22	1.90	3.12
10" exposure	1.000	S.F.	.028	1.06	1.67	2.73
"B" grade, 5" exposure	1.000	S.F.	.040	1.84	2.38	4.22
7" exposure	1.000	S.F.	.028	1.29	1.67	2.96
8-1/2" exposure	1.000	S.F.	.024	1.10	1.43	2.53
10" exposure	1.000	S.F.	.020	.92	1.19	2.11
Fire retardant, "A" grade, 5" exposure	1.000	S.F.	.033	2.79	1.98	4.77
7" exposure	1.000	S.F.	.028	1.75	1.67	3.42
8-1/2" exposure	1.000	S.F.	.032	2.08	1.90	3.98
10" exposure	1.000	S.F.	.025	1.62	1.48	3.10
Fire retardant, 5" exposure	1.000	S.F.	.029	3.81	1.73	5.54
7" exposure	1.000	S.F.	.036	2.97	2.11	5.08
8-1/2" exposure	1.000	S.F.	.032	2.67	1.90	4.57
10" exposure	1.000	S.F.	.025	2.08	1.48	3.56
Resquared & rebutted, 5-1/2" exposure	1.000	S.F.	.027	3.10	1.58	4.68
7" exposure	1.000	S.F.	.024	2.79	1.42	4.21
8-1/2" exposure	1.000	S.F.	.021	2.48	1.26	3.74
10" exposure	1.000	S.F.	.019	2.17	1.11	3.28
Fire retardant, 5" exposure	1.000	S.F.	.027	3.76	1.58	5.34
7" exposure	1.000	S.F.	.024	3.38	1.42	4.80
8-1/2" exposure	1.000	S.F.	.021	3.01	1.26	4.27
10" exposure	1.000	S.F.	.023	2.05	1.36	3.41
Hand-split, red cedar, 24" long, 7" exposure	1.000	S.F.	.045	5.25	2.66	7.91
8-1/2" exposure	1.000	S.F.	.038	4.50	2.28	6.78
10" exposure	1.000	S.F.	.032	3.75	1.90	5.65
12" exposure	1.000	S.F.	.026	3	1.52	4.52
Fire retardant, 7" exposure	1.000	S.F.	.045	6.15	2.66	8.81
8-1/2" exposure	1.000	S.F.	.038	5.30	2.28	7.58
10" exposure	1.000	S.F.	.032	4.41	1.90	6.31
12" exposure	1.000	S.F.	.026	3.53	1.52	5.05
18" long, 5" exposure	1.000	S.F.	.068	5.55	4.05	9.60
7" exposure	1.000	S.F.	.048	3.90	2.86	6.76
8-1/2" exposure	1.000	S.F.	.040	3.25	2.38	5.63
10" exposure	1.000	S.F.	.036	2.93	2.14	5.07
Fire retardant, 5" exposure	1.000	S.F.	.068	6.65	4.05	10.70
7" exposure	1.000	S.F.	.048	4.69	2.86	7.55
8-1/2" exposure	1.000	S.F.	.040	3.91	2.38	6.29
10" exposure	1.000	S.F.	.036	3.52	2.14	5.66
Paper, #15 asphalt felt	1.100	S.F.	.002	.06	.13	.19
Trim, cedar	.125	S.F.	.005	.17	.30	.47
Fir	.125	S.F.	.005	.13	.30	.43
Redwood	.125	S.F.	.005	.17	.30	.47
White pine	.125	S.F.	.005	.13	.30	.43
Painting, primer, & 1 coat	1.000	S.F.	.013	.16	.66	.82
2 coats	1.000	S.F.	.017	.25	.85	1.10
Staining, sealer, & 1 coat	1.000	S.F.	.017	.18	.85	1.03
2 coats	1.000	S.F.	.019	.30	.93	1.23



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ALUMINUM CLAPBOARD SIDING, 8" WIDE, WHITE</b>						
Aluminum horizontal siding, 8" clapboard	1.000	S.F.	.031	3.41	1.85	5.26
Backer, insulation board	1.000	S.F.	.008	.47	.48	.95
Trim, aluminum	.600	L.F.	.016	1.15	.94	2.09
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
<b>TOTAL</b>		S.F.	.057	5.23	3.40	8.63
<b>ALUMINUM VERTICAL BOARD &amp; BATTEN, WHITE</b>						
Aluminum vertical board & batten	1.000	S.F.	.027	2.66	1.61	4.27
Backer insulation board	1.000	S.F.	.008	.47	.48	.95
Trim, aluminum	.600	L.F.	.016	1.15	.94	2.09
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
<b>TOTAL</b>		S.F.	.053	4.48	3.16	7.64
<b>VINYL CLAPBOARD SIDING, 8" WIDE, WHITE</b>						
Vinyl siding, clapboard profile, smooth texture, .042 thick, single 8	1.000	S.F.	.032	.89	1.92	2.81
Backer, insulation board	1.000	S.F.	.008	.47	.48	.95
Vinyl siding, access., outside corner, woodgrain, 4" face, 3/4" pocket	.600	L.F.	.014	1.55	.82	2.37
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
<b>TOTAL</b>		S.F.	.056	3.11	3.35	6.46
<b>VINYL VERTICAL BOARD &amp; BATTEN, WHITE</b>						
Vinyl siding, vertical pattern, .046 thick, double 5	1.000	S.F.	.029	1.95	1.73	3.68
Backer, insulation board	1.000	S.F.	.008	.47	.48	.95
Vinyl siding, access., outside corner, woodgrain, 4" face, 3/4" pocket	.600	L.F.	.014	1.55	.82	2.37
Building wrap, spunbonded polypropylene	1.100	S.F.	.002	.20	.13	.33
<b>TOTAL</b>		S.F.	.053	4.17	3.16	7.33

The costs in this system are on a square foot of wall basis.

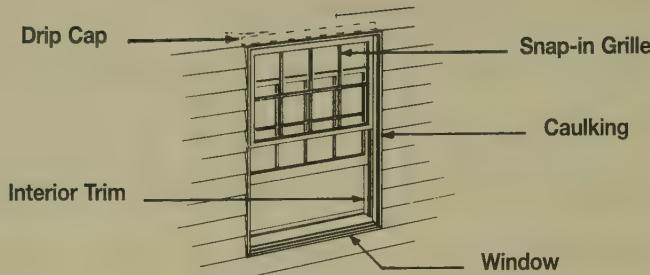
Subtract openings from wall area.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Metal & Plastic Siding Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Siding, aluminum, .024" thick, smooth, 8" wide, white	1.000	S.F.	.031	3.41	1.85	5.26
Color	1.000	S.F.	.031	3.56	1.85	5.41
Double 4" pattern, 8" wide, white	1.000	S.F.	.031	3.20	1.85	5.05
Color	1.000	S.F.	.031	3.35	1.85	5.20
Double 5" pattern, 10" wide, white	1.000	S.F.	.029	3.43	1.73	5.16
Color	1.000	S.F.	.029	3.58	1.73	5.31
Embossed, single, 8" wide, white	1.000	S.F.	.031	3	1.85	4.85
Color	1.000	S.F.	.031	3.15	1.85	5
Double 4" pattern, 8" wide, white	1.000	S.F.	.031	3.20	1.85	5.05
Color	1.000	S.F.	.031	3.35	1.85	5.20
Double 5" pattern, 10" wide, white	1.000	S.F.	.029	3.22	1.73	4.95
Color	1.000	S.F.	.029	3.37	1.73	5.10
Alum siding with insulation board, smooth, 8" wide, white	1.000	S.F.	.031	2.83	1.85	4.68
Color	1.000	S.F.	.031	2.98	1.85	4.83
Double 4" pattern, 8" wide, white	1.000	S.F.	.031	2.81	1.85	4.66
Color	1.000	S.F.	.031	2.96	1.85	4.81
Double 5" pattern, 10" wide, white	1.000	S.F.	.029	2.82	1.73	4.55
Color	1.000	S.F.	.029	2.97	1.73	4.70
Embossed, single, 8" wide, white	1.000	S.F.	.031	3.26	1.85	5.11
Color	1.000	S.F.	.031	3.41	1.85	5.26
Double 4" pattern, 8" wide, white	1.000	S.F.	.031	3.28	1.85	5.13
Color	1.000	S.F.	.031	3.43	1.85	5.28
Double 5" pattern, 10" wide, white	1.000	S.F.	.029	3.28	1.73	5.01
Color	1.000	S.F.	.029	3.43	1.73	5.16
Aluminum, shake finish, 10" wide, white	1.000	S.F.	.029	3.54	1.73	5.27
Color	1.000	S.F.	.029	3.69	1.73	5.42
Aluminum, vertical, 12" wide, white	1.000	S.F.	.027	2.66	1.61	4.27
Color	1.000	S.F.	.027	2.81	1.61	4.42
Vinyl siding, 8" wide, smooth, white	1.000	S.F.	.032	.89	1.92	2.81
Color	1.000	S.F.	.032	1.06	1.92	2.98
10" wide, Dutch lap, smooth, white	1.000	S.F.	.029	1.27	1.73	3
Color	1.000	S.F.	.029	1.44	1.73	3.17
Double 4" pattern, 8" wide, white	1.000	S.F.	.032	1.01	1.92	2.93
Color	1.000	S.F.	.032	1.18	1.92	3.10
Double 5" pattern, 10" wide, white	1.000	S.F.	.029	.89	1.73	2.62
Color	1.000	S.F.	.029	1.06	1.73	2.79
Embossed, single, 8" wide, white	1.000	S.F.	.032	1.82	1.92	3.74
Color	1.000	S.F.	.032	1.99	1.92	3.91
10" wide, white	1.000	S.F.	.029	2.18	1.73	3.91
Color	1.000	S.F.	.029	2.35	1.73	4.08
Double 4" pattern, 8" wide, white	1.000	S.F.	.032	1.20	1.92	3.12
Color	1.000	S.F.	.032	1.37	1.92	3.29
Double 5" pattern, 10" wide, white	1.000	S.F.	.029	1.20	1.73	2.93
Color	1.000	S.F.	.029	1.37	1.73	3.10
Vinyl, shake finish, 10" wide, white	1.000	S.F.	.029	4.45	2.38	6.83
Color	1.000	S.F.	.029	4.62	2.38	7
Vinyl, vertical, double 5" pattern, 10" wide, white	1.000	S.F.	.029	1.95	1.73	3.68
Color	1.000	S.F.	.029	2.12	1.73	3.85
Backer board, installed in siding panels 8" or 10" wide	1.000	S.F.	.008	.47	.48	.95
4' x 8' sheets, polystyrene, 3/4" thick	1.000	S.F.	.010	.68	.59	1.27
4' x 8' fiberboard, plain	1.000	S.F.	.008	.47	.48	.95
Trim, aluminum, white	.600	L.F.	.016	1.15	.94	2.09
Color	.600	L.F.	.016	1.24	.94	2.18
Vinyl, white	.600	L.F.	.014	1.55	.82	2.37
Color	.600	L.F.	.014	1.75	.82	2.57
Paper, #15 asphalt felt	1.100	S.F.	.002	.07	.14	.21
Kraft paper, plain	1.100	S.F.	.002	.20	.14	.34
Foil backed	1.100	S.F.	.002	.19	.14	.33

Description	Quan.	Unit	Labor Hours	Cost per S.F.		
				Mat.	Inst.	Total
Poured insulation, cellulose fiber, R3.8 per inch (1" thick)	1.000	S.F.	.003	.06	.20	.26
Fiberglass, R4.0 per inch (1" thick)	1.000	S.F.	.003	.06	.20	.26
Mineral wool, R3.0 per inch (1" thick)	1.000	S.F.	.003	.05	.20	.25
Polystyrene, R4.0 per inch (1" thick)	1.000	S.F.	.003	.14	.20	.34
Vermiculite, R2.7 per inch (1" thick)	1.000	S.F.	.003	.48	.20	.68
Perlite, R2.7 per inch (1" thick)	1.000	S.F.	.003	.48	.20	.68
Reflective insulation, aluminum foil reinforced with scrim	1.000	S.F.	.004	.17	.25	.42
Reinforced with woven polyolefin	1.000	S.F.	.004	.25	.25	.50
With single bubble air space, R8.8	1.000	S.F.	.005	.29	.32	.61
With double bubble air space, R9.8	1.000	S.F.	.005	.36	.32	.68
Rigid insulation, fiberglass, unfaced,						
1-1/2" thick, R6.2	1.000	S.F.	.008	.47	.48	.95
2" thick, R8.3	1.000	S.F.	.008	.54	.48	1.02
2-1/2" thick, R10.3	1.000	S.F.	.010	.62	.59	1.21
3" thick, R12.4	1.000	S.F.	.010	.62	.59	1.21
Foil faced, 1" thick, R4.3	1.000	S.F.	.008	.94	.48	1.42
1-1/2" thick, R6.2	1.000	S.F.	.008	1.41	.48	1.89
2" thick, R8.7	1.000	S.F.	.009	1.78	.53	2.31
2-1/2" thick, R10.9	1.000	S.F.	.010	2.10	.59	2.69
3" thick, R13.0	1.000	S.F.	.010	2.21	.59	2.80
Perlite, 1" thick R2.77	1.000	S.F.	.010	.52	.59	1.11
2" thick R5.55	1.000	S.F.	.011	.95	.65	1.60
Polystyrene, extruded, blue, 2.2#/C.F., 3/4" thick R4	1.000	S.F.	.010	.68	.59	1.27
1-1/2" thick R8.1	1.000	S.F.	.011	1.34	.65	1.99
2" thick R10.8	1.000	S.F.	.011	1.84	.65	2.49
Molded bead board, white, 1" thick R3.85	1.000	S.F.	.010	.32	.59	.91
1-1/2" thick, R5.6	1.000	S.F.	.011	.64	.65	1.29
2" thick, R7.7	1.000	S.F.	.011	.96	.65	1.61
Non-rigid insulation, batts						
Fiberglass, kraft faced, 3-1/2" thick, R13, 11" wide	1.000	S.F.	.005	.37	.41	.78
15" wide	1.000	S.F.	.005	.37	.41	.78
23" wide	1.000	S.F.	.005	.37	.41	.78
6" thick, R19, 11" wide	1.000	S.F.	.006	.48	.41	.89
15" wide	1.000	S.F.	.006	.48	.41	.89
23" wide	1.000	S.F.	.006	.48	.41	.89
9" thick, R30, 15" wide	1.000	S.F.	.006	.95	.35	1.30
23" wide	1.000	S.F.	.006	.95	.35	1.30
12" thick, R38, 15" wide	1.000	S.F.	.006	1.14	.35	1.49
23" wide	1.000	S.F.	.006	1.14	.35	1.49
Fiberglass, foil faced, 3-1/2" thick, R13, 15" wide	1.000	S.F.	.005	.52	.35	.87
23" wide	1.000	S.F.	.005	.52	.35	.87
6" thick, R19, 15" thick	1.000	S.F.	.005	.69	.30	.99
23" wide	1.000	S.F.	.005	.69	.30	.99
9" thick, R30, 15" wide	1.000	S.F.	.006	1.16	.35	1.51
23" wide	1.000	S.F.	.006	1.16	.35	1.51



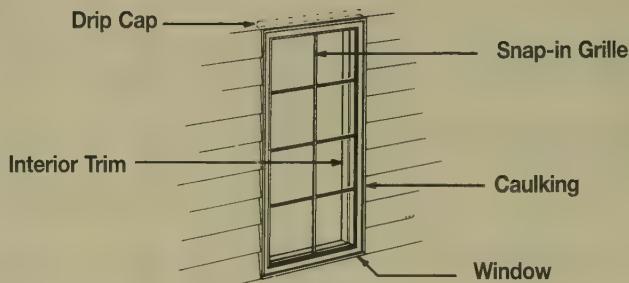


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BUILDER'S QUALITY WOOD WINDOW 2' X 3', DOUBLE HUNG</b>						
Window, primed, builder's quality, 2' x 3', insulating glass	1.000	Ea.	.800	265	47.50	312.50
Trim, interior casing	11.000	L.F.	.352	17.05	20.90	37.95
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	2.98	87	89.98
Caulking	10.000	L.F.	.278	2.60	16.30	18.90
Snap-in grille	1.000	Set	.333	67	19.80	86.80
Drip cap, metal	2.000	L.F.	.040	1.30	2.38	3.68
	<b>TOTAL</b>	<b>Ea.</b>	<b>3.581</b>	<b>355.93</b>	<b>193.88</b>	<b>549.81</b>
<b>PLASTIC CLAD WOOD WINDOW 3' X 4', DOUBLE HUNG</b>						
Window, plastic clad, premium, 3' x 4', insulating glass	1.000	Ea.	.889	445	53	498
Trim, interior casing	15.000	L.F.	.480	23.25	28.50	51.75
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	14.000	L.F.	.389	3.64	22.82	26.46
Snap-in grille	1.000	Set	.333	67	19.80	86.80
	<b>TOTAL</b>	<b>Ea.</b>	<b>2.980</b>	<b>540.38</b>	<b>167.62</b>	<b>708</b>
<b>METAL CLAD WOOD WINDOW, 3' X 5', DOUBLE HUNG</b>						
Window, metal clad, deluxe, 3' x 5', insulating glass	1.000	Ea.	1.000	435	59.50	494.50
Trim, interior casing	17.000	L.F.	.544	26.35	32.30	58.65
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	16.000	L.F.	.444	4.16	26.08	30.24
Snap-in grille	1.000	Set	.235	155	14	169
Drip cap, metal	3.000	L.F.	.060	1.95	3.57	5.52
	<b>TOTAL</b>	<b>Ea.</b>	<b>3.172</b>	<b>623.95</b>	<b>178.95</b>	<b>802.90</b>

The cost of this system is on a cost per each window basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Double Hung Window Price Sheet	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Windows, double-hung, builder's quality, 2' x 3', single glass	1.000	Ea.	.800	212	47.50	259.50
Insulating glass	1.000	Ea.	.800	265	47.50	312.50
3' x 4', single glass	1.000	Ea.	.889	320	53	373
Insulating glass	1.000	Ea.	.889	325	53	378
4' x 4'-6", single glass	1.000	Ea.	1.000	360	59.50	419.50
Insulating glass	1.000	Ea.	1.000	390	59.50	449.50
Plastic clad premium insulating glass, 2'-6" x 3'	1.000	Ea.	.800	400	47.50	447.50
3' x 3'-6"	1.000	Ea.	.800	390	47.50	437.50
3' x 4'	1.000	Ea.	.889	445	53	498
3' x 4'-6"	1.000	Ea.	.889	490	53	543
3' x 5'	1.000	Ea.	1.000	515	59.50	574.50
3'-6" x 6'	1.000	Ea.	1.000	580	59.50	639.50
Metal clad deluxe insulating glass, 2'-6" x 3'	1.000	Ea.	.800	325	47.50	372.50
3' x 3'-6"	1.000	Ea.	.800	365	47.50	412.50
3' x 4'	1.000	Ea.	.889	375	53	428
3' x 4'-6"	1.000	Ea.	.889	400	53	453
3' x 5'	1.000	Ea.	1.000	435	59.50	494.50
3'-6" x 6'	1.000	Ea.	1.000	525	59.50	584.50
Trim, interior casing, window 2' x 3'	11.000	L.F.	.367	17.05	21	38.05
2'-6" x 3'	12.000	L.F.	.400	18.60	23	41.60
3' x 3'-6"	14.000	L.F.	.467	21.50	26.50	48
3' x 4'	15.000	L.F.	.500	23.50	28.50	52
3' x 4'-6"	16.000	L.F.	.533	25	30.50	55.50
3' x 5'	17.000	L.F.	.567	26.50	32.50	59
3'-6" x 6'	20.000	L.F.	.667	31	38	69
4' x 4'-6"	18.000	L.F.	.600	28	34	62
Paint or stain, interior or exterior, 2' x 3' window, 1 coat	1.000	Face	.444	.54	22	22.54
2 coats	1.000	Face	.727	1.07	36	37.07
Primer & 1 coat	1.000	Face	.727	.97	36	36.97
Primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
3' x 4' window, 1 coat	1.000	Face	.667	1.15	33	34.15
2 coats	1.000	Face	.667	2.09	33	35.09
Primer & 1 coat	1.000	Face	.727	1.52	36	37.52
Primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
4' x 4'-6" window, 1 coat	1.000	Face	.667	1.15	33	34.15
2 coats	1.000	Face	.667	2.09	33	35.09
Primer & 1 coat	1.000	Face	.727	1.52	36	37.52
Primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking, window, 2' x 3'	10.000	L.F.	.323	2.60	16.30	18.90
2'-6" x 3'	11.000	L.F.	.355	2.86	17.95	20.81
3' x 3'-6"	13.000	L.F.	.419	3.38	21	24.38
3' x 4'	14.000	L.F.	.452	3.64	23	26.64
3' x 4'-6"	15.000	L.F.	.484	3.90	24.50	28.40
3' x 5'	16.000	L.F.	.516	4.16	26	30.16
3'-6" x 6'	19.000	L.F.	.613	4.94	31	35.94
4' x 4'-6"	17.000	L.F.	.548	4.42	27.50	31.92
Grilles, glass size to, 16" x 24" per sash	1.000	Set	.333	67	19.80	86.80
32" x 32" per sash	1.000	Set	.235	155	14	169
Drip cap, aluminum, 2' long	2.000	L.F.	.040	1.30	2.38	3.68
3' long	3.000	L.F.	.060	1.95	3.57	5.52
4' long	4.000	L.F.	.080	2.60	4.76	7.36
Wood, 2' long	2.000	L.F.	.067	3.10	3.80	6.90
3' long	3.000	L.F.	.100	4.65	5.70	10.35
4' long	4.000	L.F.	.133	6.20	7.60	13.80

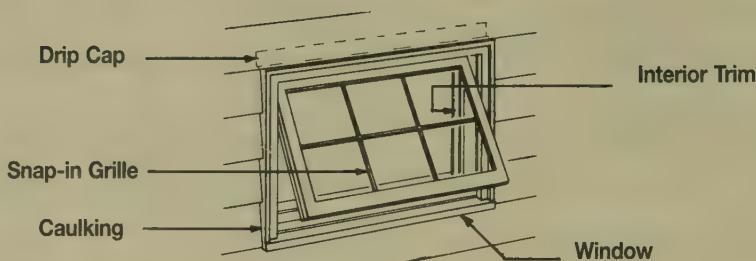


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BUILDER'S QUALITY WINDOW, WOOD, 2' BY 3', CASEMENT</b>						
Window, primed, builder's quality, 2' x 3', insulating glass	1.000	Ea.	.800	315	47.50	362.50
Trim, interior casing	11.000	L.F.	.352	17.05	20.90	37.95
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	2.98	87	89.98
Caulking	10.000	L.F.	.278	2.60	16.30	18.90
Snap-in grille	1.000	Ea.	.267	38	15.85	53.85
Drip cap, metal	2.000	L.F.	.040	1.30	2.38	3.68
<b>TOTAL</b>		Ea.	3.515	376.93	189.93	566.86
<b>PLASTIC CLAD WOOD WINDOW, 2' X 4', CASEMENT</b>						
Window, plastic clad, premium, 2' x 4', insulating glass	1.000	Ea.	.889	365	53	418
Trim, interior casing	13.000	L.F.	.416	20.15	24.70	44.85
Paint, interior, primer & 2 coats	1.000	Ea.	.889	1.49	43.50	44.99
Caulking	12.000	L.F.	.333	3.12	19.56	22.68
Snap-in grille	1.000	Ea.	.267	38	15.85	53.85
<b>TOTAL</b>		Ea.	2.794	427.76	156.61	584.37
<b>METAL CLAD WOOD WINDOW, 2' X 5', CASEMENT</b>						
Window, metal clad, deluxe, 2' x 5', insulating glass	1.000	Ea.	1.000	395	59.50	454.50
Trim, interior casing	15.000	L.F.	.480	23.25	28.50	51.75
Paint, interior, primer & 2 coats	1.000	Ea.	.889	1.49	43.50	44.99
Caulking	14.000	L.F.	.389	3.64	22.82	26.46
Snap-in grille	1.000	Ea.	.250	51	14.85	65.85
Drip cap, metal	12.000	L.F.	.040	1.30	2.38	3.68
<b>TOTAL</b>		Ea.	3.048	475.68	171.55	647.23

The cost of this system is on a cost per each window basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





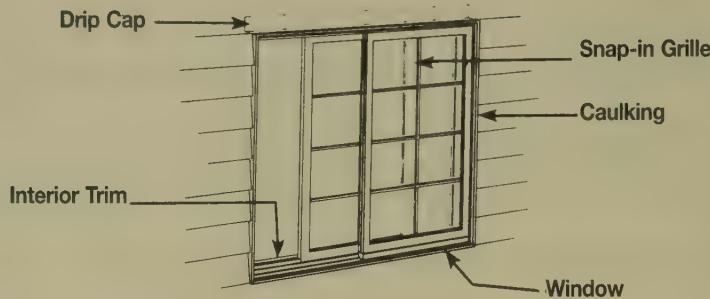
System Description	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
<b>BUILDER'S QUALITY WINDOW, WOOD, 34" X 22", AWNING</b>						
Window, 34" x 22", insulating glass	1.000	Ea.	.800	360	47.50	407.50
Trim, interior casing	10.500	L.F.	.336	16.28	19.95	36.23
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	2.98	87	89.98
Caulking	9.500	L.F.	.264	2.47	15.49	17.96
Snap-in grille	1.000	Ea.	.267	33.50	15.85	49.35
Drip cap, metal	3.000	L.F.	.060	1.95	3.57	5.52
<b>TOTAL</b>		Ea.	3.505	417.18	189.36	606.54
<b>PLASTIC CLAD WOOD WINDOW, 40" X 28", AWNING</b>						
Window, plastic clad, premium, 40" x 28", insulating glass	1.000	Ea.	.889	385	53	438
Trim interior casing	13.500	L.F.	.432	20.93	25.65	46.58
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	12.500	L.F.	.347	3.25	20.38	23.63
Snap-in grille	1.000	Ea.	.267	33.50	15.85	49.35
<b>TOTAL</b>		Ea.	2.824	444.17	158.38	602.55
<b>METAL CLAD WOOD WINDOW, 48" X 36", AWNING</b>						
Window, metal clad, deluxe, 48" x 36", insulating glass	1.000	Ea.	1.000	420	59.50	479.50
Trim, interior casing	15.000	L.F.	.480	23.25	28.50	51.75
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	14.000	L.F.	.389	3.64	22.82	26.46
Snap-in grille	1.000	Ea.	.250	48.50	14.85	63.35
Drip cap, metal	4.000	L.F.	.080	2.60	4.76	7.36
<b>TOTAL</b>		Ea.	3.088	499.48	173.93	673.41

The cost of this system is on a cost per each window basis.

Description	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL

## Awning Window Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Windows, awning, builder's quality, 34" x 22", insulated glass	1.000	Ea.	.800	330	47.50	377.50
Low E glass	1.000	Ea.	.800	360	47.50	407.50
40" x 28", insulated glass	1.000	Ea.	.889	350	53	403
Low E glass	1.000	Ea.	.889	385	53	438
48" x 36", insulated glass	1.000	Ea.	1.000	525	59.50	584.50
Low E glass	1.000	Ea.	1.000	555	59.50	614.50
Plastic clad premium insulating glass, 34" x 22"	1.000	Ea.	.800	299	47.50	346.50
40" x 22"	1.000	Ea.	.800	325	47.50	372.50
36" x 28"	1.000	Ea.	.889	340	53	393
36" x 36"	1.000	Ea.	.889	385	53	438
48" x 28"	1.000	Ea.	1.000	410	59.50	469.50
60" x 36"	1.000	Ea.	1.000	565	59.50	624.50
Metal clad deluxe insulating glass, 34" x 22"	1.000	Ea.	.800	277	53	330
40" x 22"	1.000	Ea.	.800	325	53	378
36" x 25"	1.000	Ea.	.889	310	53	363
40" x 30"	1.000	Ea.	.889	380	53	433
48" x 28"	1.000	Ea.	1.000	390	59.50	449.50
60" x 36"	1.000	Ea.	1.000	420	59.50	479.50
Trim, interior casing window, 34" x 22"	10.500	L.F.	.350	16.30	19.95	36.25
40" x 22"	11.500	L.F.	.383	17.85	22	39.85
36" x 28"	12.500	L.F.	.417	19.40	24	43.40
40" x 28"	13.500	L.F.	.450	21	25.50	46.50
48" x 28"	14.500	L.F.	.483	22.50	27.50	50
48" x 36"	15.000	L.F.	.500	23.50	28.50	52
Paint or stain, interior or exterior, 34" x 22", 1 coat	1.000	Face	.444	.54	22	22.54
2 coats	1.000	Face	.727	1.07	36	37.07
Primer & 1 coat	1.000	Face	.727	.97	36	36.97
Primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
36" x 28", 1 coat	1.000	Face	.444	.54	22	22.54
2 coats	1.000	Face	.727	1.07	36	37.07
Primer & 1 coat	1.000	Face	.727	.97	36	36.97
Primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
48" x 36", 1 coat	1.000	Face	.667	1.15	33	34.15
2 coats	1.000	Face	.667	2.09	33	35.09
Primer & 1 coat	1.000	Face	.727	1.52	36	37.52
Primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking, window, 34" x 22"	9.500	L.F.	.306	2.47	15.50	17.97
40" x 22"	10.500	L.F.	.339	2.73	17.10	19.83
36" x 28"	11.500	L.F.	.371	2.99	18.75	21.74
40" x 28"	12.500	L.F.	.403	3.25	20.50	23.75
48" x 28"	13.500	L.F.	.436	3.51	22	25.51
48" x 36"	14.000	L.F.	.452	3.64	23	26.64
Grilles, glass size, to 28" by 16"	1.000	Ea.	.267	33.50	15.85	49.35
To 44" by 24"	1.000	Ea.	.250	48.50	14.85	63.35
Drip cap, aluminum, 3' long	3.000	L.F.	.060	1.95	3.57	5.52
3'-6" long	3.500	L.F.	.070	2.28	4.17	6.45
4' long	4.000	L.F.	.080	2.60	4.76	7.36
Wood, 3' long	3.000	L.F.	.100	4.65	5.70	10.35
3'-6" long	3.500	L.F.	.117	5.45	6.65	12.10
4' long	4.000	L.F.	.133	6.20	7.60	13.80

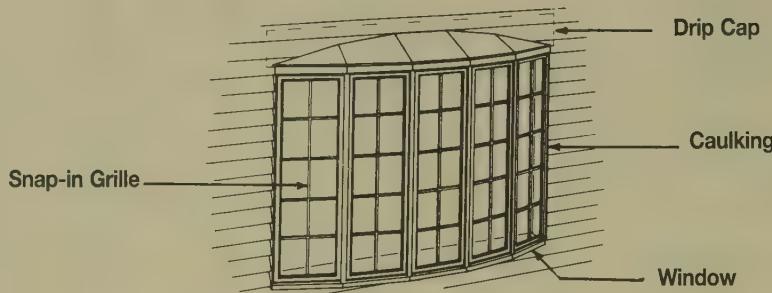


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BUILDER'S QUALITY WOOD WINDOW, 3' X 2', SLIDING</b>						
Window, primed, builder's quality, 3' x 3', insul. glass	1.000	Ea.	.800	345	47.50	392.50
Trim, interior casing	11.000	L.F.	.352	17.05	20.90	37.95
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	2.98	87	89.98
Caulking	10.000	L.F.	.278	2.60	16.30	18.90
Snap-in grille	1.000	Set	.333	45	19.80	64.80
Drip cap, metal	3.000	L.F.	.060	1.95	3.57	5.52
<b>TOTAL</b>		Ea.	3.601	414.58	195.07	609.65
<b>PLASTIC CLAD WOOD WINDOW, 4' X 3'-6", SLIDING</b>						
Window, plastic clad, premium, 4' x 3'-6", insulating glass	1.000	Ea.	.889	765	53	818
Trim, interior casing	16.000	L.F.	.512	24.80	30.40	55.20
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	17.000	L.F.	.472	4.42	27.71	32.13
Snap-in grille	1.000	Set	.333	45	19.80	64.80
<b>TOTAL</b>		Ea.	3.095	840.71	174.41	1,015.12
<b>METAL CLAD WOOD WINDOW, 6' X 5', SLIDING</b>						
Window, metal clad, deluxe, 6' x 5', insulating glass	1.000	Ea.	1.000	845	59.50	904.50
Trim, interior casing	23.000	L.F.	.736	35.65	43.70	79.35
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	22.000	L.F.	.611	5.72	35.86	41.58
Snap-in grille	1.000	Set	.364	52	21.50	73.50
Drip cap, metal	6.000	L.F.	.120	3.90	7.14	11.04
<b>TOTAL</b>		Ea.	3.720	943.76	211.20	1,154.96

The cost of this system is on a cost per each window basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





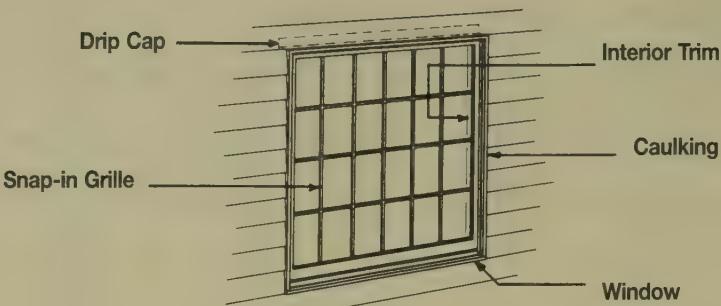
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>AWNING TYPE BOW WINDOW, BUILDER'S QUALITY, 8' X 5'</b>						
Window, primed, builder's quality, 8' x 5', insulating glass	1.000	Ea.	1.600	1,450	95	1,545
Trim, interior casing	27.000	L.F.	.864	41.85	51.30	93.15
Paint, interior & exterior, primer & 1 coat	2.000	Face	3.200	15.80	157	172.80
Caulking	26.000	L.F.	.722	6.76	42.38	49.14
Snap-in grilles	4.000	Ea.	1.067	152	63.40	215.40
<b>TOTAL</b>		Ea.	7.453	1,666.41	409.08	2,075.49
<b>CASEMENT TYPE BOW WINDOW, PLASTIC CLAD, 10' X 6'</b>						
Window, plastic clad, premium, 10' x 6', insulating glass	1.000	Ea.	2.286	3,375	136	3,511
Trim, interior casing	33.000	L.F.	1.056	51.15	62.70	113.85
Paint, interior, primer & 2 coat	1.000	Face	2.667	4.47	130.50	134.97
Caulking	32.000	L.F.	.889	8.32	52.16	60.48
Snap-in grilles	5.000	Ea.	1.333	190	79.25	269.25
<b>TOTAL</b>		Ea.	8.231	3,628.94	460.61	4,089.55
<b>DOUBLE HUNG TYPE, METAL CLAD, 9' X 5'</b>						
Window, metal clad, deluxe, 9' x 5', insulating glass	1.000	Ea.	2.667	1,650	158	1,808
Trim, interior casing	29.000	L.F.	.928	44.95	55.10	100.05
Paint, interior, primer & 1 coat	1.000	Face	1.778	2.98	87	89.98
Caulking	28.000	L.F.	.778	7.28	45.64	52.92
Snap-in grilles	4.000	Ea.	1.067	152	63.40	215.40
<b>TOTAL</b>		Ea.	7.218	1,857.21	409.14	2,266.35

The cost of this system is on a cost per each window basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Bow/Bay Window Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Windows, bow awning type, builder's quality, 8' x 5', insulating glass	1.000	Ea.	1.600	1,750	95	1,845
Low E glass	1.000	Ea.	1.600	1,450	95	1,545
12' x 6', insulating glass	1.000	Ea.	2.667	1,525	158	1,683
Low E glass	1.000	Ea.	2.667	1,625	158	1,783
Plastic clad premium insulating glass, 6' x 4'	1.000	Ea.	1.600	1,150	95	1,245
9' x 4'	1.000	Ea.	2.000	1,600	119	1,719
10' x 5'	1.000	Ea.	2.286	2,600	136	2,736
12' x 6'	1.000	Ea.	2.667	3,425	158	3,583
Metal clad deluxe insulating glass, 6' x 4'	1.000	Ea.	1.600	1,400	95	1,495
9' x 4'	1.000	Ea.	2.000	1,750	119	1,869
10' x 5'	1.000	Ea.	2.286	2,400	136	2,536
12' x 6'	1.000	Ea.	2.667	3,025	158	3,183
Bow casement type, builder's quality, 8' x 5', single glass	1.000	Ea.	1.600	2,150	95	2,245
Insulating glass	1.000	Ea.	1.600	2,600	95	2,695
12' x 6', single glass	1.000	Ea.	2.667	2,700	158	2,858
Insulating glass	1.000	Ea.	2.667	3,500	158	3,658
Plastic clad premium insulating glass, 8' x 5'	1.000	Ea.	1.600	2,000	95	2,095
10' x 5'	1.000	Ea.	2.000	2,750	119	2,869
10' x 6'	1.000	Ea.	2.286	3,375	136	3,511
12' x 6'	1.000	Ea.	2.667	3,650	158	3,808
Metal clad deluxe insulating glass, 8' x 5'	1.000	Ea.	1.600	1,900	95	1,995
10' x 5'	1.000	Ea.	2.000	2,050	119	2,169
10' x 6'	1.000	Ea.	2.286	2,425	136	2,561
12' x 6'	1.000	Ea.	2.667	3,250	158	3,408
Bow, double hung type, builder's quality, 8' x 4', single glass	1.000	Ea.	1.600	1,525	95	1,620
Insulating glass	1.000	Ea.	1.600	1,625	95	1,720
9' x 5', single glass	1.000	Ea.	2.667	1,625	158	1,783
Insulating glass	1.000	Ea.	2.667	1,725	158	1,883
Plastic clad premium insulating glass, 7' x 4'	1.000	Ea.	1.600	1,525	95	1,620
8' x 4'	1.000	Ea.	2.000	1,600	119	1,719
8' x 5'	1.000	Ea.	2.286	1,675	136	1,811
9' x 5'	1.000	Ea.	2.667	1,725	158	1,883
Metal clad deluxe insulating glass, 7' x 4'	1.000	Ea.	1.600	1,450	95	1,545
8' x 4'	1.000	Ea.	2.000	1,500	119	1,619
8' x 5'	1.000	Ea.	2.286	1,550	136	1,686
9' x 5'	1.000	Ea.	2.667	1,650	158	1,808
Trim, interior casing, window 7' x 4'	1.000	Ea.	.767	35.50	43.50	79
8' x 5'	1.000	Ea.	.900	42	51.50	93.50
10' x 6'	1.000	Ea.	1.100	51	62.50	113.50
12' x 6'	1.000	Ea.	1.233	57.50	70.50	128
Paint or stain, interior, or exterior, 7' x 4' window, 1 coat	1.000	Face	.889	3.04	43.50	46.54
Primer & 1 coat	1.000	Face	1.333	5.20	65.50	70.70
8' x 5' window, 1 coat	1.000	Face	.889	3.04	43.50	46.54
Primer & 1 coat	1.000	Face	1.333	5.20	65.50	70.70
10' x 6' window, 1 coat	1.000	Face	1.333	2.30	66	68.30
Primer & 1 coat	1.000	Face	1.778	2.98	87	89.98
12' x 6' window, 1 coat	1.000	Face	1.778	6.10	87	93.10
Primer & 1 coat	1.000	Face	2.667	10.40	131	141.40
Drip cap, vinyl moulded window, 7' long	1.000	Ea.	.533	125	24.50	149.50
8' long	1.000	Ea.	.533	143	28	171
Caulking, window, 7' x 4'	1.000	Ea.	.710	5.70	36	41.70
8' x 5'	1.000	Ea.	.839	6.75	42.50	49.25
10' x 6'	1.000	Ea.	1.032	8.30	52	60.30
12' x 6'	1.000	Ea.	1.161	9.35	58.50	67.85
Grilles, window, 7' x 4'	1.000	Set	.800	114	47.50	161.50
8' x 5'	1.000	Set	1.067	152	63.50	215.50
10' x 6'	1.000	Set	1.333	190	79.50	269.50
12' x 6'	1.000	Set	1.600	228	95	323

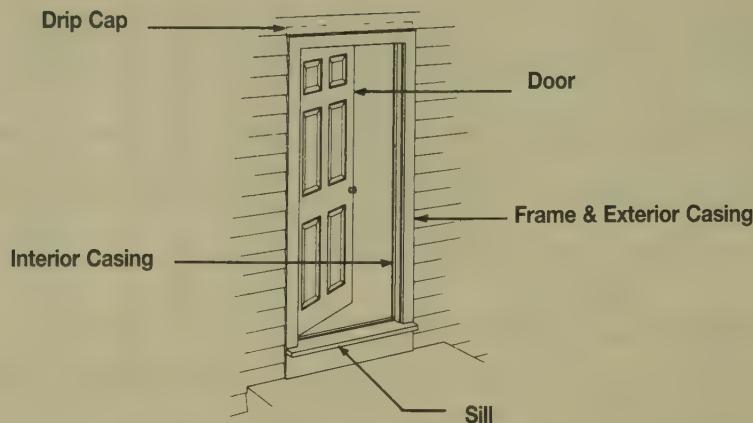


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BUILDER'S QUALITY PICTURE WINDOW, 4' X 4'</b>						
Window, primed, builder's quality, 3'-0" x 4', insulating glass	1.000	Ea.	1.333	495	79	574
Trim, interior casing	17.000	L.F.	.544	26.35	32.30	58.65
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	2.98	87	89.98
Caulking	16.000	L.F.	.444	4.16	26.08	30.24
Snap-in grille	1.000	Ea.	.267	141	15.85	156.85
Drip cap, metal	4.000	L.F.	.080	2.60	4.76	7.36
<b>TOTAL</b>		Ea.	4.446	672.09	244.99	917.08
<b>PLASTIC CLAD WOOD WINDOW, 4'-6" X 6'-6"</b>						
Window, plastic clad, prem., 4'-6" x 6'-6", insul. glass	1.000	Ea.	1.455	1,100	86.50	1,186.50
Trim, interior casing	23.000	L.F.	.736	35.65	43.70	79.35
Paint, interior, primer & 2 coats	1.000	Face	.889	1.49	43.50	44.99
Caulking	22.000	L.F.	.611	5.72	35.86	41.58
Snap-in grille	1.000	Ea.	.267	141	15.85	156.85
<b>TOTAL</b>		Ea.	3.958	1,283.86	225.41	1,509.27
<b>METAL CLAD WOOD WINDOW, 6'-6" X 6'-6"</b>						
Window, metal clad, deluxe, 6'-0" x 6'-0", insulating glass	1.000	Ea.	1.600	800	95	895
Trim interior casing	27.000	L.F.	.864	41.85	51.30	93.15
Paint, interior, primer & 2 coats	1.000	Face	1.600	7.90	78.50	86.40
Caulking	26.000	L.F.	.722	6.76	42.38	49.14
Snap-in grille	1.000	Ea.	.267	141	15.85	156.85
Drip cap, metal	6.500	L.F.	.130	4.23	7.74	11.97
<b>TOTAL</b>		Ea.	5.183	1,001.74	290.77	1,292.51

The cost of this system is on a cost per each window basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>



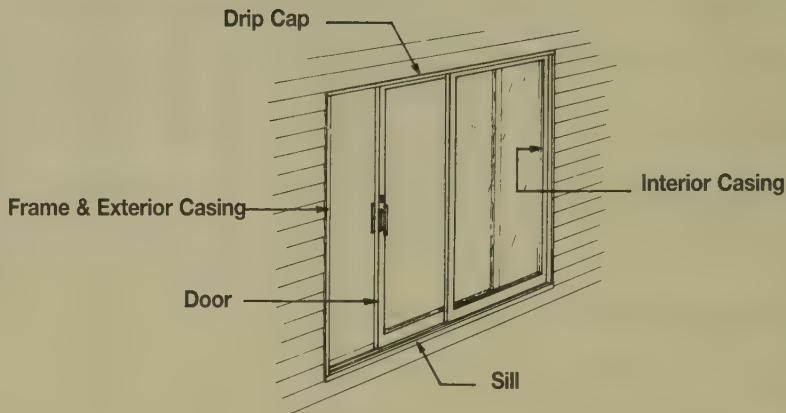


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>COLONIAL, 6 PANEL, 3' X 6'-8", WOOD</b>						
Door, 3' x 6'-8" x 1-3/4" thick, pine, 6 panel colonial	1.000	Ea.	1.067	670	63.50	733.50
Frame, 5-13/16" deep, incl. exterior casing & drip cap	17.000	L.F.	.725	150.45	43.01	193.46
Interior casing, 2-1/2" wide	18.000	L.F.	.576	27.90	34.20	62.10
Sill, 8/4 x 8" deep	3.000	L.F.	.480	70.50	28.50	99
Butt hinges, brass, 4-1/2" x 4-1/2"	1.500	Pr.		38.25		38.25
Average quality	1.000	Ea.	.571	55.50	34	89.50
Weatherstripping, metal, spring type, bronze	1.000	Set	1.053	26.50	62.50	89
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	15.70	87	102.70
<b>TOTAL</b>		Ea.	6.250	1,054.80	352.71	1,407.51
<b>SOLID CORE BIRCH, FLUSH, 3' X 6'-8"</b>						
Door, 3' x 6'-8", 1-3/4" thick, birch, flush solid core	1.000	Ea.	1.067	169	63.50	232.50
Frame, 5-13/16" deep, incl. exterior casing & drip cap	17.000	L.F.	.725	150.45	43.01	193.46
Interior casing, 2-1/2" wide	18.000	L.F.	.576	27.90	34.20	62.10
Sill, 8/4 x 8" deep	3.000	L.F.	.480	70.50	28.50	99
Butt hinges, brass, 4-1/2" x 4-1/2"	1.500	Pr.		38.25		38.25
Average quality	1.000	Ea.	.571	55.50	34	89.50
Weatherstripping, metal, spring type, bronze	1.000	Set	1.053	26.50	62.50	89
Paint, interior & exterior, primer & 2 coats	2.000	Face	1.778	14.70	87	101.70
<b>TOTAL</b>		Ea.	6.250	552.80	352.71	905.51

These systems are on a cost per each door basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Entrance Door Price Sheet	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Door exterior wood 1-3/4" thick, pine, dutch door, 2'-8" x 6'-8" minimum	1.000	Ea.	1.333	815	79	894
Maximum	1.000	Ea.	1.600	1,125	95	1,220
3'-0" x 6'-8", minimum	1.000	Ea.	1.333	730	79	809
Maximum	1.000	Ea.	1.600	1,150	95	1,245
Colonial, 6 panel, 2'-8" x 6'-8"	1.000	Ea.	1.000	690	59.50	749.50
3'-0" x 6'-8"	1.000	Ea.	1.067	670	63.50	733.50
8 panel, 2'-6" x 6'-8"	1.000	Ea.	1.000	810	59.50	869.50
3'-0" x 6'-8"	1.000	Ea.	1.067	740	63.50	803.50
Flush, birch, solid core, 2'-8" x 6'-8"	1.000	Ea.	1.000	186	59.50	245.50
3'-0" x 6'-8"	1.000	Ea.	1.067	169	63.50	232.50
Porch door, 2'-8" x 6'-8"	1.000	Ea.	1.000	855	59.50	914.50
3'-0" x 6'-8"	1.000	Ea.	1.067	800	63.50	863.50
Hand carved mahogany, 2'-8" x 6'-8"	1.000	Ea.	1.067	2,625	63.50	2,688.50
3'-0" x 6'-8"	1.000	Ea.	1.067	1,750	63.50	1,813.50
Rosewood, 2'-8" x 6'-8"	1.000	Ea.	1.067	825	57.50	882.50
3'-0" x 6'-8"	1.000	Ea.	1.067	805	63.50	868.50
Door, metal clad wood 1-3/8" thick raised panel, 2'-8" x 6'-8"	1.000	Ea.	1.067	450	56	506
3'-0" x 6'-8"	1.000	Ea.	1.067	330	63.50	393.50
Deluxe metal door, 3'-0" x 6'-8"	1.000	Ea.	1.231	330	63.50	393.50
3'-0" x 6'-8"	1.000	Ea.	1.231	330	63.50	393.50
Frame, pine, including exterior trim & drip cap, 5/4, x 4-9/16" deep	17.000	L.F.	.725	129	43	172
5-13/16" deep	17.000	L.F.	.725	150	43	193
6-9/16" deep	17.000	L.F.	.725	187	43	230
Safety glass lites, add	1.000	Ea.		102		102
Interior casing, 2'-8" x 6'-8" door	18.000	L.F.	.600	28	34	62
3'-0" x 6'-8" door	19.000	L.F.	.633	29.50	36	65.50
Sill, oak, 8/4 x 8" deep	3.000	L.F.	.480	70.50	28.50	99
8/4 x 10" deep	3.000	L.F.	.533	91.50	31.50	123
Butt hinges, steel plated, 4-1/2" x 4-1/2", plain	1.500	Pr.		38.50		38.50
Ball bearing	1.500	Pr.		61		61
Bronze, 4-1/2" x 4-1/2", plain	1.500	Pr.		48		48
Ball bearing	1.500	Pr.		68.50		68.50
Lockset, minimum	1.000	Ea.	.571	55.50	34	89.50
Maximum	1.000	Ea.	1.000	269	59.50	328.50
Weatherstripping, metal, interlocking, zinc	1.000	Set	2.667	64.50	158	222.50
Bronze	1.000	Set	2.667	78	158	236
Spring type, bronze	1.000	Set	1.053	26.50	62.50	89
Rubber, minimum	1.000	Set	1.053	14.65	62.50	77.15
Maximum	1.000	Set	1.143	17.35	68	85.35
Felt minimum	1.000	Set	.571	5.50	34	39.50
Maximum	1.000	Set	.615	6.05	36.50	42.55
Paint or stain, flush door, interior or exterior, 1 coat	2.000	Face	.941	5.60	46	51.60
2 coats	2.000	Face	1.455	11.20	72	83.20
Primer & 1 coat	2.000	Face	1.455	9.40	72	81.40
Primer & 2 coats	2.000	Face	1.778	14.70	87	101.70
Panel door, interior & exterior, 1 coat	2.000	Face	1.143	5.95	56	61.95
2 coats	2.000	Face	2.000	11.90	98	109.90
Primer & 1 coat	2.000	Face	1.455	10.10	72	82.10
Primer & 2 coats	2.000	Face	1.778	15.70	87	102.70

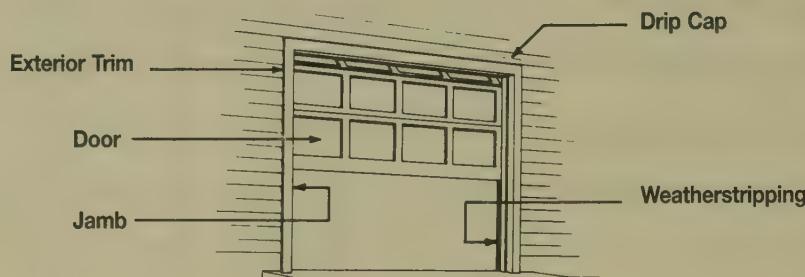


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>WOOD SLIDING DOOR, 8' WIDE, PREMIUM</b>						
Wood, 5/8" thick tempered insul. glass, 8' wide, premium	1.000	Ea.	5.333	2,150	315	2,465
Interior casing	22.000	L.F.	.704	34.10	41.80	75.90
Exterior casing	22.000	L.F.	.704	34.10	41.80	75.90
Sill, oak, 8/4 x 8" deep	8.000	L.F.	1.280	188	76	264
Drip cap	8.000	L.F.	.160	5.20	9.52	14.72
Paint, interior & exterior, primer & 2 coats	2.000	Face	2.816	22	138.16	160.16
		Ea.	10.997	2,433.40	622.28	3,055.68
<b>ALUMINUM SLIDING DOOR, 8' WIDE, PREMIUM</b>						
Aluminum, 5/8" tempered insul. glass, 8' wide, premium	1.000	Ea.	5.333	1,950	315	2,265
Interior casing	22.000	L.F.	.704	34.10	41.80	75.90
Exterior casing	22.000	L.F.	.704	34.10	41.80	75.90
Sill, oak, 8/4 x 8" deep	8.000	L.F.	1.280	188	76	264
Drip cap	8.000	L.F.	.160	5.20	9.52	14.72
Paint, interior & exterior, primer & 2 coats	2.000	Face	2.816	22	138.16	160.16
		Ea.	10.997	2,233.40	622.28	2,855.68

The cost of this system is on a cost per each door basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Sliding Door Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER UNIT		
				MAT.	INST.	TOTAL
Sliding door, wood, 5/8" thick, tempered insul. glass, 6' wide, premium	1.000	Ea.	4.000	1,675	238	1,913
Economy	1.000	Ea.	4.000	1,375	238	1,613
8'wide, wood premium	1.000	Ea.	5.333	2,150	315	2,465
Economy	1.000	Ea.	5.333	1,750	315	2,065
12' wide, wood premium	1.000	Ea.	6.400	3,600	380	3,980
Economy	1.000	Ea.	6.400	2,925	380	3,305
Aluminum, 5/8" thick, tempered insul. glass, 6'wide, premium	1.000	Ea.	4.000	1,775	238	2,013
Economy	1.000	Ea.	4.000	975	238	1,213
8'wide, premium	1.000	Ea.	5.333	1,950	315	2,265
Economy	1.000	Ea.	5.333	1,725	315	2,040
12' wide, premium	1.000	Ea.	6.400	3,425	380	3,805
Economy	1.000	Ea.	6.400	1,825	380	2,205
Interior casing, 6' wide door	20.000	L.F.	.667	31	38	69
8' wide door	22.000	L.F.	.733	34	42	76
12' wide door	26.000	L.F.	.867	40.50	49.50	90
Exterior casing, 6' wide door	20.000	L.F.	.667	31	38	69
8' wide door	22.000	L.F.	.733	34	42	76
12' wide door	26.000	L.F.	.867	40.50	49.50	90
Sill, oak, 8/4 x 8" deep, 6' wide door	6.000	L.F.	.960	141	57	198
8' wide door	8.000	L.F.	1.280	188	76	264
12' wide door	12.000	L.F.	1.920	282	114	396
8/4 x 10" deep, 6' wide door	6.000	L.F.	1.067	183	63.50	246.50
8' wide door	8.000	L.F.	1.422	244	84.50	328.50
12' wide door	12.000	L.F.	2.133	365	127	492
Drip cap, 6' wide door	6.000	L.F.	.120	3.90	7.15	11.05
8' wide door	8.000	L.F.	.160	5.20	9.50	14.70
12' wide door	12.000	L.F.	.240	7.80	14.30	22.10
Paint or stain, interior & exterior, 6' wide door, 1 coat	2.000	Face	1.600	8	78.50	86.50
2 coats	2.000	Face	1.600	8	78.50	86.50
Primer & 1 coat	2.000	Face	1.778	13.60	87	100.60
Primer & 2 coats	2.000	Face	2.560	20	126	146
8' wide door, 1 coat	2.000	Face	1.760	8.80	86	94.80
2 coats	2.000	Face	1.760	8.80	86	94.80
Primer & 1 coat	2.000	Face	1.955	14.95	96	110.95
Primer & 2 coats	2.000	Face	2.816	22	138	160
12' wide door, 1 coat	2.000	Face	2.080	10.40	102	112.40
2 coats	2.000	Face	2.080	10.40	102	112.40
Primer & 1 coat	2.000	Face	2.311	17.70	113	130.70
Primer & 2 coats	2.000	Face	3.328	26	163	189
Aluminum door, trim only, interior & exterior, 6' door, 1 coat	2.000	Face	.800	4	39	43
2 coats	2.000	Face	.800	4	39	43
Primer & 1 coat	2.000	Face	.889	6.80	43.50	50.30
Primer & 2 coats	2.000	Face	1.280	10	63	73
8' wide door, 1 coat	2.000	Face	.880	4.40	43	47.40
2 coats	2.000	Face	.880	4.40	43	47.40
Primer & 1 coat	2.000	Face	.978	7.50	48	55.50
Primer & 2 coats	2.000	Face	1.408	11	69	80
12' wide door, 1 coat	2.000	Face	1.040	5.20	51	56.20
2 coats	2.000	Face	1.040	5.20	51	56.20
Primer & 1 coat	2.000	Face	1.155	8.85	56.50	65.35
Primer & 2 coats	2.000	Face	1.664	13	81.50	94.50



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>OVERHEAD, SECTIONAL GARAGE DOOR, 9' X 7'</b>						
Wood, overhead sectional door, std., incl. hardware, 9' x 7'	1.000	Ea.	2.000	1,175	119	1,294
Jamb & header blocking, 2" x 6"	25.000	L.F.	.901	18.75	53.50	72.25
Exterior trim	25.000	L.F.	.800	38.75	47.50	86.25
Paint, interior & exterior, primer & 2 coats	2.000	Face	3.556	31.40	174	205.40
Weatherstripping, molding type	1.000	Set	.736	35.65	43.70	79.35
Drip cap	9.000	L.F.	.180	5.85	10.71	16.56
<b>TOTAL</b>		Ea.	8.173	1,305.40	448.41	1,753.81
<b>OVERHEAD, SECTIONAL GARAGE DOOR, 16' X 7'</b>						
Wood, overhead sectional, std., incl. hardware, 16' x 7'	1.000	Ea.	2.667	1,925	158	2,083
Jamb & header blocking, 2" x 6"	30.000	L.F.	1.081	22.50	64.20	86.70
Exterior trim	30.000	L.F.	.960	46.50	57	103.50
Paint, interior & exterior, primer & 2 coats	2.000	Face	5.333	47.10	261	308.10
Weatherstripping, molding type	1.000	Set	.960	46.50	57	103.50
Drip cap	16.000	L.F.	.320	10.40	19.04	29.44
<b>TOTAL</b>		Ea.	11.321	2,098	616.24	2,714.24
<b>OVERHEAD, SWING-UP TYPE, GARAGE DOOR, 16' X 7'</b>						
Wood, overhead, swing-up, std., incl. hardware, 16' x 7'	1.000	Ea.	2.667	1,150	158	1,308
Jamb & header blocking, 2" x 6"	30.000	L.F.	1.081	22.50	64.20	86.70
Exterior trim	30.000	L.F.	.960	46.50	57	103.50
Paint, interior & exterior, primer & 2 coats	2.000	Face	5.333	47.10	261	308.10
Weatherstripping, molding type	1.000	Set	.960	46.50	57	103.50
Drip cap	16.000	L.F.	.320	10.40	19.04	29.44
<b>TOTAL</b>		Ea.	11.321	1,323	616.24	1,939.24

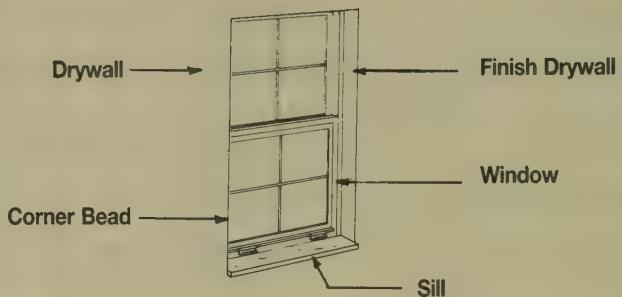
This system is on a cost per each door basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Resi Garage Door Price Sheet**

QUAN.	UNIT	LABOR HOURS	COST EACH		
			MAT.	INST.	TOTAL

Overhead, sectional, including hardware, fiberglass, 9' x 7', standard	1.000	Ea.	3.030	1,075	190	1,265
Deluxe	1.000	Ea.	3.030	1,325	190	1,515
16' x 7', standard	1.000	Ea.	2.667	2,150	158	2,308
Deluxe	1.000	Ea.	2.667	2,575	158	2,733
Hardboard, 9' x 7', standard	1.000	Ea.	2.000	825	119	944
Deluxe	1.000	Ea.	2.000	995	119	1,114
16' x 7', standard	1.000	Ea.	2.667	1,450	158	1,608
Deluxe	1.000	Ea.	2.667	1,775	158	1,933
Metal, 9' x 7', standard	1.000	Ea.	3.030	1,100	119	1,219
Deluxe	1.000	Ea.	2.000	1,125	158	1,283
16' x 7', standard	1.000	Ea.	5.333	1,325	158	1,483
Deluxe	1.000	Ea.	2.667	1,600	190	1,790
Wood, 9' x 7', standard	1.000	Ea.	2.000	1,175	119	1,294
Deluxe	1.000	Ea.	2.000	2,550	119	2,669
16' x 7', standard	1.000	Ea.	2.667	1,925	158	2,083
Deluxe	1.000	Ea.	2.667	3,475	158	3,633
Overhead swing-up type including hardware, fiberglass, 9' x 7', standard	1.000	Ea.	2.000	1,150	119	1,269
Deluxe	1.000	Ea.	2.000	1,325	119	1,444
16' x 7', standard	1.000	Ea.	2.667	1,725	158	1,883
Deluxe	1.000	Ea.	2.667	1,875	158	2,033
Hardboard, 9' x 7', standard	1.000	Ea.	2.000	650	119	769
Deluxe	1.000	Ea.	2.000	760	119	879
16' x 7', standard	1.000	Ea.	2.667	810	158	968
Deluxe	1.000	Ea.	2.667	1,000	158	1,158
Metal, 9' x 7', standard	1.000	Ea.	2.000	710	119	829
Deluxe	1.000	Ea.	2.000	1,225	119	1,344
16' x 7', standard	1.000	Ea.	2.667	1,050	158	1,208
Deluxe	1.000	Ea.	2.667	1,325	158	1,483
Wood, 9' x 7', standard	1.000	Ea.	2.000	860	119	979
Deluxe	1.000	Ea.	2.000	1,350	119	1,469
16' x 7', standard	1.000	Ea.	2.667	1,150	158	1,308
Deluxe	1.000	Ea.	2.667	2,900	158	3,058
Jamb & header blocking, 2" x 6", 9' x 7' door	25.000	L.F.	.901	18.75	53.50	72.25
16' x 7' door	30.000	L.F.	1.081	22.50	64	86.50
2" x 8", 9' x 7' door	25.000	L.F.	1.000	27.50	59.50	87
16' x 7' door	30.000	L.F.	1.200	33	71.50	104.50
Exterior trim, 9' x 7' door	25.000	L.F.	.833	39	47.50	86.50
16' x 7' door	30.000	L.F.	1.000	46.50	57	103.50
Paint or stain, interior & exterior, 9' x 7' door, 1 coat	1.000	Face	2.286	11.90	112	123.90
2 coats	1.000	Face	4.000	24	196	220
Primer & 1 coat	1.000	Face	2.909	20	144	164
Primer & 2 coats	1.000	Face	3.556	31.50	174	205.50
16' x 7' door, 1 coat	1.000	Face	3.429	17.90	168	185.90
2 coats	1.000	Face	6.000	35.50	294	329.50
Primer & 1 coat	1.000	Face	4.364	30.50	216	246.50
Primer & 2 coats	1.000	Face	5.333	47	261	308
Weatherstripping, molding type, 9' x 7' door	1.000	Set	.767	35.50	43.50	79
16' x 7' door	1.000	Set	1.000	46.50	57	103.50
Drip cap, 9' door	9.000	L.F.	.180	5.85	10.70	16.55
16' door	16.000	L.F.	.320	10.40	19.05	29.45
Garage door opener, economy	1.000	Ea.	1.000	505	59.50	564.50
Deluxe, including remote control	1.000	Ea.	1.000	700	59.50	759.50

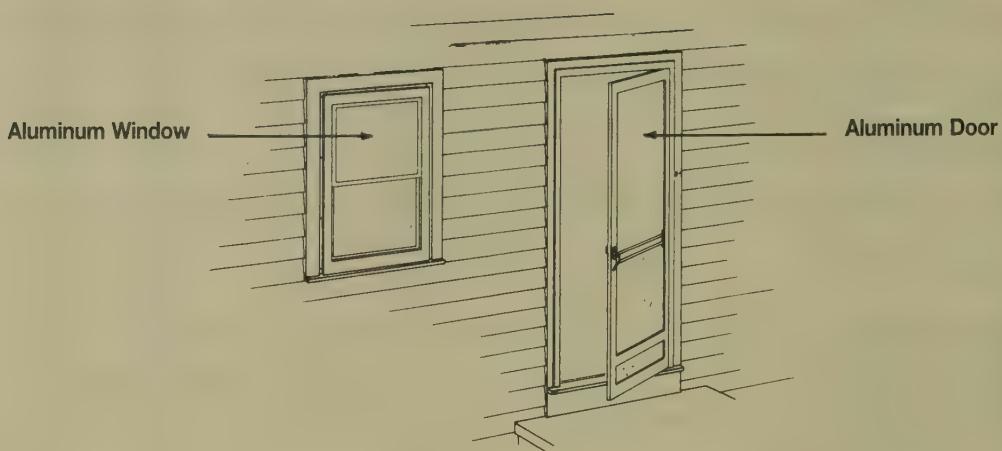


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>SINGLE HUNG, 2' X 3' OPENING</b>						
Window, 2' x 3' opening, enameled, insulating glass	1.000	Ea.	1.600	292	110	402
Blocking, 1" x 3" furring strip nailers	10.000	L.F.	.146	4.80	8.60	13.40
Drywall, 1/2" thick, standard	5.000	S.F.	.040	1.80	2.40	4.20
Corner bead, 1" x 1", galvanized steel	8.000	L.F.	.160	1.44	9.52	10.96
Finish drywall, tape and finish corners inside and outside	16.000	L.F.	.269	1.92	16	17.92
Sill, slate	2.000	L.F.	.400	26.40	21.70	48.10
<b>TOTAL</b>		Ea.	2.615	328.36	168.22	496.58
<b>SLIDING, 3' X 2' OPENING</b>						
Window, 3' x 2' opening, enameled, insulating glass	1.000	Ea.	1.600	265	110	375
Blocking, 1" x 3" furring strip nailers	10.000	L.F.	.146	4.80	8.60	13.40
Drywall, 1/2" thick, standard	5.000	S.F.	.040	1.80	2.40	4.20
Corner bead, 1" x 1", galvanized steel	7.000	L.F.	.140	1.26	8.33	9.59
Finish drywall, tape and finish corners inside and outside	14.000	L.F.	.236	1.68	14	15.68
Sill, slate	3.000	L.F.	.600	39.60	32.55	72.15
<b>TOTAL</b>		Ea.	2.762	314.14	175.88	490.02
<b>AWNING, 3'-1" X 3'-2"</b>						
Window, 3'-1" x 3'-2" opening, enameled, insul. glass	1.000	Ea.	1.600	435	110	545
Blocking, 1" x 3" furring strip, nailers	12.500	L.F.	.182	6	10.75	16.75
Drywall, 1/2" thick, standard	4.500	S.F.	.036	1.62	2.16	3.78
Corner bead, 1" x 1", galvanized steel	9.250	L.F.	.185	1.67	11.01	12.68
Finish drywall, tape and finish corners, inside and outside	18.500	L.F.	.312	2.22	18.50	20.72
Sill, slate	3.250	L.F.	.650	42.90	35.26	78.16
<b>TOTAL</b>		Ea.	2.965	489.41	187.68	677.09

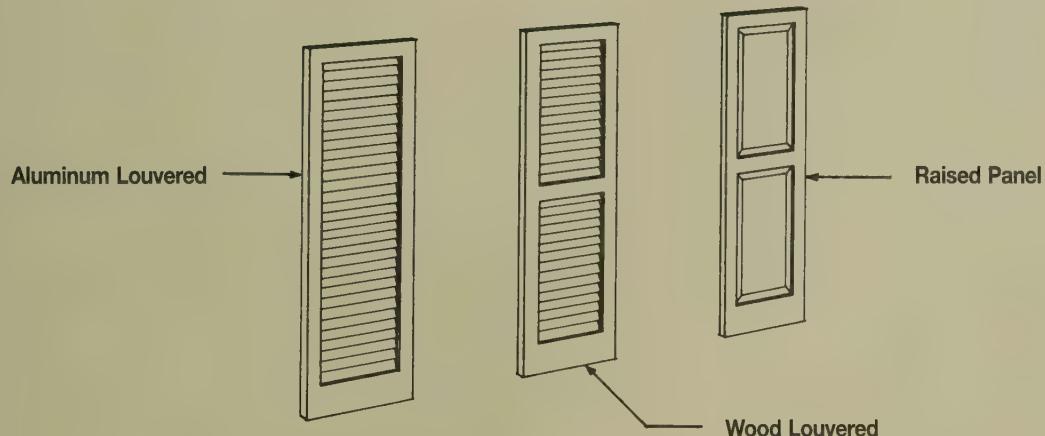
<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Aluminum Window Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Window, aluminum, awning, 3'-1" x 3'-2", standard glass	1.000	Ea.	1.600	410	110	520
Insulating glass	1.000	Ea.	1.600	435	110	545
4'-5" x 5'-3", standard glass	1.000	Ea.	2.000	455	138	593
Insulating glass	1.000	Ea.	2.000	525	138	663
Casement, 3'-1" x 3'-2", standard glass	1.000	Ea.	1.600	430	110	540
Insulating glass	1.000	Ea.	1.600	570	110	680
Single hung, 2' x 3', standard glass	1.000	Ea.	1.600	241	110	351
Insulating glass	1.000	Ea.	1.600	292	110	402
2'-8" x 6'-8", standard glass	1.000	Ea.	2.000	410	138	548
Insulating glass	1.000	Ea.	2.000	530	138	668
3'-4" x 5'-0", standard glass	1.000	Ea.	1.778	350	123	473
Insulating glass	1.000	Ea.	1.778	375	123	498
Sliding, 3' x 2', standard glass	1.000	Ea.	1.600	240	110	350
Insulating glass	1.000	Ea.	1.600	265	110	375
5' x 3', standard glass	1.000	Ea.	1.778	380	123	503
Insulating glass	1.000	Ea.	1.778	425	123	548
8' x 4', standard glass	1.000	Ea.	2.667	400	184	584
Insulating glass	1.000	Ea.	2.667	650	184	834
Blocking, 1" x 3" furring, opening 3' x 2'	10.000	L.F.	.146	4.80	8.60	13.40
3' x 3'	12.500	L.F.	.182	6	10.75	16.75
3' x 5'	16.000	L.F.	.233	7.70	13.75	21.45
4' x 4'	16.000	L.F.	.233	7.70	13.75	21.45
4' x 5'	18.000	L.F.	.262	8.65	15.50	24.15
4' x 6'	20.000	L.F.	.291	9.60	17.20	26.80
4' x 8'	24.000	L.F.	.349	11.50	20.50	32
6'-8" x 2'-8"	19.000	L.F.	.276	9.10	16.35	25.45
Drywall, 1/2" thick, standard, opening 3' x 2'	5.000	S.F.	.040	1.80	2.40	4.20
3' x 3'	6.000	S.F.	.048	2.16	2.88	5.04
3' x 5'	8.000	S.F.	.064	2.88	3.84	6.72
4' x 4'	8.000	S.F.	.064	2.88	3.84	6.72
4' x 5'	9.000	S.F.	.072	3.24	4.32	7.56
4' x 6'	10.000	S.F.	.080	3.60	4.80	8.40
4' x 8'	12.000	S.F.	.096	4.32	5.75	10.07
6'-8" x 2'	9.500	S.F.	.076	3.42	4.56	7.98
Corner bead, 1" x 1", galvanized steel, opening 3' x 2'	7.000	L.F.	.140	1.26	8.35	9.61
3' x 3'	9.000	L.F.	.180	1.62	10.70	12.32
3' x 5'	11.000	L.F.	.220	1.98	13.10	15.08
4' x 4'	12.000	L.F.	.240	2.16	14.30	16.46
4' x 5'	13.000	L.F.	.260	2.34	15.45	17.79
4' x 6'	14.000	L.F.	.280	2.52	16.65	19.17
4' x 8'	16.000	L.F.	.320	2.88	19.05	21.93
6'-8" x 2'	15.000	L.F.	.300	2.70	17.85	20.55
Tape and finish corners, inside and outside, opening 3' x 2'	14.000	L.F.	.204	1.68	14	15.68
3' x 3'	18.000	L.F.	.262	2.16	18	20.16
3' x 5'	22.000	L.F.	.320	2.64	22	24.64
4' x 4'	24.000	L.F.	.349	2.88	24	26.88
4' x 5'	26.000	L.F.	.378	3.12	26	29.12
4' x 6'	28.000	L.F.	.407	3.36	28	31.36
4' x 8'	32.000	L.F.	.466	3.84	32	35.84
6'-8" x 2'	30.000	L.F.	.437	3.60	30	33.60
Sill, slate, 2' long	2.000	L.F.	.400	26.50	21.50	48
3' long	3.000	L.F.	.600	39.50	32.50	72
4' long	4.000	L.F.	.800	53	43.50	96.50
Wood, 1-5/8" x 6-1/4", 2' long	2.000	L.F.	.128	12.30	7.60	19.90
3' long	3.000	L.F.	.192	18.45	11.40	29.85
4' long	4.000	L.F.	.256	24.50	15.20	39.70



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
Storm door, aluminum, combination, storm & screen, anodized, 2'-6" x 6'-8" 2'-8" x 6'-8"	1.000	Ea.	1.067	231	63.50	294.50
	1.000	Ea.	1.143	261	68	329
3'-0" x 6'-8"	1.000	Ea.	1.143	211	68	279
Mill finish, 2'-6" x 6'-8"	1.000	Ea.	1.067	274	63.50	337.50
2'-8" x 6'-8"	1.000	Ea.	1.143	274	68	342
3'-0" x 6'-8"	1.000	Ea.	1.143	295	68	363
Painted, 2'-6" x 6'-8" 2'-8" x 6'-8"	1.000	Ea.	1.067	270	63.50	333.50
	1.000	Ea.	1.143	296	68	364
3'-0" x 6'-8"	1.000	Ea.	1.143	345	68	413
Wood, combination, storm & screen, crossbuck, 2'-6" x 6'-9"	1.000	Ea.	1.455	395	86.50	481.50
2'-8" x 6'-9"	1.000	Ea.	1.600	360	95	455
3'-0" x 6'-9"	1.000	Ea.	1.778	380	106	486
Full lite, 2'-6" x 6'-9" 2'-8" x 6'-9"	1.000	Ea.	1.455	390	86.50	476.50
	1.000	Ea.	1.600	380	95	475
3'-0" x 6'-9"	1.000	Ea.	1.778	390	106	496
Windows, aluminum, combination storm & screen, basement, 1'-10" x 1'-0"	1.000	Ea.	.533	41.50	31.50	73
2'-9" x 1'-6"	1.000	Ea.	.533	45.50	31.50	77
3'-4" x 2'-0"	1.000	Ea.	.533	48.50	31.50	80
Double hung, anodized, 2'-0" x 3'-5" 2'-6" x 5'-0"	1.000	Ea.	.533	107	31.50	138.50
	1.000	Ea.	.571	147	34	181
4'-0" x 6'-0"	1.000	Ea.	.640	269	38	307
Painted, 2'-0" x 3'-5"	1.000	Ea.	.533	141	31.50	172.50
2'-6" x 5'-0"	1.000	Ea.	.571	208	34	242
4'-0" x 6'-0"	1.000	Ea.	.640	325	38	363
Fixed window, anodized, 4'-6" x 4'-6"	1.000	Ea.	.640	162	38	200
5'-8" x 4'-6"	1.000	Ea.	.800	169	47.50	216.50
Painted, 4'-6" x 4'-6"	1.000	Ea.	.640	155	38	193
5'-8" x 4'-6"	1.000	Ea.	.800	190	47.50	237.50





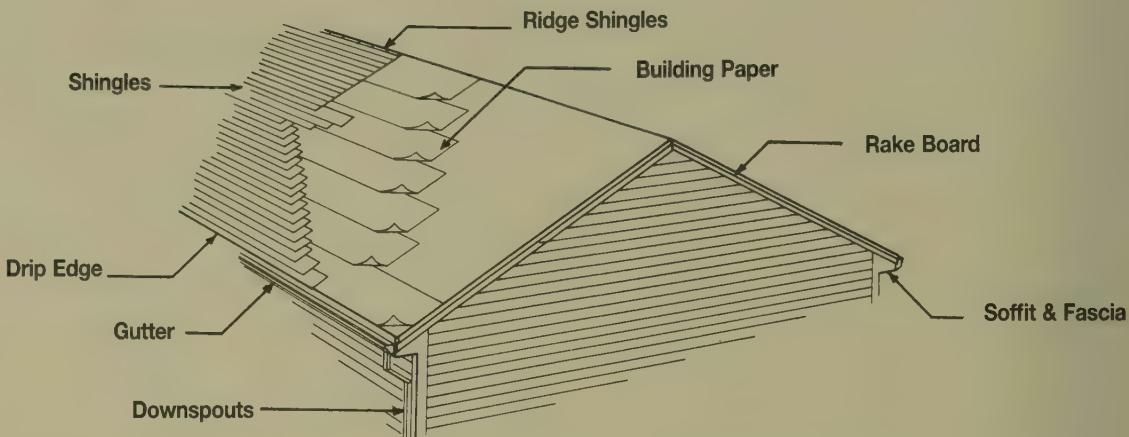
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<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, inorganic class A, 210-235 lb./sq., 4/12 pitch	.1160	S.F.	.017	.99	.97	1.96
Drip edge, metal, 5" wide	.150	L.F.	.003	.10	.18	.28
Building paper, #15 felt	1.300	S.F.	.002	.08	.10	.18
Ridge shingles, asphalt	.042	L.F.	.001	.11	.06	.17
Soffit & fascia, white painted aluminum, 1' overhang	.083	L.F.	.012	.42	.72	1.14
Rake trim, 1" x 6"	.040	L.F.	.002	.05	.10	.15
Rake trim, prime and paint	.040	L.F.	.002	.01	.09	.10
Gutter, seamless, aluminum painted	.083	L.F.	.005	.27	.35	.62
Downspouts, aluminum painted	.035	L.F.	.002	.08	.10	.18
Ridge vent	.042	L.F.	.002	.12	.12	.24
TOTAL		S.F.	.048	2.23	2.79	5.02
<b>WOOD, CEDAR SHINGLES NO. 1 PERFECTIONS, 18" LONG</b>						
Shingles, wood, cedar, No. 1 perfections, 4/12 pitch	1.160	S.F.	.035	3.78	2.08	5.86
Drip edge, metal, 5" wide	.150	L.F.	.003	.10	.18	.28
Building paper, #15 felt	1.300	S.F.	.002	.08	.10	.18
Ridge shingles, cedar	.042	L.F.	.001	.23	.07	.30
Soffit & fascia, white painted aluminum, 1' overhang	.083	L.F.	.012	.42	.72	1.14
Rake trim, 1" x 6"	.040	L.F.	.002	.05	.10	.15
Rake trim, prime and paint	.040	L.F.	.002	.01	.09	.10
Gutter, seamless, aluminum, painted	.083	L.F.	.005	.27	.35	.62
Downspouts, aluminum, painted	.035	L.F.	.002	.08	.10	.18
Ridge vent	.042	L.F.	.002	.12	.12	.24
TOTAL		S.F.	.066	5.14	3.91	9.05

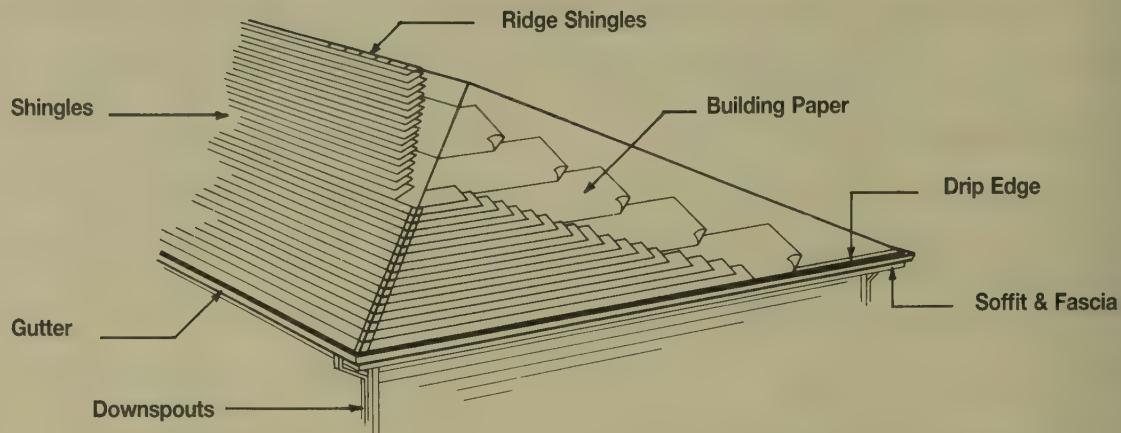
The prices in these systems are based on a square foot of plan area.

All quantities have been adjusted accordingly.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Gable End Roofing Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Shingles, asphalt, inorganic, class A, 210-235 lb./sq., 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.017 .019	.99 1.07	.97 1.05	1.96 2.12
Laminated, multi-layered, 240-260 lb./sq., 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.021 .023	1.36 1.47	1.18 1.28	2.54 2.75
Premium laminated, multi-layered, 260-300 lb./sq., 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.027 .030	1.96 2.12	1.52 1.65	3.48 3.77
Clay tile, Spanish tile, red, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.053 .058	6.55 7.10	2.90 3.15	9.45 10.25
Mission tile, red, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.083 .090	6.05 6.55	2.90 3.15	8.95 9.70
French tile, red, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.071 .077	14.70 15.95	2.66 2.89	17.36 18.84
Slate, Buckingham, Virginia, black, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.055 .059	7.40 8	3.05 3.30	10.45 11.30
Vermont, black or grey, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.055 .059	6.40 6.95	3.05 3.30	9.45 10.25
Wood, No. 1 red cedar, 5X, 16" long, 5" exposure, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.038 .042	4.20 4.55	2.28 2.47	6.48 7.02
Fire retardant, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.038 .042	4.99 5.40	2.28 2.47	7.27 7.87
18" long, No.1 perfections, 5" exposure, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.035 .038	3.78 4.10	2.08 2.25	5.86 6.35
Fire retardant, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.035 .038	4.57 4.96	2.08 2.25	6.65 7.21
Resquared & rebutted, 18" long, 6" exposure, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.032 .035	3.72 4.03	1.90 2.05	5.62 6.08
Fire retardant, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.032 .035	4.51 4.89	1.90 2.05	6.41 6.94
Wood shales hand split, 24" long, 10" exposure, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.038 .042	4.50 4.88	2.28 2.47	6.78 7.35
Fire retardant, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.038 .042	5.30 5.75	2.28 2.47	7.58 8.22
18" long, 8" exposure, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.048 .052	3.90 4.23	2.86 3.09	6.76 7.32
Fire retardant, 4/12 pitch 8/12 pitch	1.160 1.330	S.F. S.F.	.048 .052	4.69 5.10	2.86 3.09	7.55 8.19
Drip edge, metal, 5" wide 8" wide	.150 .150	L.F. L.F.	.003 .003	.10 .14	.18 .18	.28 .32
Building paper, #15 asphalt felt	1.300	S.F.	.002	.08	.10	.18
Ridge shingles, asphalt Clay Slate Wood, shingles Shakes	.042 .042 .042 .042 .042	L.F. L.F. L.F. L.F. L.F.	.001 .002 .002 .001 .001	.11 .22 .47 .23 .23	.06 .28 .09 .07 .07	.17 .50 .56 .30 .30
Soffit & fascia, aluminum, vented, 1' overhang 2' overhang	.083 .083	L.F. L.F.	.012 .013	.42 .61	.72 .79	1.14 1.40
Vinyl, vented, 1' overhang 2' overhang	.083 .083	L.F. L.F.	.011 .012	.47 .63	.66 .79	1.13 1.42
Wood, board fascia, plywood soffit, 1' overhang 2' overhang	.083 .083	L.F. L.F.	.004 .006	.03 .04	.18 .27	.21 .31
Rake trim, painted, 1" x 6" 1" x 8"	.040 .040	L.F. L.F.	.004 .004	.06 .25	.19 .17	.25 .42
Gutter, 5" box, aluminum, seamless, painted Vinyl	.083 .083	L.F. L.F.	.006 .006	.27 .14	.35 .34	.62 .48
Downspout, 2" x 3", aluminum, one story house Two story house	.035 .060	L.F. L.F.	.001 .003	.05 .09	.10 .16	.15 .25
Vinyl, one story house Two story house	.035 .060	L.F. L.F.	.002 .003	.08 .09	.10 .16	.18 .25



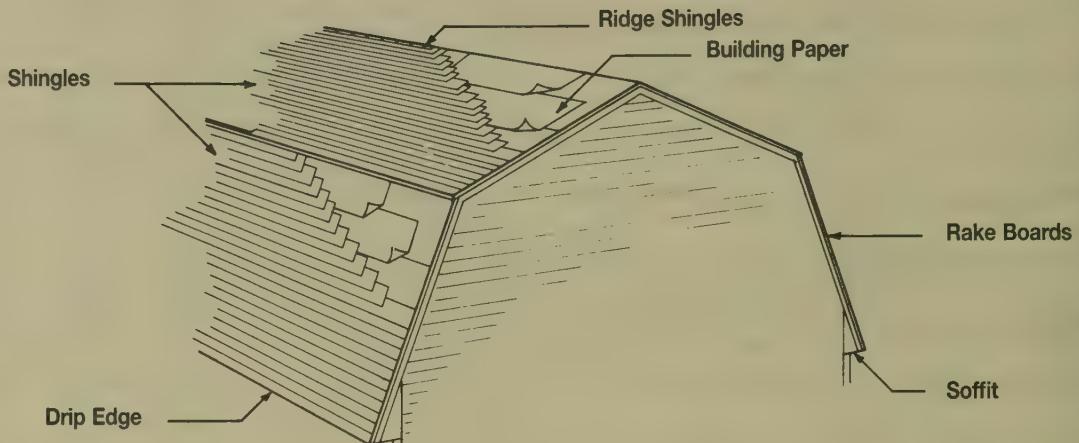
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, inorganic, class A, 210-235 lb./sq. 4/12 pitch	1.570	S.F.	.023	1.32	1.29	2.61
Drip edge, metal, 5" wide	.122	L.F.	.002	.08	.15	.23
Building paper, #15 asphalt felt	1.800	S.F.	.002	.10	.14	.24
Ridge shingles, asphalt	.075	L.F.	.002	.19	.10	.29
Soffit & fascia, white painted aluminum, 1' overhang	.120	L.F.	.017	.61	1.04	1.65
Gutter, seamless, aluminum, painted	.120	L.F.	.008	.39	.50	.89
Downspouts, aluminum, painted	.035	L.F.	.002	.08	.10	.18
Ridge vent	.028	L.F.	.001	.08	.08	.16
<b>TOTAL</b>		S.F.	.057	2.85	3.40	6.25
<b>WOOD, CEDAR SHINGLES, NO. 1 PERFECTIONS, 18" LONG</b>						
Shingles, red cedar, No. 1 perfections, 5" exp., 4/12 pitch	1.570	S.F.	.047	5.04	2.77	7.81
Drip edge, metal, 5" wide	.122	L.F.	.002	.08	.15	.23
Building paper, #15 asphalt felt	1.800	S.F.	.002	.10	.14	.24
Ridge shingles, wood, cedar	.075	L.F.	.002	.41	.13	.54
Soffit & fascia, white painted aluminum, 1' overhang	.120	L.F.	.017	.61	1.04	1.65
Gutter, seamless, aluminum, painted	.120	L.F.	.008	.39	.50	.89
Downspouts, aluminum, painted	.035	L.F.	.002	.08	.10	.18
Ridge vent	.028	L.F.	.001	.08	.08	.16
<b>TOTAL</b>		S.F.	.081	6.79	4.91	11.70

The prices in these systems are based on a square foot of plan area.

All quantities have been adjusted accordingly.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

<b>Hip Roof - Roofing Price Sheet</b>	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Shingles, asphalt, inorganic, class A, 210-235 lb./sq., 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.023 .028	1.32 1.57	1.29 1.53	2.61 3.10
Laminated, multi-layered, 240-260 lb./sq., 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.028 .034	1.81 2.15	1.58 1.87	3.39 4.02
Prem. laminated, multi-layered, 260-300 lb./sq., 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.037 .043	2.61 3.10	2.03 2.41	4.64 5.51
Clay tile, Spanish tile, red, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.071 .084	8.70 10.35	3.87 4.60	12.57 14.95
Mission tile, red, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.111 .132	8.10 9.60	3.87 4.60	11.97 14.20
French tile, red, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.095 .113	19.60 23.50	3.55 4.22	23.15 27.72
Slate, Buckingham, Virginia, black, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.073 .087	9.85 11.70	4.06 4.83	13.91 16.53
Vermont, black or grey, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.073 .087	8.55 10.15	4.06 4.83	12.61 14.98
Wood, red cedar, No.1 5X, 16" long, 5" exposure, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.051 .061	5.60 6.65	3.04 3.61	8.64 10.26
Fire retardant, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.051 .061	6.65 7.90	3.04 3.61	9.69 11.51
18" long, No.1 perfections, 5" exposure, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.047 .055	5.05 6	2.77 3.29	7.82 9.29
Fire retardant, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.047 .055	6.10 7.25	2.77 3.29	8.87 10.54
Resquared & rebutted, 18" long, 6" exposure, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.043 .051	4.96 5.90	2.53 3	7.49 8.90
Fire retardant, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.043 .051	6 7.15	2.53 3	8.53 10.15
Wood shales hand split, 24" long, 10" exposure, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.051 .061	6 7.15	3.04 3.61	9.04 10.76
Fire retardant, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.051 .061	7.05 8.40	3.04 3.61	10.09 12.01
18" long, 8" exposure, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.064 .076	5.20 6.20	3.81 4.52	9.01 10.72
Fire retardant, 4/12 pitch 8/12 pitch	1.570 1.850	S.F. S.F.	.064 .076	6.25 7.45	3.81 4.52	10.06 11.97
Drip edge, metal, 5" wide 8" wide	.122 .122	L.F. L.F.	.002 .002	.08 .11	.15 .15	.23 .26
Building paper, #15 asphalt felt	1.800	S.F.	.002	.10	.14	.24
Ridge shingles, asphalt Clay Slate Wood, shingles Shakes	.075 .075 .075 .075 .075	L.F. L.F. L.F. L.F. L.F.	.002 .003 .003 .002 .002	.19 .40 .84 .41 .41	.10 .50 .17 .13 .13	.29 .90 1.01 .54 .54
Soffit & fascia, aluminum, vented, 1' overhang 2' overhang	.120 .120	L.F. L.F.	.017 .019	.61 .88	1.04 1.14	1.65 2.02
Vinyl, vented, 1' overhang 2' overhang	.120 .120	L.F. L.F.	.016 .017	.68 .91	.95 1.14	1.63 2.05
Wood, board fascia, plywood soffit, 1' overhang 2' overhang	.120 .120	L.F. L.F.	.004 .006	.03 .04	.18 .27	.21 .31
Gutter, 5" box, aluminum, seamless, painted Vinyl	.120 .120	L.F. L.F.	.008 .009	.39 .20	.50 .50	.89 .70
Downspout, 2" x 3", aluminum, one story house Two story house	.035 .060	L.F. L.F.	.002 .003	.08 .09	.10 .16	.18 .25
Vinyl, one story house Two story house	.035 .060	L.F. L.F.	.001 .003	.05 .09	.10 .16	.15 .25



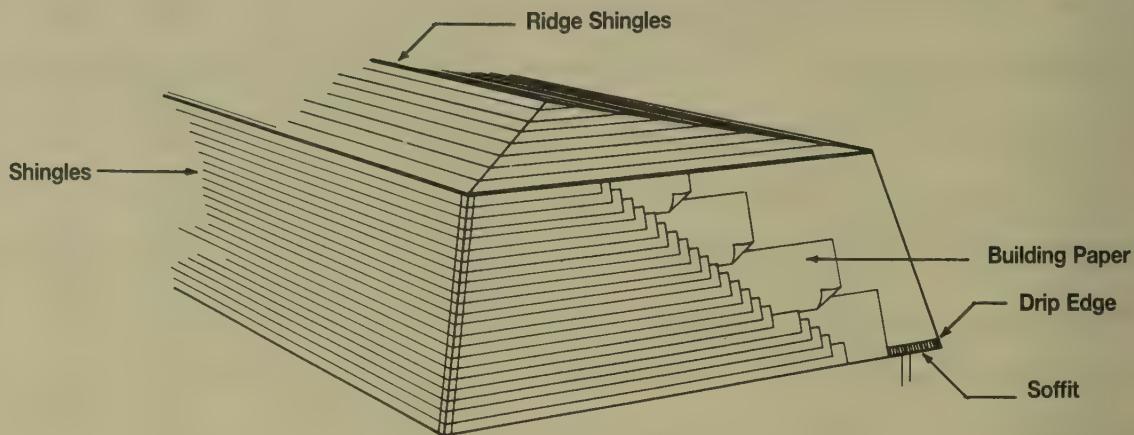
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, asphalt, inorganic, class A, 210-235 lb./sq.	1.450	S.F.	.022	1.24	1.21	2.45
Drip edge, metal, 5" wide	.146	L.F.	.003	.10	.17	.27
Building paper, #15 asphalt felt	1.500	S.F.	.002	.09	.11	.20
Ridge shingles, asphalt	.042	L.F.	.001	.11	.06	.17
Soffit & fascia, painted aluminum, 1' overhang	.083	L.F.	.012	.42	.72	1.14
Rake trim, 1" x 6"	.063	L.F.	.003	.08	.15	.23
Rake trim, prime and paint	.063	L.F.	.003	.02	.14	.16
Gutter, seamless, aluminum, painted	.083	L.F.	.005	.27	.35	.62
Downspouts, aluminum, painted	.042	L.F.	.002	.10	.12	.22
Ridge vent	.042	L.F.	.002	.12	.12	.24
<b>TOTAL</b>		S.F.	.055	2.55	3.15	5.70
<b>WOOD, CEDAR SHINGLES, NO. 1 PERFECTIONS, 18" LONG</b>						
Shingles, wood, red cedar, No. 1 perfections, 5" exposure	1.450	S.F.	.044	4.73	2.60	7.33
Drip edge, metal, 5" wide	.146	L.F.	.003	.10	.17	.27
Building paper, #15 asphalt felt	1.500	S.F.	.002	.09	.11	.20
Ridge shingles, wood	.042	L.F.	.001	.23	.07	.30
Soffit & fascia, white painted aluminum, 1' overhang	.083	L.F.	.012	.42	.72	1.14
Rake trim, 1" x 6"	.063	L.F.	.003	.08	.15	.23
Rake trim, prime and paint	.063	L.F.	.001	.02	.06	.08
Gutter, seamless, aluminum, painted	.083	L.F.	.005	.27	.35	.62
Downspouts, aluminum, painted	.042	L.F.	.002	.10	.12	.22
Ridge vent	.042	L.F.	.002	.12	.12	.24
<b>TOTAL</b>		S.F.	.075	6.16	4.47	10.63

The prices in this system are based on a square foot of plan area.

All quantities have been adjusted accordingly.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





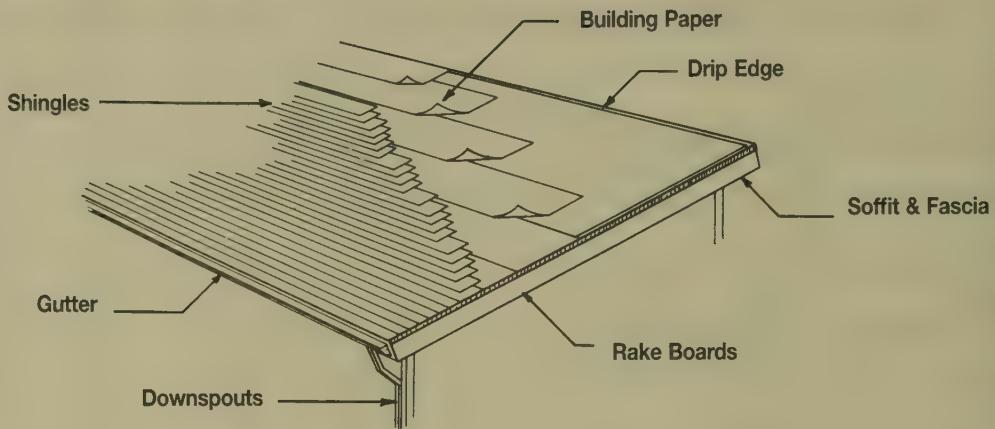
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, standard inorganic class A 210-235 lb./sq.	2.210	S.F.	.032	1.82	1.77	3.59
Drip edge, metal, 5" wide	.122	L.F.	.002	.08	.15	.23
Building paper, #15 asphalt felt	2.300	S.F.	.003	.13	.18	.31
Ridge shingles, asphalt	.090	L.F.	.002	.23	.12	.35
Soffit & fascia, white painted aluminum, 1' overhang	.122	L.F.	.018	.62	1.06	1.68
Gutter, seamless, aluminum, painted	.122	L.F.	.008	.40	.51	.91
Downspouts, aluminum, painted	.042	L.F.	.002	.10	.12	.22
Ridge vent	.028	L.F.	.001	.08	.08	.16
	<b>TOTAL</b>	S.F.	.068	3.46	3.99	7.45
<b>WOOD, CEDAR SHINGLES, NO. 1 PERFECTIONS, 18" LONG</b>						
Shingles, wood, red cedar, No. 1 perfections, 5" exposure	2.210	S.F.	.064	6.93	3.81	10.74
Drip edge, metal, 5" wide	.122	L.F.	.002	.08	.15	.23
Building paper, #15 asphalt felt	2.300	S.F.	.003	.13	.18	.31
Ridge shingles, wood	.090	L.F.	.003	.50	.15	.65
Soffit & fascia, white painted aluminum, 1' overhang	.122	L.F.	.018	.62	1.06	1.68
Gutter, seamless, aluminum, painted	.122	L.F.	.008	.40	.51	.91
Downspouts, aluminum, painted	.042	L.F.	.002	.10	.12	.22
Ridge vent	.028	L.F.	.001	.08	.08	.16
	<b>TOTAL</b>	S.F.	.101	8.84	6.06	14.90

The prices in these systems are based on a square foot of plan area.

All quantities have been adjusted accordingly.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, inorganic class A 210-235 lb./sq. 4/12 pitch	1.230	S.F.	.019	1.07	1.05	2.12
Drip edge, metal, 5" wide	.100	L.F.	.002	.07	.12	.19
Building paper, #15 asphalt felt	1.300	S.F.	.002	.08	.10	.18
Soffit & fascia, white painted aluminum, 1' overhang	.080	L.F.	.012	.40	.69	1.09
Rake trim, 1" x 6"	.043	L.F.	.002	.05	.10	.15
Rake trim, prime and paint	.043	L.F.	.002	.01	.09	.10
Gutter, seamless, aluminum, painted	.040	L.F.	.003	.13	.17	.30
Downspouts, painted aluminum	.020	L.F.	.001	.05	.06	.11
<b>TOTAL</b>		S.F.	.043	1.86	2.38	4.24
<b>WOOD, CEDAR SHINGLES, NO. 1 PERFECTIONS, 18" LONG</b>						
Shingles, red cedar, No. 1 perfections, 5" exp., 4/12 pitch	1.230	S.F.	.035	3.78	2.08	5.86
Drip edge, metal, 5" wide	.100	L.F.	.002	.07	.12	.19
Building paper, #15 asphalt felt	1.300	S.F.	.002	.08	.10	.18
Soffit & fascia, white painted aluminum, 1' overhang	.080	L.F.	.012	.40	.69	1.09
Rake trim, 1" x 6"	.043	L.F.	.002	.05	.10	.15
Rake trim, prime and paint	.043	L.F.	.001	.01	.04	.05
Gutter, seamless, aluminum, painted	.040	L.F.	.003	.13	.17	.30
Downspouts, painted aluminum	.020	L.F.	.001	.05	.06	.11
<b>TOTAL</b>		S.F.	.058	4.57	3.36	7.93

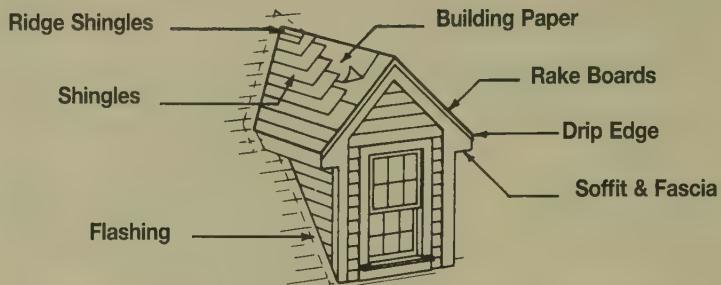
The prices in these systems are based on a square foot of plan area.

All quantities have been adjusted accordingly.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Shed Roofing Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Shingles, asphalt, inorganic, class A, 210-235 lb./sq., 4/12 pitch	1.230	S.F.	.017	.99	.97	1.96
8/12 pitch	1.330	S.F.	.019	1.07	1.05	2.12
Laminated, multi-layered, 240-260 lb./sq. 4/12 pitch	1.230	S.F.	.021	1.36	1.18	2.54
8/12 pitch	1.330	S.F.	.023	1.47	1.28	2.75
Premium laminated, multi-layered, 260-300 lb./sq. 4/12 pitch	1.230	S.F.	.027	1.96	1.52	3.48
8/12 pitch	1.330	S.F.	.030	2.12	1.65	3.77
Clay tile, Spanish tile, red, 4/12 pitch	1.230	S.F.	.053	6.55	2.90	9.45
8/12 pitch	1.330	S.F.	.058	7.10	3.15	10.25
Mission tile, red, 4/12 pitch	1.230	S.F.	.083	6.05	2.90	8.95
8/12 pitch	1.330	S.F.	.090	6.55	3.15	9.70
French tile, red, 4/12 pitch	1.230	S.F.	.071	14.70	2.66	17.36
8/12 pitch	1.330	S.F.	.077	15.95	2.89	18.84
Slate, Buckingham, Virginia, black, 4/12 pitch	1.230	S.F.	.055	7.40	3.05	10.45
8/12 pitch	1.330	S.F.	.059	8	3.30	11.30
Vermont, black or grey, 4/12 pitch	1.230	S.F.	.055	6.40	3.05	9.45
8/12 pitch	1.330	S.F.	.059	6.95	3.30	10.25
Wood, red cedar, No.1 5X, 16" long, 5" exposure, 4/12 pitch	1.230	S.F.	.038	4.20	2.28	6.48
8/12 pitch	1.330	S.F.	.042	4.55	2.47	7.02
Fire retardant, 4/12 pitch	1.230	S.F.	.038	4.99	2.28	7.27
8/12 pitch	1.330	S.F.	.042	5.40	2.47	7.87
18" long, 6" exposure, 4/12 pitch	1.230	S.F.	.035	3.78	2.08	5.86
8/12 pitch	1.330	S.F.	.038	4.10	2.25	6.35
Fire retardant, 4/12 pitch	1.230	S.F.	.035	4.57	2.08	6.65
8/12 pitch	1.330	S.F.	.038	4.96	2.25	7.21
Resquared & rebutted, 18" long, 6" exposure, 4/12 pitch	1.230	S.F.	.032	3.72	1.90	5.62
8/12 pitch	1.330	S.F.	.035	4.03	2.05	6.08
Fire retardant, 4/12 pitch	1.230	S.F.	.032	4.51	1.90	6.41
8/12 pitch	1.330	S.F.	.035	4.89	2.05	6.94
Wood shales, hand split, 24" long, 10" exposure, 4/12 pitch	1.230	S.F.	.038	4.50	2.28	6.78
8/12 pitch	1.330	S.F.	.042	4.88	2.47	7.35
Fire retardant, 4/12 pitch	1.230	S.F.	.038	5.30	2.28	7.58
8/12 pitch	1.330	S.F.	.042	5.75	2.47	8.22
18" long, 8" exposure, 4/12 pitch	1.230	S.F.	.048	3.90	2.86	6.76
8/12 pitch	1.330	S.F.	.052	4.23	3.09	7.32
Fire retardant, 4/12 pitch	1.230	S.F.	.048	4.69	2.86	7.55
8/12 pitch	1.330	S.F.	.052	5.10	3.09	8.19
Drip edge, metal, 5" wide	.100	L.F.	.002	.07	.12	.19
8" wide	.100	L.F.	.002	.09	.12	.21
Building paper, #15 asphalt felt	1.300	S.F.	.002	.08	.10	.18
Soffit & fascia, aluminum vented, 1' overhang	.080	L.F.	.012	.40	.69	1.09
2' overhang	.080	L.F.	.013	.58	.76	1.34
Vinyl vented, 1' overhang	.080	L.F.	.011	.45	.63	1.08
2' overhang	.080	L.F.	.012	.61	.76	1.37
Wood board fascia, plywood soffit, 1' overhang	.080	L.F.	.010	.26	.53	.79
2' overhang	.080	L.F.	.014	.35	.81	1.16
Rake, trim, painted, 1" x 6"	.043	L.F.	.004	.06	.19	.25
1" x 8"	.043	L.F.	.004	.06	.19	.25
Gutter, 5" box, aluminum, seamless, painted	.040	L.F.	.003	.13	.17	.30
Vinyl	.040	L.F.	.003	.07	.17	.24
Downspout 2" x 3", aluminum, one story house	.020	L.F.	.001	.03	.05	.08
Two story house	.020	L.F.	.001	.05	.09	.14
Vinyl, one story house	.020	L.F.	.001	.03	.05	.08
Two story house	.020	L.F.	.001	.05	.09	.14

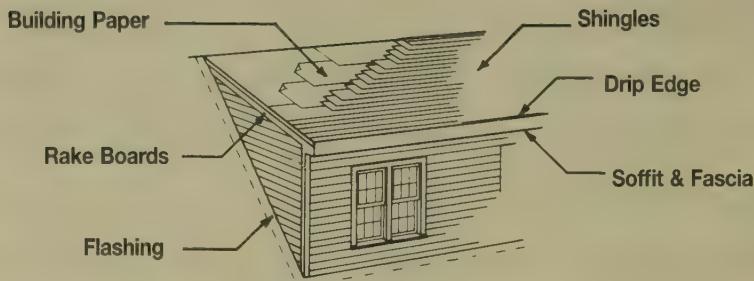


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, standard inorganic class A 210-235 lb./sq	1.400	S.F.	.020	1.16	1.13	2.29
Drip edge, metal, 5" wide	.220	L.F.	.004	.15	.26	.41
Building paper, #15 asphalt felt	1.500	S.F.	.002	.09	.11	.20
Ridge shingles, asphalt	.280	L.F.	.007	.71	.38	1.09
Soffit & fascia, aluminum, vented	.220	L.F.	.032	1.11	1.90	3.01
Flashing, aluminum, mill finish, .013" thick	1.500	S.F.	.083	1.67	4.59	6.26
<b>TOTAL</b>		S.F.	.148	4.89	8.37	13.26
<b>WOOD, CEDAR, NO. 1 PERFECTIONS</b>						
Shingles, red cedar, No.1 perfections, 18" long, 5" exp.	1.400	S.F.	.041	4.41	2.42	6.83
Drip edge, metal, 5" wide	.220	L.F.	.004	.15	.26	.41
Building paper, #15 asphalt felt	1.500	S.F.	.002	.09	.11	.20
Ridge shingles, wood	.280	L.F.	.008	1.54	.48	2.02
Soffit & fascia, aluminum, vented	.220	L.F.	.032	1.11	1.90	3.01
Flashing, aluminum, mill finish, .013" thick	1.500	S.F.	.083	1.67	4.59	6.26
<b>TOTAL</b>		S.F.	.170	8.97	9.76	18.73
<b>SLATE, BUCKINGHAM, BLACK</b>						
Shingles, Buckingham, Virginia, black	1.400	S.F.	.064	8.61	3.56	12.17
Drip edge, metal, 5" wide	.220	L.F.	.004	.15	.26	.41
Building paper, #15 asphalt felt	1.500	S.F.	.002	.09	.11	.20
Ridge shingles, slate	.280	L.F.	.011	3.14	.62	3.76
Soffit & fascia, aluminum, vented	.220	L.F.	.032	1.11	1.90	3.01
Flashing, copper, 16 oz.	1.500	S.F.	.104	13.50	5.78	19.28
<b>TOTAL</b>		S.F.	.217	26.60	12.23	38.83

The prices in these systems are based on a square foot of plan area under the dormer roof.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>



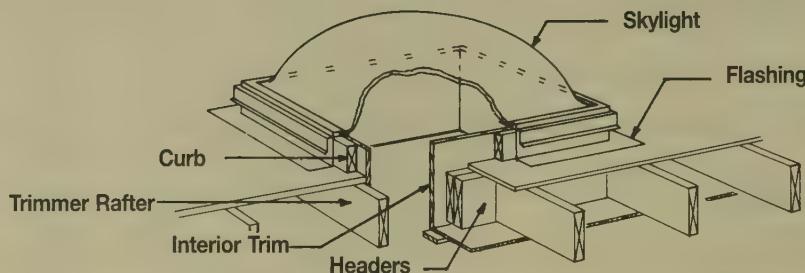


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ROOF SHINGLES, CLASS A</b>						
Shingles, standard inorganic class A 210-235 lb./sq.	1.100	S.F.	.016	.91	.89	1.80
Drip edge, aluminum, 5" wide	.250	L.F.	.005	.16	.30	.46
Building paper, #15 asphalt felt	1.200	S.F.	.002	.07	.09	.16
Soffit & fascia, aluminum, vented, 1' overhang	.250	L.F.	.036	1.26	2.16	3.42
Flashing, aluminum, mill finish, 0.013" thick	.800	L.F.	.044	.89	2.45	3.34
	<b>TOTAL</b>	S.F.	.103	3.29	5.89	9.18
<b>WOOD, CEDAR, NO. 1 PERFECTIONS, 18" LONG</b>						
Shingles, wood, red cedar, #1 perfections, 5" exposure	1.100	S.F.	.032	3.47	1.90	5.37
Drip edge, aluminum, 5" wide	.250	L.F.	.005	.16	.30	.46
Building paper, #15 asphalt felt	1.200	S.F.	.002	.07	.09	.16
Soffit & fascia, aluminum, vented, 1' overhang	.250	L.F.	.036	1.26	2.16	3.42
Flashing, aluminum, mill finish, 0.013" thick	.800	L.F.	.044	.89	2.45	3.34
	<b>TOTAL</b>	S.F.	.119	5.85	6.90	12.75
<b>SLATE, BUCKINGHAM, BLACK</b>						
Shingles, slate, Buckingham, black	1.100	S.F.	.050	6.77	2.79	9.56
Drip edge, aluminum, 5" wide	.250	L.F.	.005	.16	.30	.46
Building paper, #15 asphalt felt	1.200	S.F.	.002	.07	.09	.16
Soffit & fascia, aluminum, vented, 1' overhang	.250	L.F.	.036	1.26	2.16	3.42
Flashing, copper, 16 oz.	.800	L.F.	.056	7.20	3.08	10.28
	<b>TOTAL</b>	S.F.	.149	15.46	8.42	23.88

The prices in this system are based on a square foot of plan area under the dormer roof.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## **Shed Dormer Roofing Price Sheet**

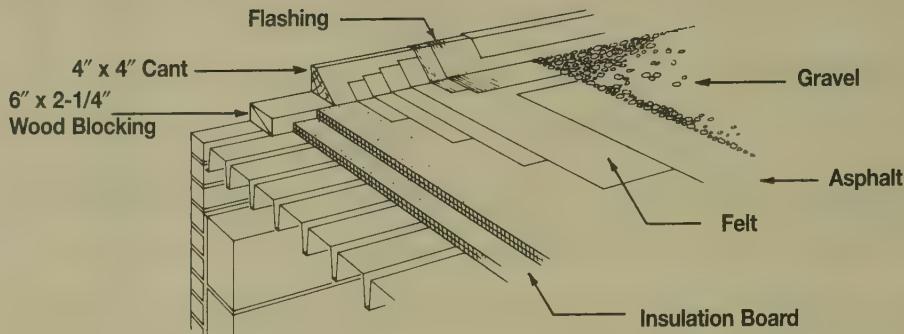


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>SKYLIGHT, FIXED, 32" X 32"</b>						
Skylight, fixed bubble, insulating, 32" x 32"	1.000	Ea.	1.422	231.11	78.58	309.69
Trimmer rafters, 2" x 6"	28.000	L.F.	.448	21	26.60	47.60
Headers, 2" x 6"	6.000	L.F.	.267	4.50	15.84	20.34
Curb, 2" x 4"	12.000	L.F.	.154	6.24	9.12	15.36
Flashing, aluminum, .013" thick	13.500	S.F.	.745	14.99	41.31	56.30
Moldings, casing, ogee, 11/16" x 2-1/2", pine	12.000	L.F.	.384	18.60	22.80	41.40
Trim primer coat, oil base, brushwork	12.000	L.F.	.148	.48	7.32	7.80
Trim paint, 1 coat, brushwork	12.000	L.F.	.148	.84	7.32	8.16
<b>TOTAL</b>		Ea.	3.716	297.76	208.89	506.65
<b>SKYLIGHT, FIXED, 48" X 48"</b>						
Skylight, fixed bubble, insulating, 48" x 48"	1.000	Ea.	1.296	544	71.68	615.68
Trimmer rafters, 2" x 6"	28.000	L.F.	.448	21	26.60	47.60
Headers, 2" x 6"	8.000	L.F.	.356	6	21.12	27.12
Curb, 2" x 4"	16.000	L.F.	.205	8.32	12.16	20.48
Flashing, aluminum, .013" thick	16.000	S.F.	.883	17.76	48.96	66.72
Moldings, casing, ogee, 11/16" x 2-1/2", pine	16.000	L.F.	.512	24.80	30.40	55.20
Trim primer coat, oil base, brushwork	16.000	L.F.	.197	.64	9.76	10.40
Trim paint, 1 coat, brushwork	16.000	L.F.	.197	1.12	9.76	10.88
<b>TOTAL</b>		Ea.	4.094	623.64	230.44	854.08
<b>SKYWINDOW, OPERATING, 24" X 48"</b>						
Skywindow, operating, thermopane glass, 24" x 48"	1.000	Ea.	3.200	655	177	832
Trimmer rafters, 2" x 6"	28.000	L.F.	.448	21	26.60	47.60
Headers, 2" x 6"	8.000	L.F.	.356	6	21.12	27.12
Curb, 2" x 4"	14.000	L.F.	.179	7.28	10.64	17.92
Flashing, aluminum, .013" thick	14.000	S.F.	.772	15.54	42.84	58.38
Moldings, casing, ogee, 11/16" x 2-1/2", pine	14.000	L.F.	.448	21.70	26.60	48.30
Trim primer coat, oil base, brushwork	14.000	L.F.	.172	.56	8.54	9.10
Trim paint, 1 coat, brushwork	14.000	L.F.	.172	.98	8.54	9.52
<b>TOTAL</b>		Ea.	5.747	728.06	321.88	1,049.94

The prices in these systems are on a cost each basis.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ASPHALT, ORGANIC, 4-PLY, INSULATED DECK</b>						
Membrane, asphalt, 4-ply #15 felt, gravel surfacing	1.000	S.F.	.025	1.39	1.61	3
Insulation board, 2-layers of 1-1/16" glass fiber	2.000	S.F.	.012	2.58	.68	3.26
Roof deck insulation, fastening alternatives, coated screws, 4"-long	1.000	S.F.	.003	.12	.14	.26
Wood blocking, 2" x 6"	.040	L.F.	.004	.09	.26	.35
Treated 4" x 4" cant strip	.040	L.F.	.001	.09	.06	.15
Flashing, aluminum, 0.040" thick	.050	S.F.	.003	.13	.15	.28
<b>TOTAL</b>		S.F.	.048	4.40	2.90	7.30
<b>ASPHALT, INORGANIC, 3-PLY, INSULATED DECK</b>						
Membrane, asphalt, 3-ply type IV glass felt, gravel surfacing	1.000	S.F.	.028	1.44	1.76	3.20
Insulation board, 2-layers of 1-1/16" glass fiber	2.000	S.F.	.012	2.58	.68	3.26
Roof deck insulation, fastening alternatives, coated screws, 4" long	1.000	S.F.	.003	.12	.14	.26
Wood blocking, 2" x 6"	.040	L.F.	.004	.09	.26	.35
Treated 4" x 4" cant strip	.040	L.F.	.001	.09	.06	.15
Flashing, aluminum, 0.040" thick	.050	S.F.	.003	.13	.15	.28
<b>TOTAL</b>		S.F.	.051	4.45	3.05	7.50
<b>COAL TAR, ORGANIC, 4-PLY, INSULATED DECK</b>						
Membrane, coal tar, 4-ply #15 felt, gravel surfacing	1.000	S.F.	.027	2.24	1.69	3.93
Insulation board, 2-layers of 1-1/16" glass fiber	2.000	S.F.	.012	2.58	.68	3.26
Roof deck insulation, fastening alternatives, coated screws, 4" long	1.000	S.F.	.003	.12	.14	.26
Wood blocking, 2" x 6"	.040	L.F.	.004	.09	.26	.35
Treated 4" x 4" cant strip	.040	L.F.	.001	.09	.06	.15
Flashing, aluminum, 0.040" thick	.050	S.F.	.003	.13	.15	.28
<b>TOTAL</b>		S.F.	.050	5.25	2.98	8.23
<b>COAL TAR, INORGANIC, 3-PLY, INSULATED DECK</b>						
Membrane, coal tar, 3-ply type IV glass felt, gravel surfacing	1.000	S.F.	.029	1.84	1.86	3.70
Insulation board, 2-layers of 1-1/16" glass fiber	2.000	S.F.	.012	2.58	.68	3.26
Roof deck insulation, fastening alternatives, coated screws, 4" long	1.000	S.F.	.003	.12	.14	.26
Wood blocking, 2" x 6"	.040	L.F.	.004	.09	.26	.35
Treated 4" x 4" cant strip	.040	L.F.	.001	.09	.06	.15
Flashing, aluminum, 0.040" thick	.050	S.F.	.003	.13	.15	.28
<b>TOTAL</b>		S.F.	.052	4.85	3.15	8

<b>Built-Up Roofing Price Sheet</b>	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Membrane, asphalt, 4-ply #15 organic felt, gravel surfacing	1.000	S.F.	.025	1.39	1.61	3
Asphalt base sheet & 3-ply #15 asphalt felt	1.000	S.F.	.025	1.19	1.61	2.80
3-ply type IV glass fiber felt	1.000	S.F.	.028	1.44	1.76	3.20
4-ply type IV glass fiber felt	1.000	S.F.	.028	1.77	1.76	3.53
Coal tar, 4-ply #15 organic felt, gravel surfacing	1.000	S.F.	.027			
4-ply tarred felt	1.000	S.F.	.027	2.24	1.69	3.93
3-ply type IV glass fiber felt	1.000	S.F.	.029	1.84	1.86	3.70
4-ply type IV glass fiber felt	1.000	S.F.	.027	2.56	1.69	4.25
Roll, asphalt, 1-ply #15 organic felt, 2-ply mineral surfaced	1.000	S.F.	.021	.76	1.31	2.07
3-ply type IV glass fiber, 1-ply mineral surfaced	1.000	S.F.	.022	1.33	1.41	2.74
Insulation boards, glass fiber, 1-1/16" thick	1.000	S.F.	.008	1.41	.48	1.89
2-1/16" thick	1.000	S.F.	.010	1.91	.57	2.48
2-7/16" thick	1.000	S.F.	.010	2.05	.57	2.62
Expanded perlite, 1" thick	1.000	S.F.	.010	.75	.57	1.32
1-1/2" thick	1.000	S.F.	.010	1.03	.57	1.60
2" thick	1.000	S.F.	.011	1.32	.63	1.95
Fiberboard, 1" thick	1.000	S.F.	.010	.88	.57	1.45
1-1/2" thick	1.000	S.F.	.010	1.26	.57	1.83
2" thick	1.000	S.F.	.010	1.43	.57	2
Extruded polystyrene, 15 PSI compressive strength, 2" thick R10	1.000	S.F.	.006	.86	.41	1.27
3" thick R15	1.000	S.F.	.008	1.61	.48	2.09
4" thick R20	1.000	S.F.	.008	2.12	.48	2.60
Tapered for drainage	1.000	S.F.	.005	.68	.37	1.05
40 PSI compressive strength, 1" thick R5	1.000	S.F.	.005	1.08	.37	1.45
2" thick R10	1.000	S.F.	.006	1.94	.41	2.35
3" thick R15	1.000	S.F.	.008	2.75	.48	3.23
4" thick R20	1.000	S.F.	.008	3.57	.48	4.05
Fiberboard high density, 1/2" thick R1.3	1.000	S.F.	.008	.43	.48	.91
1" thick R2.5	1.000	S.F.	.010	.82	.57	1.39
1 1/2" thick R3.8	1.000	S.F.	.010	1.48	.57	2.05
Polyisocyanurate, 1 1/2" thick	1.000	S.F.	.006	.78	.41	1.19
2" thick	1.000	S.F.	.007	1.13	.45	1.58
3 1/2" thick	1.000	S.F.	.008	1.96	.48	2.44
Tapered for drainage	1.000	S.F.	.006	.70	.38	1.08
Expanded polystyrene, 1" thick	1.000	S.F.	.005	.44	.37	.81
2" thick R10	1.000	S.F.	.006	.76	.41	1.17
3" thick R11	1.000	S.F.	.006	1.08	.41	1.49
Wood blocking, treated, 6" x 2" & 4" x 4" cant	.040	L.F.	.002	.15	.15	.30
6" x 4-1/2" & 4" x 4" cant	.040	L.F.	.005	.23	.32	.55
6" x 5" & 4" x 4" cant	.040	L.F.	.007	.27	.40	.67
Flashing, aluminum, 0.019" thick	.050	S.F.	.003	.08	.15	.23
0.032" thick	.050	S.F.	.003	.08	.15	.23
0.040" thick	.050	S.F.	.003	.13	.15	.28
Copper sheets, 16 oz., under 500 lbs.	.050	S.F.	.003	.45	.19	.64
Over 500 lbs.	.050	S.F.	.003	.45	.14	.59
20 oz., under 500 lbs.	.050	S.F.	.004	.58	.20	.78
Over 500 lbs.	.050	S.F.	.003	.55	.15	.70
Stainless steel, 32 gauge	.050	S.F.	.003	.19	.14	.33
28 gauge	.050	S.F.	.003	.28	.14	.42
26 gauge	.050	S.F.	.003	.28	.14	.42
24 gauge	.050	S.F.	.003	.32	.14	.46



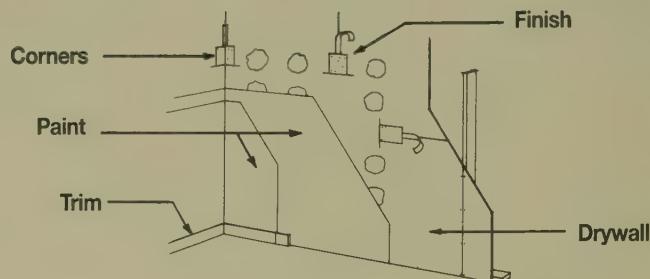
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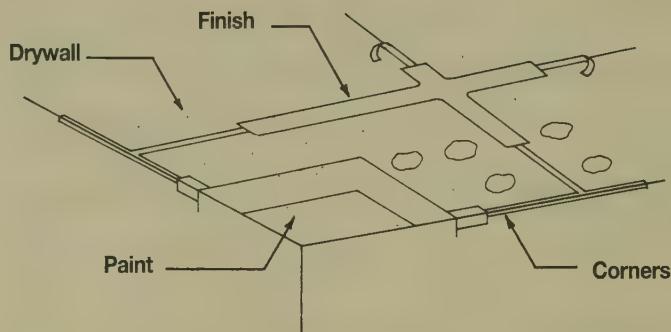
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>1/2" DRYWALL, TAPED &amp; FINISHED</b>						
Gypsum wallboard, 1/2" thick, standard	1.000	S.F.	.008	.36	.48	.84
Finish, taped & finished joints	1.000	S.F.	.008	.06	.48	.54
Corners, taped & finished, 32 L.F. per 12' x 12' room	.083	L.F.	.001	.01	.08	.09
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Paint trim, to 6" wide, primer + 1 coat enamel	.125	L.F.	.001	.02	.06	.08
Moldings, base, ogee profile, 9/16" x 4-1/2, red oak	.125	L.F.	.005	.60	.27	.87
<b>TOTAL</b>		S.F.	.034	1.28	1.89	3.17
<b>THINCOAT, SKIM-COAT, ON 1/2" BACKER DRYWALL</b>						
Gypsum wallboard, 1/2" thick, thincoat backer	1.000	S.F.	.008	.36	.48	.84
Thincoat plaster	1.000	S.F.	.011	.11	.64	.75
Corners, taped & finished, 32 L.F. per 12' x 12' room	.083	L.F.	.001	.01	.08	.09
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Paint trim, to 6" wide, primer + 1 coat enamel	.125	L.F.	.001	.02	.06	.08
Moldings, base, ogee profile, 9/16" x 4-1/2, red oak	.125	L.F.	.005	.60	.27	.87
<b>TOTAL</b>		S.F.	.037	1.33	2.05	3.38
<b>5/8" DRYWALL, TAPED &amp; FINISHED</b>						
Gypsum wallboard, 5/8" thick, standard	1.000	S.F.	.008	.36	.48	.84
Finish, taped & finished joints	1.000	S.F.	.008	.06	.48	.54
Corners, taped & finished, 32 L.F. per 12' x 12' room	.083	L.F.	.001	.01	.08	.09
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Moldings, base, ogee profile, 9/16" x 4-1/2, red oak	.125	L.F.	.005	.60	.27	.87
Paint trim, to 6" wide, primer + 1 coat enamel	.125	L.F.	.001	.02	.06	.08
<b>TOTAL</b>		S.F.	.034	1.28	1.89	3.17

The costs in this system are based on a square foot of wall.  
Do not deduct for openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Drywall & Thincoat Wall Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Gypsum wallboard, 1/2" thick, standard	1.000	S.F.	.008	.36	.48	.84
Fire resistant	1.000	S.F.	.008	.42	.48	.90
Water resistant	1.000	S.F.	.008	.45	.48	.93
5/8" thick, standard	1.000	S.F.	.008	.36	.48	.84
Fire resistant	1.000	S.F.	.008	.42	.48	.90
Water resistant	1.000	S.F.	.008	.48	.48	.96
Gypsum wallboard backer for thincoat system, 1/2" thick	1.000	S.F.	.008	.36	.48	.84
5/8" thick	1.000	S.F.	.008	.36	.48	.84
Gypsum wallboard, taped & finished	1.000	S.F.	.008	.06	.48	.54
Texture spray	1.000	S.F.	.010	.04	.58	.62
Thincoat plaster, including tape	1.000	S.F.	.011	.11	.64	.75
Gypsum wallboard corners, taped & finished, 32 L.F. per 4' x 4' room	.250	L.F.	.004	.03	.25	.28
6' x 6' room	.110	L.F.	.002	.01	.11	.12
10' x 10' room	.100	L.F.	.001	.01	.10	.11
12' x 12' room	.083	L.F.	.001	.01	.08	.09
16' x 16' room	.063	L.F.	.001	.01	.06	.07
Thincoat system, 32 L.F. per 4' x 4' room	.250	L.F.	.003	.03	.16	.19
6' x 6' room	.110	L.F.	.001	.01	.07	.08
10' x 10' room	.100	L.F.	.001	.01	.06	.07
12' x 12' room	.083	L.F.	.001	.01	.05	.06
16' x 16' room	.063	L.F.	.001	.01	.04	.05
Painting, primer, & 1 coat	1.000	S.F.	.008	.15	.40	.55
& 2 coats	1.000	S.F.	.011	.23	.52	.75
Wallpaper, \$7/double roll	1.000	S.F.	.013	.69	.62	1.31
\$17/double roll	1.000	S.F.	.015	1.41	.74	2.15
\$40/double roll	1.000	S.F.	.018	2.42	.91	3.33
Wallcovering, medium weight vinyl	1.000	S.F.	.017	1.17	.82	1.99
Tile, ceramic adhesive thin set, 4 1/4" x 4 1/4" tiles	1.000	S.F.	.084	3.41	4.19	7.60
6" x 6" tiles	1.000	S.F.	.080	4.49	4.55	9.04
PregROUTed sheets	1.000	S.F.	.067	6.30	3.32	9.62
Trim, painted or stained, baseboard	.125	L.F.	.006	.62	.33	.95
Base shoe	.125	L.F.	.005	.08	.31	.39
Chair rail	.125	L.F.	.005	.23	.28	.51
Cornice molding	.125	L.F.	.004	.16	.28	.44
Cove base, vinyl	.125	L.F.	.003	.20	.18	.38
Paneling, not including furring or trim						
Plywood, prefinished, 1/4" thick, 4' x 8' sheets, vert. grooves						
Birch faced, minimum	1.000	S.F.	.032	1.86	1.90	3.76
Average	1.000	S.F.	.038	1.36	2.26	3.62
Maximum	1.000	S.F.	.046	1.19	2.72	3.91
Mahogany, African	1.000	S.F.	.040	2.67	2.38	5.05
Philippine (Iuan)	1.000	S.F.	.032	.63	1.90	2.53
Oak or cherry, minimum	1.000	S.F.	.032	1.50	1.90	3.40
Maximum	1.000	S.F.	.040	2.23	2.38	4.61
Rosewood	1.000	S.F.	.050	3.39	2.97	6.36
Teak	1.000	S.F.	.040	3.59	2.38	5.97
Chestnut	1.000	S.F.	.043	6	2.53	8.53
Pecan	1.000	S.F.	.040	2.83	2.38	5.21
Walnut, minimum	1.000	S.F.	.032	2.90	1.90	4.80
Maximum	1.000	S.F.	.040	2.62	2.38	5

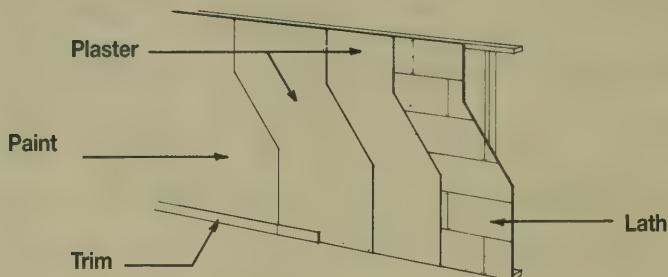


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>1/2" GYPSUM WALLBOARD, TAPED &amp; FINISHED</b>						
Gypsum wallboard, 1/2" thick, standard	1.000	S.F.	.008	.36	.48	.84
Finish, taped & finished	1.000	S.F.	.008	.06	.48	.54
Corners, taped & finished, 12' x 12' room	.333	L.F.	.006	.04	.33	.37
Paint, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.033	.69	1.81	2.50
<b>THINCOAT, SKIM COAT ON 1/2" GYPSUM WALLBOARD</b>						
Gypsum wallboard, 1/2" thick, thincoat backer	1.000	S.F.	.008	.36	.48	.84
Thincoat plaster	1.000	S.F.	.011	.11	.64	.75
Corners, taped & finished, 12' x 12' room	.333	L.F.	.006	.04	.33	.37
Paint, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.036	.74	1.97	2.71
<b>WATER-RESISTANT GYPSUM WALLBOARD, 1/2" THICK, TAPED &amp; FINISHED</b>						
Gypsum wallboard, 1/2" thick, water-resistant	1.000	S.F.	.008	.45	.48	.93
Finish, taped & finished	1.000	S.F.	.008	.06	.48	.54
Corners, taped & finished, 12' x 12' room	.333	L.F.	.006	.04	.33	.37
Paint, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.033	.78	1.81	2.59
<b>5/8" GYPSUM WALLBOARD, TAPED &amp; FINISHED</b>						
Gypsum wallboard, 5/8" thick, standard	1.000	S.F.	.008	.36	.48	.84
Finish, taped & finished	1.000	S.F.	.008	.06	.48	.54
Corners, taped & finished, 12' x 12' room	.333	L.F.	.006	.04	.33	.37
Paint, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.033	.69	1.81	2.50

The costs in this system are based on a square foot of ceiling.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Drywall & Thincoat Ceilings Price Sheet



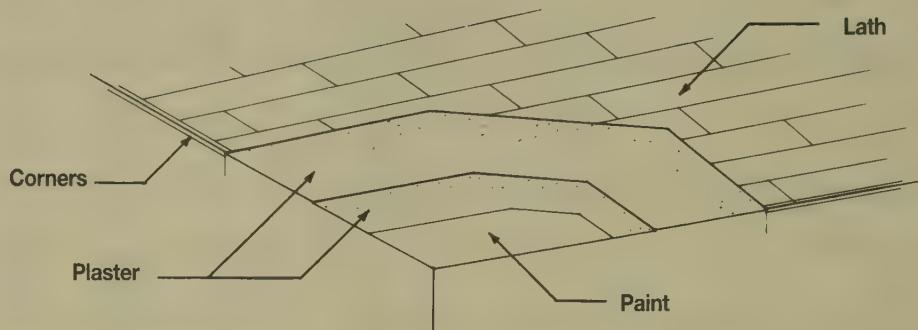
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>PLASTER ON GYPSUM LATH</b>						
Plaster, gypsum or perlite, 2 coats	1.000	S.F.	.053	.48	3.06	3.54
Lath, 3/8" gypsum	1.000	S.F.	.010	.43	.60	1.03
Corners, expanded metal, 32 L.F. per 12' x 12' room	.083	L.F.	.002	.01	.10	.11
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Paint trim, to 6" wide, primer + 1 coat enamel	.125	L.F.	.001	.02	.06	.08
Moldings, base, ogee profile, 9/16" x 4-1/2, red oak	.125	L.F.	.005	.60	.27	.87
<b>TOTAL</b>		S.F.	.082	1.77	4.61	6.38
<b>PLASTER ON METAL LATH</b>						
Plaster, gypsum or perlite, 2 coats	1.000	S.F.	.053	.48	3.06	3.54
Lath, 2.5 Lb. diamond, metal	1.000	S.F.	.010	.44	.60	1.04
Corners, expanded metal, 32 L.F. per 12' x 12' room	.083	L.F.	.002	.01	.10	.11
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Paint trim, to 6" wide, primer + 1 coat enamel	.125	L.F.	.001	.02	.06	.08
Moldings, base, ogee profile, 9/16" x 4-1/2, red oak	.125	L.F.	.005	.60	.27	.87
<b>TOTAL</b>		S.F.	.082	1.78	4.61	6.39
<b>STUCCO ON METAL LATH</b>						
Stucco, 2 coats	1.000	S.F.	.041	.36	2.34	2.70
Lath, 2.5 Lb. diamond, metal	1.000	S.F.	.010	.44	.60	1.04
Corners, expanded metal, 32 L.F. per 12' x 12' room	.083	L.F.	.002	.01	.10	.11
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Paint trim, to 6" wide, primer + 1 coat enamel	.125	L.F.	.001	.02	.06	.08
Moldings, base, ogee profile, 9/16" x 4-1/2, red oak	.125	L.F.	.005	.60	.27	.87
<b>TOTAL</b>		S.F.	.070	1.66	3.89	5.55

The costs in these systems are based on a per square foot of wall area.

Do not deduct for openings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Plaster & Stucco Wall Price Sheet	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Plaster, gypsum or perlite, 2 coats	1.000	S.F.	.053	.48	3.06	3.54
3 coats	1.000	S.F.	.065	.68	3.71	4.39
Lath, gypsum, standard, 3/8" thick	1.000	S.F.	.010	.43	.60	1.03
Fire resistant, 3/8" thick	1.000	S.F.	.013	.31	.73	1.04
1/2" thick	1.000	S.F.	.014	.33	.79	1.12
Metal, diamond, 2.5 Lb.	1.000	S.F.	.010	.44	.60	1.04
3.4 Lb.	1.000	S.F.	.012	.47	.68	1.15
Rib, 2.75 Lb.	1.000	S.F.	.012	.39	.68	1.07
3.4 Lb.	1.000	S.F.	.013	.53	.73	1.26
Corners, expanded metal, 32 L.F. per 4' x 4' room	.250	L.F.	.005	.05	.30	.35
6' x 6' room	.110	L.F.	.002	.02	.13	.15
10' x 10' room	.100	L.F.	.002	.02	.12	.14
12' x 12' room	.083	L.F.	.002	.01	.10	.11
16' x 16' room	.063	L.F.	.001	.01	.07	.08
Painting, primer & 1 coats	1.000	S.F.	.008	.15	.40	.55
Primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
Wallpaper, low price double roll	1.000	S.F.	.013	.69	.62	1.31
Medium price double roll	1.000	S.F.	.015	1.41	.74	2.15
High price double roll	1.000	S.F.	.018	2.42	.91	3.33
Tile, ceramic thin set, 4-1/4" x 4-1/4" tiles	1.000	S.F.	.084	3.41	4.19	7.60
6" x 6" tiles	1.000	S.F.	.080	4.49	4.55	9.04
PregROUTed sheets	1.000	S.F.	.067	6.30	3.32	9.62
Trim, painted or stained, baseboard	.125	L.F.	.006	.62	.33	.95
Base shoe	.125	L.F.	.005	.08	.31	.39
Chair rail	.125	L.F.	.005	.23	.28	.51
Cornice molding	.125	L.F.	.004	.16	.28	.44
Cove base, vinyl	.125	L.F.	.003	.20	.18	.38
Paneling not including furring or trim						
Plywood, prefinished, 1/4" thick, 4' x 8' sheets, vert. grooves						
Birch faced, minimum	1.000	S.F.	.032	1.86	1.90	3.76
Average	1.000	S.F.	.038	1.36	2.26	3.62
Maximum	1.000	S.F.	.046	1.19	2.72	3.91
Mahogany, African	1.000	S.F.	.040	2.67	2.38	5.05
Philippine (lauan)	1.000	S.F.	.032	.63	1.90	2.53
Oak or cherry, minimum	1.000	S.F.	.032	1.50	1.90	3.40
Maximum	1.000	S.F.	.040	2.23	2.38	4.61
Rosewood	1.000	S.F.	.050	3.39	2.97	6.36
Teak	1.000	S.F.	.040	3.59	2.38	5.97
Chestnut	1.000	S.F.	.043	6	2.53	8.53
Pecan	1.000	S.F.	.040	2.83	2.38	5.21
Walnut, minimum	1.000	S.F.	.032	2.90	1.90	4.80
Maximum	1.000	S.F.	.040	2.62	2.38	5

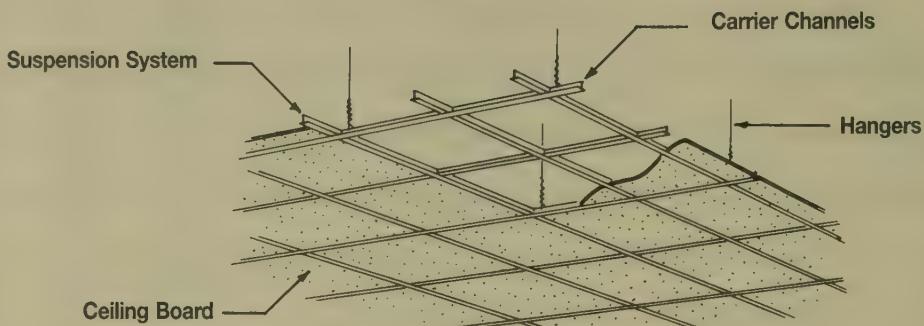


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>PLASTER ON GYPSUM LATH</b>						
Plaster, gypsum or perlite, 2 coats	1.000	S.F.	.061	.48	3.49	3.97
Gypsum lath, plain or perforated, nailed, 3/8" thick	1.000	S.F.	.010	.43	.60	1.03
Gypsum lath, ceiling installation adder	1.000	S.F.	.004		.24	.24
Corners, expanded metal, 12' x 12' room	.330	L.F.	.007	.06	.39	.45
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.093	1.20	5.24	6.44
<b>PLASTER ON METAL LATH</b>						
Plaster, gypsum or perlite, 2 coats	1.000	S.F.	.061	.48	3.49	3.97
Lath, 2.5 Lb. diamond, metal	1.000	S.F.	.012	.44	.68	1.12
Corners, expanded metal, 12' x 12' room	.330	L.F.	.007	.06	.39	.45
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.091	1.21	5.08	6.29
<b>STUCCO ON GYPSUM LATH</b>						
Stucco, 2 coats	1.000	S.F.	.041	.36	2.34	2.70
Gypsum lath, plain or perforated, nailed, 3/8" thick	1.000	S.F.	.010	.43	.60	1.03
Gypsum lath, ceiling installation adder	1.000	S.F.	.004		.24	.24
Corners, expanded metal, 12' x 12' room	.330	L.F.	.007	.06	.39	.45
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.073	1.08	4.09	5.17
<b>STUCCO ON METAL LATH</b>						
Stucco, 2 coats	1.000	S.F.	.041	.36	2.34	2.70
Lath, 2.5 Lb. diamond, metal	1.000	S.F.	.012	.44	.68	1.12
Corners, expanded metal, 12' x 12' room	.330	L.F.	.007	.06	.39	.45
Painting, primer & 2 coats	1.000	S.F.	.011	.23	.52	.75
<b>TOTAL</b>		S.F.	.071	1.09	3.93	5.02

The costs in these systems are based on a square foot of ceiling area.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

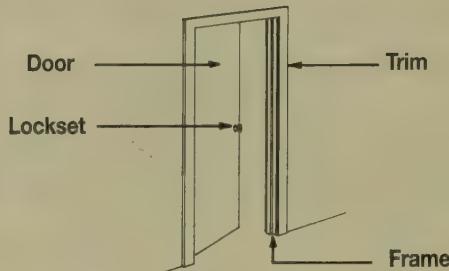




<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>2' X 2' GRID, FILM FACED FIBERGLASS, 5/8" THICK</b>						
Suspension system, 2' x 2' grid, T bar	1.000	S.F.	.012	1.28	.73	2.01
Ceiling board, film faced fiberglass, 5/8" thick	1.000	S.F.	.013	1.47	.76	2.23
Carrier channels, 1-1/2" x 3/4"	1.000	S.F.	.017	.13	1.01	1.14
Hangers, #12 wire	1.000	S.F.	.002	.03	.10	.13
<b>TOTAL</b>		S.F.	.044	2.91	2.60	5.51
<b>2' X 4' GRID, FILM FACED FIBERGLASS, 5/8" THICK</b>						
Suspension system, 2' x 4' grid, T bar	1.000	S.F.	.010	1.03	.59	1.62
Ceiling board, film faced fiberglass, 5/8" thick	1.000	S.F.	.013	1.47	.76	2.23
Carrier channels, 1-1/2" x 3/4"	1.000	S.F.	.017	.13	1.01	1.14
Hangers, #12 wire	1.000	S.F.	.002	.03	.10	.13
<b>TOTAL</b>		S.F.	.042	2.66	2.46	5.12
<b>2' X 2' GRID, MINERAL FIBER, REVEAL EDGE, 1" THICK</b>						
Suspension system, 2' x 2' grid, T bar	1.000	S.F.	.012	1.28	.73	2.01
Ceiling board, mineral fiber, reveal edge, 1" thick	1.000	S.F.	.013	2.38	.79	3.17
Carrier channels, 1-1/2" x 3/4"	1.000	S.F.	.017	.13	1.01	1.14
Hangers, #12 wire	1.000	S.F.	.002	.03	.10	.13
<b>TOTAL</b>		S.F.	.044	3.82	2.63	6.45
<b>2' X 4' GRID, MINERAL FIBER, REVEAL EDGE, 1" THICK</b>						
Suspension system, 2' x 4' grid, T bar	1.000	S.F.	.010	1.03	.59	1.62
Ceiling board, mineral fiber, reveal edge, 1" thick	1.000	S.F.	.013	2.38	.79	3.17
Carrier channels, 1-1/2" x 3/4"	1.000	S.F.	.017	.13	1.01	1.14
Hangers, #12 wire	1.000	S.F.	.002	.03	.10	.13
<b>TOTAL</b>		S.F.	.042	3.57	2.49	6.06

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>



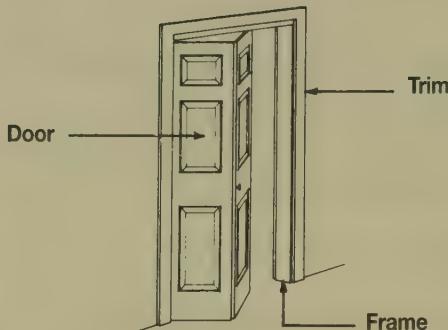


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>LAUAN, FLUSH DOOR, HOLLOW CORE</b>						
Door, flush, lauan, hollow core, 2'-8" wide x 6'-8" high	1.000	Ea.	.889	81.50	53	134.50
Frame, pine, 4-5/8" jamb	17.000	L.F.	.725	101.15	43.01	144.16
Moldings, casing, ogee, 11/16" x 2-1/2", pine	34.000	L.F.	1.088	52.70	64.60	117.30
Paint trim, to 6" wide, primer + 1 coat enamel	34.000	L.F.	.340	5.44	16.66	22.10
Butt hinges, chrome, 3-1/2" x 3-1/2"	1.500	Pr.		51		51
Lockset, passage	1.000	Ea.	.500	45.50	29.50	75
Prime door & frame, oil, primer, brushwork	2.000	Face	1.600	9.26	79	88.26
Paint door and frame, oil, 2 coats	2.000	Face	2.667	10.90	131	141.90
<b>TOTAL</b>		Ea.	7.809	357.45	416.77	774.22
<b>BIRCH, FLUSH DOOR, HOLLOW CORE</b>						
Door, flush, birch, hollow core, 2'-8" wide x 6'-8" high	1.000	Ea.	.889	100	53	153
Frame, pine, 4-5/8" jamb	17.000	L.F.	.725	101.15	43.01	144.16
Moldings, casing, ogee, 11/16" x 2-1/2", pine	34.000	L.F.	1.088	52.70	64.60	117.30
Butt hinges, chrome, 3-1/2" x 3-1/2"	1.500	Pr.		51		51
Lockset, passage	1.000	Ea.	.500	45.50	29.50	75
Prime door & frame, oil, primer, brushwork	2.000	Face	1.600	9.26	79	88.26
Paint door and frame, oil, 2 coats	2.000	Face	2.667	10.90	131	141.90
<b>TOTAL</b>		Ea.	7.469	370.51	400.11	770.62
<b>RAISED PANEL, SOLID, PINE DOOR</b>						
Door, pine, raised panel, 2'-8" wide x 6'-8" high	1.000	Ea.	.889	299	53	352
Frame, pine, 4-5/8" jamb	17.000	L.F.	.725	101.15	43.01	144.16
Moldings, casing, ogee, 11/16" x 2-1/2", pine	34.000	L.F.	1.088	52.70	64.60	117.30
Butt hinges, bronze, 3-1/2" x 3-1/2"	1.500	Pr.		60		60
Lockset, passage	1.000	Ea.	.500	45.50	29.50	75
Prime door & frame, oil, primer, brushwork	2.000	Face	1.600	9.26	79	88.26
Paint door and frame, oil, 2 coats	2.000	Face	2.667	10.90	131	141.90
<b>TOTAL</b>		Ea.	7.469	578.51	400.11	978.62

The costs in these systems are based on a cost per each door.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BI-PASSING, FLUSH, LAUAN, HOLLOW CORE, 4'-0" X 6'-8"</b>						
Door, flush, lauan, hollow core, 4'-0" x 6'-8" opening	1.000	Ea.	1.333	195	79	274
Frame, pine, 4-5/8" jamb	18.000	L.F.	.768	107.10	45.54	152.64
Moldings, casing, ogee, 11/16" x 2-1/2", pine	36.000	L.F.	1.152	55.80	68.40	124.20
Prime door & frame, oil, primer, brushwork	2.000	Face	1.600	9.26	79	88.26
Paint door and frame, oil, 2 coats	2.000	Face	2.667	10.90	131	141.90
<b>TOTAL</b>		Ea.	7.520	378.06	402.94	781
<b>BI-PASSING, FLUSH, BIRCH, HOLLOW CORE, 6'-0" X 6'-8"</b>						
Door, flush, birch, hollow core, 6'-0" x 6'-8" opening	1.000	Ea.	1.600	395	95	490
Frame, pine, 4-5/8" jamb	19.000	L.F.	.811	113.05	48.07	161.12
Moldings, casing, ogee, 11/16" x 2-1/2", pine	38.000	L.F.	1.216	58.90	72.20	131.10
Prime door & frame, oil, primer, brushwork	2.000	Face	2.000	11.58	98.75	110.33
Paint door and frame, oil, 2 coats	2.000	Face	3.333	13.63	163.75	177.38
<b>TOTAL</b>		Ea.	8.960	592.16	477.77	1,069.93
<b>BI-FOLD, PINE, PANELED, 3'-0" X 6'-8"</b>						
Door, pine, paneled, 3'-0" x 6'-8" opening	1.000	Ea.	1.231	315	73	388
Frame, pine, 4-5/8" jamb	17.000	L.F.	.725	101.15	43.01	144.16
Moldings, casing, ogee, 11/16" x 2-1/2", pine	34.000	L.F.	1.088	52.70	64.60	117.30
Prime door & frame, oil, primer, brushwork	2.000	Face	1.600	9.26	79	88.26
Paint door and frame, oil, 2 coats	2.000	Face	2.667	10.90	131	141.90
<b>TOTAL</b>		Ea.	7.311	489.01	390.61	879.62
<b>BI-FOLD, PINE, LOUVERED, 6'-0" X 6'-8"</b>						
Door, pine, louvered, 6'-0" x 6'-8" opening	1.000	Ea.	1.600	365	95	460
Frame, pine, 4-5/8" jamb	19.000	L.F.	.811	113.05	48.07	161.12
Moldings, casing, ogee, 11/16" x 2-1/2", pine	38.000	L.F.	1.216	58.90	72.20	131.10
Prime door & frame, oil, primer, brushwork	2.500	Face	2.000	11.58	98.75	110.33
Paint door and frame, oil, 2 coats	2.500	Face	3.333	13.63	163.75	177.38
<b>TOTAL</b>		Ea.	8.960	562.16	477.77	1,039.93

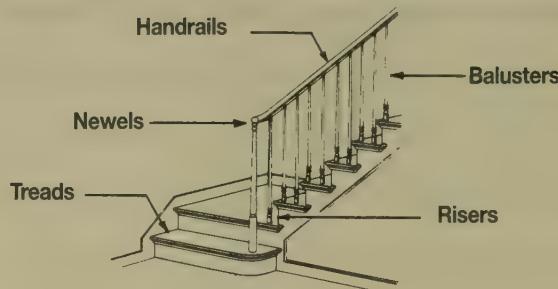
The costs in this system are based on a cost per each door.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

Closet Door Price Sheet	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Doors, bi-passing, pine, louvered, 4'-0" x 6'-8" opening	1.000	Ea.	1.333	575	79	654
6'-0" x 6'-8" opening	1.000	Ea.	1.600	845	95	940
Paneled, 4'-0" x 6'-8" opening	1.000	Ea.	1.333	555	79	634
6'-0" x 6'-8" opening	1.000	Ea.	1.600	990	95	1,085
Flush, birch, hollow core, 4'-0" x 6'-8" opening	1.000	Ea.	1.333	297	79	376
6'-0" x 6'-8" opening	1.000	Ea.	1.600	395	95	490
Flush, lauan, hollow core, 4'-0" x 6'-8" opening	1.000	Ea.	1.333	195	79	274
6'-0" x 6'-8" opening	1.000	Ea.	1.600	195	95	290
Bi-fold, pine, louvered, 3'-0" x 6'-8" opening	1.000	Ea.	1.231	315	73	388
6'-0" x 6'-8" opening	1.000	Ea.	1.600	365	95	460
Paneled, 3'-0" x 6'-8" opening	1.000	Ea.	1.231	315	73	388
6'-0" x 6'-8" opening	1.000	Ea.	1.600	365	95	460
Flush, birch, hollow core, 3'-0" x 6'-8" opening	1.000	Ea.	1.231	86	73	159
6'-0" x 6'-8" opening	1.000	Ea.	1.600	151	95	246
Flush, lauan, hollow core, 3'-0" x 6'-8" opening	1.000	Ea.	1.231	335	73	408
6'-0" x 6'-8" opening	1.000	Ea.	1.600	515	95	610
Frame pine, 3'-0" door, 3-5/8" deep	17.000	L.F.	.725	80	43	123
4-5/8" deep	17.000	L.F.	.725	101	43	144
5-5/8" deep	17.000	L.F.	.725	108	43	151
4'-0" door, 3-5/8" deep	18.000	L.F.	.768	84.50	45.50	130
4-5/8" deep	18.000	L.F.	.768	107	45.50	152.50
5-5/8" deep	18.000	L.F.	.768	114	45.50	159.50
6'-0" door, 3-5/8" deep	19.000	L.F.	.811	89.50	48	137.50
4-5/8" deep	19.000	L.F.	.811	113	48	161
5-5/8" deep	19.000	L.F.	.811	121	48	169
Trim both sides, painted 3'-0" x 6'-8" door	34.000	L.F.	1.971	56.50	106	162.50
4'-0" x 6'-8" door	36.000	L.F.	2.086	60	112	172
6'-0" x 6'-8" door	38.000	L.F.	2.203	63	119	182
Paint 2 sides, primer & 2 cts., flush door & frame, 3' x 6'-8" opng	2.000	Face	2.914	15.15	158	173.15
4'-0" x 6'-8" opening	2.000	Face	3.886	20	210	230
6'-0" x 6'-8" opening	2.000	Face	4.857	25	263	288
Paneled door & frame, 3'-0" x 6'-8" opening	2.000	Face	6.000	24.50	295	319.50
4'-0" x 6'-8" opening	2.000	Face	8.000	33	395	428
6'-0" x 6'-8" opening	2.000	Face	10.000	41	490	531
Louvered door & frame, 3'-0" x 6'-8" opening	2.000	Face	6.000	24.50	295	319.50
4'-0" x 6'-8" opening	2.000	Face	8.000	33	395	428
6'-0" x 6'-8" opening	2.000	Face	10.000	41	490	531

<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
Carpet, direct glue-down, nylon, level loop, 26 oz.	1.000	S.F.	.018	3.01	.67	3.68
32 oz.	1.000	S.F.	.018	5	.67	5.67
40 oz.	1.000	S.F.	.018	5.85	.67	6.52
Nylon, plush, 20 oz.	1.000	S.F.	.018	2.60	.67	3.27
24 oz.	1.000	S.F.	.018	2.42	.67	3.09
30 oz.	1.000	S.F.	.018	3.40	.67	4.07
42 oz.	1.000	S.F.	.022	5.65	.72	6.37
48 oz.	1.000	S.F.	.022	6.55	.72	7.27
54 oz.	1.000	S.F.	.022	7.55	.72	8.27
Olefin, 15 oz.	1.000	S.F.	.018	1.87	.67	2.54
22 oz.	1.000	S.F.	.018	1.98	.67	2.65
Tile, foam backed, needle punch	1.000	S.F.	.014	4.61	.79	5.40
Tufted loop or shag	1.000	S.F.	.014	3.65	.79	4.44
Wool, 36 oz., level loop	1.000	S.F.	.018	13.60	.72	14.32
32 oz., patterned	1.000	S.F.	.020	12.45	.72	13.17
48 oz., patterned	1.000	S.F.	.020	13.65	.72	14.37
Padding, sponge rubber cushion, minimum	1.000	S.F.	.006	.59	.34	.93
Maximum	1.000	S.F.	.006	1.08	.34	1.42
Felt, 32 oz. to 56 oz., minimum	1.000	S.F.	.006	.78	.34	1.12
Maximum	1.000	S.F.	.006	1.48	.34	1.82
Bonded urethane, 3/8" thick, minimum	1.000	S.F.	.006	.73	.34	1.07
Maximum	1.000	S.F.	.006	.99	.34	1.33
Prime urethane, 1/4" thick, minimum	1.000	S.F.	.006	.45	.34	.79
Maximum	1.000	S.F.	.006	.97	.34	1.31
Stairs, for stairs, add to above carpet prices	1.000	Riser	.267		15.05	15.05
Underlayment plywood, 3/8" thick	1.000	S.F.	.011	1.16	.63	1.79
1/2" thick	1.000	S.F.	.011	1.30	.66	1.96
5/8" thick	1.000	S.F.	.011	1.69	.68	2.37
3/4" thick	1.000	S.F.	.012	1.64	.73	2.37
Particle board, 3/8" thick	1.000	S.F.	.011	.43	.63	1.06
1/2" thick	1.000	S.F.	.011	.45	.66	1.11
5/8" thick	1.000	S.F.	.011	.67	.68	1.35
3/4" thick	1.000	S.F.	.012	.81	.73	1.54
Hardboard, 4' x 4', 0.215" thick	1.000	S.F.	.011	.79	.63	1.42

System Description	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
Resilient flooring, asphalt tile on concrete, 1/8" thick						
Color group B	1.000	S.F.	.020	1.61	1.13	2.74
Color group C & D	1.000	S.F.	.020	1.77	1.13	2.90
Asphalt tile on wood subfloor, 1/8" thick						
Color group B	1.000	S.F.	.020	1.90	1.13	3.03
Color group C & D	1.000	S.F.	.020	2.06	1.13	3.19
Vinyl composition tile, 12" x 12", 1/16" thick						
Embossed	1.000	S.F.	.016	1.35	.90	2.25
Marbleized	1.000	S.F.	.016	2.99	.90	3.89
Plain	1.000	S.F.	.016	3.86	.90	4.76
.080" thick, embossed						
Marbleized	1.000	S.F.	.016	3.44	.90	4.34
Plain	1.000	S.F.	.016	3.18	.90	4.08
1/8" thick, marbleized						
Plain	1.000	S.F.	.016	2.72	.90	3.62
Vinyl tile, 12" x 12", .050" thick, minimum						
Maximum	1.000	S.F.	.016	3.94	.90	4.84
1/8" thick, minimum						
Maximum	1.000	S.F.	.016	5.75	.90	6.65
1/8" thick, solid colors						
Florentine pattern	1.000	S.F.	.016	7.60	.90	8.50
Marbleized or travertine pattern	1.000	S.F.	.016	3.40	.90	4.30
Vinyl sheet goods, backed, .070" thick, minimum						
Maximum	1.000	S.F.	.032	4.97	1.81	6.78
Maximum	1.000	S.F.	.040	4.20	2.26	6.46
.093" thick, minimum						
Maximum	1.000	S.F.	.035	4.57	1.97	6.54
Maximum	1.000	S.F.	.040	7.05	2.26	9.31
.125" thick, minimum						
Maximum	1.000	S.F.	.035	4.61	1.97	6.58
Maximum	1.000	S.F.	.040	8.05	2.26	10.31
Wood, oak, finished in place, 25/32" x 2-1/2" clear						
Select	1.000	S.F.	.074	4.23	4.04	8.27
No. 1 common	1.000	S.F.	.074	5.20	4.04	9.24
Prefinished, oak, 2-1/2" wide						
3-1/4" wide	1.000	S.F.	.043	6.40	2.57	8.97
Ranch plank, oak, random width	1.000	S.F.	.055	7.60	3.28	10.88
Parquet, 5/16" thick, finished in place, oak, minimum						
Maximum	1.000	S.F.	.077	6.30	4.21	10.51
Maximum	1.000	S.F.	.107	11.85	6	17.85
Teak, minimum						
Maximum	1.000	S.F.	.077	6.95	4.21	11.16
Maximum	1.000	S.F.	.107	11.65	6	17.65
Sleepers, treated, 16" O.C., 1" x 2"						
1" x 3"	1.000	S.F.	.007	.34	.40	.74
2" x 4"	1.000	S.F.	.008	.56	.48	1.04
2" x 6"	1.000	S.F.	.011	.67	.63	1.30
Subfloor, plywood, 1/2" thick						
5/8" thick	1.000	S.F.	.011	.75	.63	1.38
3/4" thick	1.000	S.F.	.012	.85	.70	1.55
Ceramic tile, color group 2, 1" x 1"						
1.000	S.F.	.013	1.04	.76	1.80	
2" x 2" or 2" x 1"	1.000	S.F.	.087	6.85	4.35	11.20
Color group 1, 8" x 8"						
1.000	S.F.	.064	7	4.19	11.19	
12" x 12"	1.000	S.F.	.049	6.10	2.65	8.75
16" x 16"	1.000	S.F.	.029	8.55	2.84	11.39



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>7 RISERS, OAK TREADS, BOX STAIRS</b>						
Treads, oak, 1-1/4" x 10" wide, 3' long	6.000	Ea.	2.667	612	159	771
Risers, 3/4" thick, beech	7.000	Ea.	.672	228.90	39.90	268.80
30" primed pine balusters	12.000	Ea.	1.000	48.48	59.40	107.88
Newels, 3" wide, plain, paint grade, square	2.000	Ea.	2.286	132	136	268
Handrails, oak laminated	7.000	L.F.	.933	297.50	55.30	352.80
Stringers, 2" x 10", 3 each	21.000	L.F.	.306	10.71	18.06	28.77
<b>TOTAL</b>		Ea.	7.864	1,329.59	467.66	1,797.25
<b>14 RISERS, OAK TREADS, BOX STAIRS</b>						
Treads, oak, 1-1/4" x 10" wide, 3' long	13.000	Ea.	5.778	1,326	344.50	1,670.50
Risers, 3/4" thick, beech	14.000	Ea.	1.344	457.80	79.80	537.60
30" primed pine balusters	26.000	Ea.	2.167	105.04	128.70	233.74
Newels, 3" wide, plain, paint grade, square	2.000	Ea.	2.286	132	136	268
Handrails, oak, laminated	14.000	L.F.	1.867	595	110.60	705.60
Stair stringers, 2" x 10"	42.000	L.F.	5.169	61.32	306.60	367.92
<b>TOTAL</b>		Ea.	18.611	2,677.16	1,106.20	3,783.36
<b>14 RISERS, PINE TREADS, BOX STAIRS</b>						
Treads, pine, 9-1/2" x 3/4" thick	13.000	Ea.	5.778	252.20	344.50	596.70
Risers, 3/4" thick, pine	14.000	Ea.	1.344	289.80	79.80	369.60
30" primed pine balusters	26.000	Ea.	2.167	105.04	128.70	233.74
Newels, 3" wide, plain, paint grade, square	2.000	Ea.	2.286	132	136	268
Handrails, oak, laminated	14.000	L.F.	1.867	595	110.60	705.60
Stair stringers, 2" x 10"	42.000	L.F.	5.169	61.32	306.60	367.92
<b>TOTAL</b>		Ea.	18.611	1,435.36	1,106.20	2,541.56

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## **Stairway Price Sheet**

Stairway Price Sheet	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Treads, oak, 1-1/16" x 9-1/2", 3' long, 7 riser stair 14 riser stair	6.000 13.000	Ea. Ea.	2.667 5.778	610 1,325	159 345	769 1,670
1-1/16" x 11-1/2", 3' long, 7 riser stair 14 riser stair	6.000 13.000	Ea. Ea.	2.667 5.778	665 1,450	159 345	824 1,795
Pine, 3/4" x 9-1/2", 3' long, 7 riser stair 14 riser stair	6.000 13.000	Ea. Ea.	2.667 5.778	116 252	159 345	275 597
3/4" x 11-1/4", 3' long, 7 riser stair 14 riser stair	6.000 13.000	Ea. Ea.	2.667 5.778	129 280	159 345	288 625
Risers, oak, 3/4" x 7-1/2" high, 7 riser stair 14 riser stair	7.000 14.000	Ea. Ea.	2.625 5.250	149 298	40 80	189 378
Beech, 3/4" x 7-1/2" high, 7 riser stair 14 riser stair	7.000 14.000	Ea. Ea.	2.625 5.250	229 460	40 80	269 540
Baluster, turned, 30" high, primed pine, 7 riser stair 14 riser stair	12.000 26.000	Ea. Ea.	3.429 7.428	48.50 105	59.50 129	108 234
30" birch, 7 riser stair 14 riser stair	12.000 26.000	Ea. Ea.	3.429 7.428	44 95.50	54 117	98 212.50
42" pine, 7 riser stair 14 riser stair	12.000 26.000	Ea. Ea.	3.556 7.704	63.50 138	59.50 129	123 267
42" birch, 7 riser stair 14 riser stair	12.000 26.000	Ea. Ea.	3.556 7.704	63.50 138	59.50 129	123 267
Newels, 3-1/4" wide, starting, 7 riser stair 14 riser stair	2.000 2.000	Ea. Ea.	2.286 2.286	132 132	136 136	268 268
Landing, 7 riser stair 14 riser stair	2.000 2.000	Ea. Ea.	3.200 3.200	222 222	190 190	412 412
Handrails, oak, laminated, 7 riser stair 14 riser stair	7.000 14.000	L.F. L.F.	.933 1.867	298 595	55.50 111	353.50 706
Stringers, fir, 2" x 10" 7 riser stair 14 riser stair	21.000 42.000	L.F. L.F.	2.585 5.169	30.50 61.50	153 305	183.50 366.50
2" x 12", 7 riser stair 14 riser stair	21.000 42.000	L.F. L.F.	2.585 5.169	40 80	153 305	193 385
Special Stairways	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Basement stairs, open risers	1.000	Flight	4.000	910	238	1,148
Spiral stairs, oak, 4'-6" diameter, prefabricated, 9' high	1.000	Flight	10.667	2,875	635	3,510
Aluminum, 5'-0" diameter stock unit	1.000	Flight	9.956	11,100	745	11,845
Custom unit	1.000	Flight	9.956	18,600	745	19,345
Cast iron, 4'-0" diameter, minimum	1.000	Flight	9.956	11,000	745	11,745
Maximum	1.000	Flight	17.920	21,700	1,350	23,050
Steel, industrial, pre-erected, 3'-6" wide, bar rail	1.000	Flight	7.724	9,025	830	9,855
Picket rail	1.000	Flight	7.724	10,000	830	10,830



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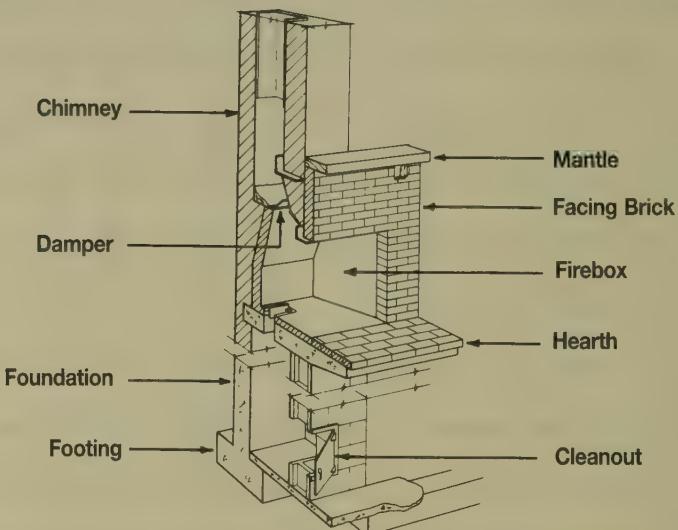
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER L.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>KITCHEN, ECONOMY GRADE</b>						
Top cabinets, economy grade	1.000	L.F.	.171	75.52	10.08	85.60
Bottom cabinets, economy grade	1.000	L.F.	.256	113.28	15.12	128.40
Square edge, plastic face countertop	1.000	L.F.	.267	38	15.85	53.85
Blocking, wood, 2" x 4"	1.000	L.F.	.032	.52	1.90	2.42
Soffit, framing, wood, 2" x 4"	4.000	L.F.	.071	2.08	4.24	6.32
Soffit drywall	2.000	S.F.	.047	.84	2.82	3.66
Drywall painting	2.000	S.F.	.013	.12	.80	.92
<b>TOTAL</b>		L.F.	.857	230.36	50.81	281.17
<b>AVERAGE GRADE</b>						
Top cabinets, average grade	1.000	L.F.	.213	94.40	12.60	107
Bottom cabinets, average grade	1.000	L.F.	.320	141.60	18.90	160.50
Solid surface countertop, solid color	1.000	L.F.	.800	77.50	47.50	125
Blocking, wood, 2" x 4"	1.000	L.F.	.032	.52	1.90	2.42
Soffit framing, wood, 2" x 4"	4.000	L.F.	.071	2.08	4.24	6.32
Soffit drywall	2.000	S.F.	.047	.84	2.82	3.66
Drywall painting	2.000	S.F.	.013	.12	.80	.92
<b>TOTAL</b>		L.F.	1.496	317.06	88.76	405.82
<b>CUSTOM GRADE</b>						
Top cabinets, custom grade	1.000	L.F.	.256	202	15.20	217.20
Bottom cabinets, custom grade	1.000	L.F.	.384	303	22.80	325.80
Solid surface countertop, premium patterned color	1.000	L.F.	1.067	143	63.50	206.50
Blocking, wood, 2" x 4"	1.000	L.F.	.032	.52	1.90	2.42
Soffit framing, wood, 2" x 4"	4.000	L.F.	.071	2.08	4.24	6.32
Soffit drywall	2.000	S.F.	.047	.84	2.82	3.66
Drywall painting	2.000	S.F.	.013	.12	.80	.92
<b>TOTAL</b>		L.F.	1.870	651.56	111.26	762.82

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER L.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>



<b>Appliance Price Sheet</b>	QUAN.	UNIT	LABOR HOURS	COST PER L.F.		
				MAT.	INST.	TOTAL
Range, free standing, minimum	1.000	Ea.	3.600	590	209	799
Maximum	1.000	Ea.	6.000	2,500	320	2,820
Built-in, minimum	1.000	Ea.	3.333	1,025	227	1,252
Maximum	1.000	Ea.	10.000	2,275	610	2,885
Counter top range, 4-burner, minimum	1.000	Ea.	3.333	450	227	677
Maximum	1.000	Ea.	4.667	2,300	315	2,615
Compactor, built-in, minimum	1.000	Ea.	2.215	795	137	932
Maximum	1.000	Ea.	3.282	1,300	200	1,500
Dishwasher, built-in, minimum	1.000	Ea.	6.735	615	450	1,065
Maximum	1.000	Ea.	9.235	765	620	1,385
Garbage disposer, minimum	1.000	Ea.	2.810	248	188	436
Maximum	1.000	Ea.	2.810	365	188	553
Microwave oven, minimum	1.000	Ea.	2.615	130	178	308
Maximum	1.000	Ea.	4.615	540	315	855
Range hood, ducted, minimum	1.000	Ea.	4.658	153	288	441
Maximum	1.000	Ea.	5.991	1,125	370	1,495
Ductless, minimum	1.000	Ea.	2.615	161	164	325
Maximum	1.000	Ea.	3.948	1,150	246	1,396
Refrigerator, 16 cu.ft., minimum	1.000	Ea.	2.000	625	91.50	716.50
Maximum	1.000	Ea.	3.200	1,000	146	1,146
16 cu.ft. with icemaker, minimum	1.000	Ea.	4.210	875	230	1,105
Maximum	1.000	Ea.	5.410	1,250	285	1,535
19 cu.ft., minimum	1.000	Ea.	2.667	620	122	742
Maximum	1.000	Ea.	4.667	1,075	214	1,289
19 cu.ft. with icemaker, minimum	1.000	Ea.	5.143	900	273	1,173
Maximum	1.000	Ea.	7.143	1,375	365	1,740
Sinks, porcelain on cast iron single bowl, 21" x 24"	1.000	Ea.	10.334	690	615	1,305
21" x 30"	1.000	Ea.	10.334	1,300	615	1,915
Double bowl, 20" x 32"	1.000	Ea.	10.810	780	645	1,425
Stainless steel, single bowl 16" x 20"	1.000	Ea.	10.334	1,025	615	1,640
22" x 25"	1.000	Ea.	10.334	1,100	615	1,715
Double bowl, 20" x 32"	1.000	Ea.	10.810	920	645	1,565
Water heater, electric, 30 gallon	1.000	Ea.	3.636	1,175	242	1,417
40 gallon	1.000	Ea.	4.000	1,375	266	1,641
Gas, 30 gallon	1.000	Ea.	4.000	2,325	266	2,591
75 gallon	1.000	Ea.	5.333	2,925	355	3,280
Wall, packaged terminal heater/air conditioner cabinet, wall sleeve, louver, electric heat, thermostat, manual changeover, 208V						
6000 BTUH cooling, 8800 BTU heating	1.000	Ea.	2.667	800	165	965
9000 BTUH cooling, 13,900 BTU heating	1.000	Ea.	3.200	1,075	198	1,273
12,000 BTUH cooling, 13,900 BTU heating	1.000	Ea.	4.000	1,700	247	1,947
15,000 BTUH cooling, 13,900 BTU heating	1.000	Ea.	5.333	1,700	330	2,030

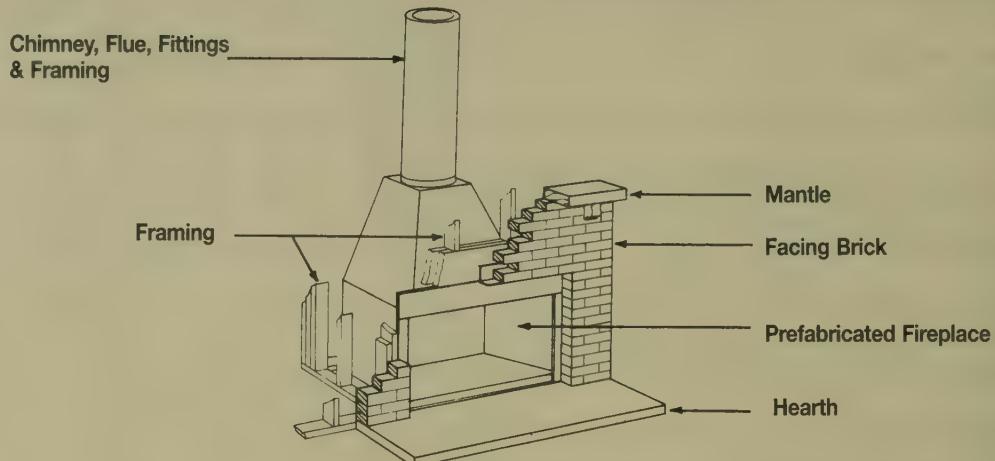




<b>System Description</b>	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
<b>MASONRY FIREPLACE</b>						
Footing, 8" thick, concrete, 4' x 7'	.700	C.Y.	2.800	156.80	158.93	315.73
Foundation, concrete block, 32" x 60" x 4" deep	1.000	Ea.	5.275	211.20	290.40	501.60
Fireplace, brick firebox, 30" x 29" opening	1.000	Ea.	40.000	685	2,175	2,860
Damper, cast iron, 30" opening	1.000	Ea.	1.333	136	78	214
Facing brick, standard size brick, 6' x 5'	30.000	S.F.	5.217	149.40	288	437.40
Hearth, standard size brick, 3' x 6'	1.000	Ea.	8.000	236	435	671
Chimney, standard size brick, 8" x 12" flue, one story house	12.000	V.L.F.	12.000	564	648	1,212
Mantle, 4" x 8", wood	6.000	L.F.	1.333	58.20	79.20	137.40
Cleanout, cast iron, 8" x 8"	1.000	Ea.	.667	62.50	39	101.50
<b>TOTAL</b>		Ea.	76.625	2,259.10	4,191.53	6,450.63

The costs in this system are on a cost each basis.





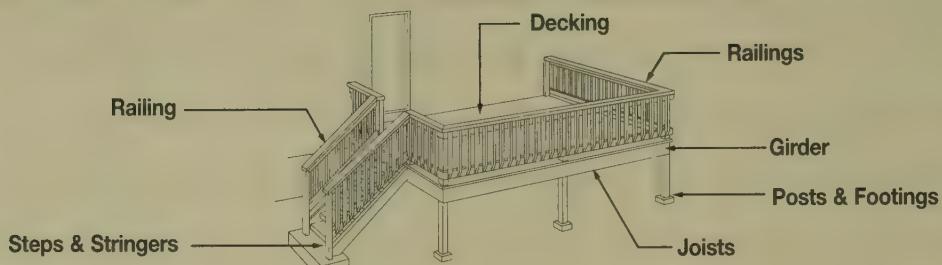
System Description	Quan.	Unit	Labor Hours	Cost Each		
				Mat.	Inst.	Total
<b>PREFABRICATED FIREPLACE</b>						
Prefabricated fireplace, metal, painted	1.000	Ea.	6.154	1,800	365	2,165
Framing, 2" x 4" studs, 6' x 5'	35.000	L.F.	.509	17.85	30.10	47.95
Fire resistant gypsum drywall, unfinished	40.000	S.F.	.320	16.80	19.20	36
Drywall finishing adder	40.000	S.F.	.320	2.40	19.20	21.60
Facing, brick, standard size brick, 6' x 5'	30.000	S.F.	5.217	149.40	288	437.40
Hearth, standard size brick, 3' x 6'	1.000	Ea.	8.000	236	435	671
Chimney, one story house, framing, 2" x 4" studs	80.000	L.F.	1.164	40.80	68.80	109.60
Sheathing, plywood, 5/8" thick	32.000	S.F.	.758	91.20	45.12	136.32
Flue, 10" metal, insulated pipe	12.000	V.L.F.	4.000	654	234	888
Fittings, ceiling support	1.000	Ea.	.667	166	39	205
Fittings, joist shield	1.000	Ea.	.727	845	42.50	887.50
Fittings, roof flashing	1.000	Ea.	.667	450	39	489
Mantle beam, wood, 4" x 8"	6.000	L.F.	1.333	58.20	79.20	137.40
TOTAL		Ea.	29.836	4,527.65	1,704.12	6,231.77

The costs in this system are on a cost each basis.



System Description	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Economy, lean to, shell only, not including 2' stub wall, fndtn, flrs, heat 4' x 16'	1.000	Ea.	26.212	2,650	1,550	4,200
4' x 24'	1.000	Ea.	30.259	3,050	1,800	4,850
6' x 10'	1.000	Ea.	16.552	1,850	985	2,835
6' x 16'	1.000	Ea.	23.034	2,600	1,375	3,975
6' x 24'	1.000	Ea.	29.793	3,350	1,775	5,125
8' x 10'	1.000	Ea.	22.069	2,475	1,300	3,775
8' x 16'	1.000	Ea.	38.400	4,325	2,275	6,600
8' x 24'	1.000	Ea.	49.655	5,575	2,950	8,525
Free standing, 8' x 8'	1.000	Ea.	17.356	1,675	1,025	2,700
8' x 16'	1.000	Ea.	30.211	2,900	1,800	4,700
8' x 24'	1.000	Ea.	39.051	3,750	2,325	6,075
10' x 10'	1.000	Ea.	18.824	4,700	1,125	5,825
10' x 16'	1.000	Ea.	24.095	6,025	1,425	7,450
10' x 24'	1.000	Ea.	31.624	7,900	1,875	9,775
14' x 10'	1.000	Ea.	20.741	6,925	1,225	8,150
14' x 16'	1.000	Ea.	24.889	8,325	1,475	9,800
14' x 24'	1.000	Ea.	33.349	11,100	1,975	13,075
Standard, lean to, shell only, not incl. 2' stub wall, fndtn, flrs, heat 4' x 10'	1.000	Ea.	28.235	2,850	1,675	4,525
4' x 16'	1.000	Ea.	39.341	3,975	2,350	6,325
4' x 24'	1.000	Ea.	45.412	4,575	2,700	7,275
6' x 10'	1.000	Ea.	24.827	2,800	1,475	4,275
6' x 16'	1.000	Ea.	34.538	3,875	2,050	5,925
6' x 24'	1.000	Ea.	44.689	5,025	2,650	7,675
8' x 10'	1.000	Ea.	33.103	3,725	1,975	5,700
8' x 16'	1.000	Ea.	57.600	6,475	3,425	9,900
8' x 24'	1.000	Ea.	74.482	8,375	4,425	12,800
Free standing, 8' x 8'	1.000	Ea.	26.034	2,500	1,550	4,050
8' x 16'	1.000	Ea.	45.316	4,350	2,700	7,050
8' x 24'	1.000	Ea.	58.577	5,625	3,475	9,100
10' x 10'	1.000	Ea.	28.236	7,050	1,675	8,725
10' x 16'	1.000	Ea.	36.142	9,025	2,150	11,175
10' x 24'	1.000	Ea.	47.436	11,800	2,825	14,625
14' x 10'	1.000	Ea.	31.112	10,400	1,850	12,250
14' x 16'	1.000	Ea.	37.334	12,500	2,225	14,725
14' x 24'	1.000	Ea.	50.030	16,700	2,975	19,675
Deluxe, lean to, shell only, not incl. 2' stub wall, fndtn, flrs or heat, 4' x 10'	1.000	Ea.	20.645	4,675	1,225	5,900
4' x 16'	1.000	Ea.	33.032	7,500	1,950	9,450
4' x 24'	1.000	Ea.	49.548	11,200	2,925	14,125
6' x 10'	1.000	Ea.	30.968	7,025	1,825	8,850
6' x 16'	1.000	Ea.	49.548	11,200	2,925	14,125
6' x 24'	1.000	Ea.	74.323	16,800	4,400	21,200
8' x 10'	1.000	Ea.	41.290	9,350	2,450	11,800
8' x 16'	1.000	Ea.	66.065	15,000	3,900	18,900
8' x 24'	1.000	Ea.	99.097	22,500	5,850	28,350
Freestanding, 8' x 8'	1.000	Ea.	18.618	6,175	1,100	7,275
8' x 16'	1.000	Ea.	37.236	12,400	2,225	14,625
8' x 24'	1.000	Ea.	55.855	18,500	3,325	21,825
10' x 10'	1.000	Ea.	29.091	9,650	1,725	11,375
10' x 16'	1.000	Ea.	46.546	15,400	2,775	18,175
10' x 24'	1.000	Ea.	69.818	23,200	4,150	27,350
14' x 10'	1.000	Ea.	40.727	13,500	2,425	15,925
14' x 16'	1.000	Ea.	65.164	21,600	3,875	25,475
14' x 24'	1.000	Ea.	97.746	32,400	5,825	38,225





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>8' X 12' DECK, PRESSURE TREATED LUMBER, JOISTS 16" O.C.</b>						
4" x 4" Posts	.500	L.F.	.021	.78	1.22	2
Ledger, bolted 4' O.C.	.125	L.F.	.005	.22	.31	.53
Joists, 2" x 10", 16" O.C.	1.080	L.F.	.019	1.75	1.14	2.89
5/4" x 6" decking	1.000	S.F.	.025	2.38	1.49	3.87
2" x 12" stair stringers	.375	L.F.	.046	.73	2.74	3.47
5/4" x 6" stair treads	.500	L.F.	.050	.56	2.98	3.54
4" x 4" handrail posts	.210	L.F.	.009	.33	.51	.84
2" x 6" handrail cap	.520	L.F.	.014	.44	.82	1.26
2" x 4" baluster support	1.040	L.F.	.028	.67	1.64	2.31
2" x 2" balusters	3.850	L.F.	.093	2.04	5.54	7.58
Post footings	.042	Ea.	.134	1.55	7.06	8.61
Concrete step	.010	Ea.	.016	.86	.95	1.81
Joist hangers	.210	Ea.	.010	.36	.60	.96
<b>TOTAL</b>		<b>S.F.</b>	<b>.470</b>	<b>12.67</b>	<b>27</b>	<b>39.67</b>
<b>12' X 16' DECK, PRESSURE TREATED LUMBER, JOISTS 24" O.C.</b>						
4" x 4" Posts	.312	L.F.	.013	.48	.76	1.24
Ledger, bolted 4' O.C.	.083	L.F.	.003	.13	.20	.33
Joists, 2" x 8", 16" O.C.	.810	L.F.	.014	1.31	.86	2.17
5/4" x 6" decking	1.000	S.F.	.025	2.38	1.49	3.87
2" x 12" stair stringers	.188	L.F.	.023	.36	1.37	1.73
5/4" x 6" stair treads	.250	L.F.	.025	2.08	1.49	3.57
4" x 4" handrail posts	.125	L.F.	.005	.19	.31	.50
2" x 6" handrail cap	.323	L.F.	.009	.27	.51	.78
2" x 4" baluster support	.650	L.F.	.017	.42	1.03	1.45
2" x 2" balusters	2.440	L.F.	.059	1.29	3.51	4.80
Post footings	.026	Ea.	.083	.96	4.37	5.33
Concrete step	.005	Ea.	.008	.43	.47	.90
Joist hangers	.135	Ea.	.007	.23	.39	.62
Deck support girder	.083	L.F.	.002	.27	.14	.41
<b>TOTAL</b>		<b>S.F.</b>	<b>.293</b>	<b>10.80</b>	<b>16.90</b>	<b>27.70</b>

The costs in this system are on a square foot basis.

<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
12' X 24' DECK, REDWOOD OR CEDAR, JOISTS 16" O.C.						
4" x 4" redwood posts	.291	L.F.	.012	2.12	.71	2.83
Redwood joists, 2" x 8", 16" O.C.	.001	M.B.F.	.010	5.03	.60	5.63
5/4" x 6" redwood decking	1.000	S.F.	.025	5.40	1.49	6.89
Stair stringers	.125	L.F.	.015	.24	.91	1.15
Stringer trim	.083	L.F.	.003	.40	.20	.60
Stair treads	.135	S.F.	.003	.73	.20	.93
Handrail supports	.083	L.F.	.003	.61	.20	.81
Handrail cap	.152	L.F.	.004	1.16	.24	1.40
Baluster supports	.416	L.F.	.011	3.18	.66	3.84
Balusters	1.875	L.F.	.050	2.46	2.96	5.42
Post footings	.024	Ea.	.077	.89	4.03	4.92
Concrete step	.003	Ea.	.005	.26	.28	.54
Joist hangers	.132	Ea.	.006	.23	.38	.61
Deck support girder		M.B.F.	.003	1.37	.16	1.53
		S.F.	.227	24.08	13.02	37.10

The costs in this system are on a square foot basis.

<b>Wood Deck Price Sheet</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER S.F.</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
Decking, treated lumber, 1" x 4"	3.430	L.F.	.031	11.65	5.95	17.60
2" x 4"	3.430	L.F.	.033	7.35	5.40	12.75
2" x 6"	2.200	L.F.	.041	4.03	3.28	7.31
5/4" x 6"	2.200	L.F.	.027	5.25	3.28	8.53
Redwood or cedar, 1" x 4"	3.430	L.F.	.035	10.75	5.95	16.70
2" x 4"	3.430	L.F.	.036	20.50	5.40	25.90
2" x 6"	2.200	L.F.	.028	24	3.28	27.28
5/4" x 6"	2.200	L.F.	.027	18.25	3.28	21.53
Joists for deck, treated lumber, 2" x 8", 16" O.C.	1.000	L.F.	.015	1.40	.86	2.26
24" O.C.	.750	L.F.	.012	1.05	.65	1.70
2" x 10", 16" O.C.	1.000	L.F.	.018	1.62	1.06	2.68
24" O.C.	.750	L.F.	.014	1.22	.80	2.02
Redwood or cedar, 2" x 8", 16" O.C.	1.000	L.F.	.015	5.60	.86	6.46
24" O.C.	.750	L.F.	.012	4.20	.65	4.85
2" x 10", 16" O.C.	1.000	L.F.	.018	7.60	1.06	8.66
24" O.C.	.750	L.F.	.014	5.70	.80	6.50
Girder for joists, treated lumber, 2" x 10", 8' x 12' deck	.250	L.F.	.002	.41	.22	.63
12' x 16' deck	.167	L.F.	.001	.27	.14	.41
12' x 24' deck	.167	L.F.	.001	.27	.14	.41
Redwood or cedar, 2" x 10", 8' x 12' deck	.250	L.F.	.002	1.90	.27	2.17
12' x 16' deck	.167	L.F.	.001	1.27	.18	1.45
12' x 24' deck	.167	L.F.	.001	1.27	.18	1.45
Posts, 4" x 4", including concrete footing, 8' x 12' deck	.500	L.F.	.022	2.30	8.10	10.40
12' x 16' deck	.312	L.F.	.017	1.44	5.15	6.59
12' x 24' deck	.291	L.F.	.017	1.34	4.74	6.08
Stairs 2" x 10" stringers, treated lumber, 8' x 12' deck	1.000	Set	.020	1.72	4.75	6.47
12' x 16' deck	1.000	Set	.012	.86	2.38	3.24
12' x 24' deck	1.000	Set	.008	.60	1.66	2.26
Redwood or cedar, 8' x 12' deck	1.000	Set	.040	3.70	4.75	8.45
12' x 16' deck	1.000	Set	.020	1.85	2.38	4.23
12' x 24' deck	1.000	Set	.012	1.30	1.66	2.96
Railings 2" x 4", treated lumber, 8' x 12' deck	.520	L.F.	.026	3.15	8	11.15
12' x 16' deck	.323	L.F.	.017	1.98	5.05	7.03
12' x 24' deck	.210	L.F.	.014	1.45	3.70	5.15
Redwood or cedar, 8' x 12' deck	1.000	L.F.	.009	10.35	8.55	18.90

<b>Wood Deck Price Sheet</b>	QUAN.	UNIT	LABOR HOURS	COST PER S.F.		
				MAT.	INST.	TOTAL
12' x 16' deck	.670	L.F.	.006	6.50	5.40	11.90
12' x 24' deck	.540	L.F.	.005	4.62	3.96	8.58
Alternative decking, wood/plastic composite, 5/4" x 6"	2.200	L.F.	.055	8.35	3.28	11.63
1" x 4" square edge fir	3.430	L.F.	.100	11.70	5.95	17.65
1" x 4" tongue and groove fir	3.430	L.F.	.122	5.75	7.25	13
1" x 4" mahogany	3.430	L.F.	.100	8.05	5.95	14
5/4" x 6" PVC	2.200	L.F.	.064	8.35	3.81	12.16

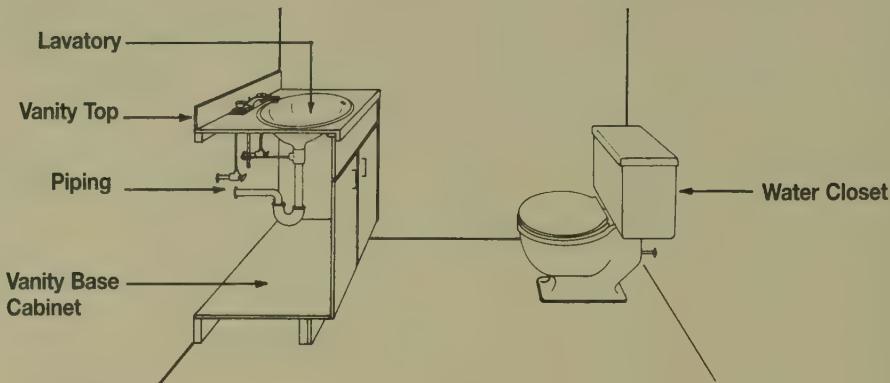
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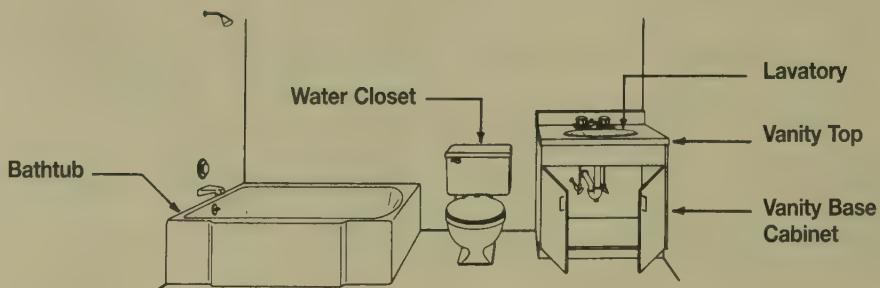


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>LAVATORY INSTALLED WITH VANITY, PLUMBING IN 2 WALLS</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron white	1.000	Ea.	2.500	340	150	490
Rough-in, vent, 1-1/2" diameter DWV piping	4.000	Ea.	.901	74	54	128
Waste, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Piping, supply, 1/2" diameter type "L" copper supply piping	10.000	L.F.	.988	40.50	65.50	106
Waste, 4" diameter DWV piping	7.000	L.F.	1.931	192.50	115.50	308
Vent, 2" diameter DWV piping	12.000	L.F.	2.866	264	171.60	435.60
Vanity base cabinet, 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic & laminated, square edge	3.000	L.F.	.800	151.50	47.55	199.05
<b>TOTAL</b>		Ea.	<b>18.324</b>	<b>2,131.80</b>	<b>1,113.35</b>	<b>3,245.15</b>
<b>LAVATORY WITH WALL-HUNG LAVATORY, PLUMBING IN 2 WALLS</b>						
Water closet, floor mounted, 2 piece close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron, wall hung, white	1.000	Ea.	2.000	271	120	391
Rough-in, vent, 1-1/2" diameter DWV piping	4.000	Ea.	.901	74	54	128
Waste, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Piping, supply, 1/2" diameter type "L" copper supply piping	10.000	L.F.	.988	40.50	65.50	106
Waste, 4" diameter DWV piping	7.000	L.F.	1.931	192.50	115.50	308
Vent, 2" diameter DWV piping	12.000	L.F.	2.866	264	171.60	435.60
Carrier, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
<b>TOTAL</b>		Ea.	<b>17.167</b>	<b>1,473.80</b>	<b>1,052.30</b>	<b>2,526.10</b>

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Two Fixture Lavatory Price Sheet

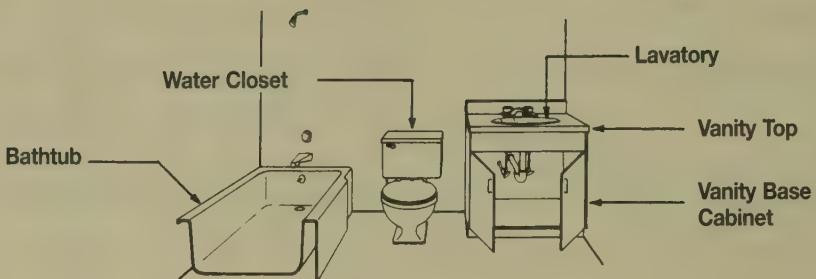
	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.524	248	155	403
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory, vanity top mounted, P.E. on cast iron 20" x 18" white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel, enameled 10" x 17" white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Wall hung, P.E. on cast iron, 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Rough-in supply waste and vent for lavatory						
1/2" copper supply, 2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.844	203	177	380
2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.962	117	190	307
2" copper waste, 1-1/2" copper vent	1.000	Ea.	2.308	176	153	329
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.639	117	175	292
1-1/2" copper waste, 1-1/4" copper vent	1.000	Ea.	2.114	151	140	291
1/2" PVC supply, 2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.456	150	223	373
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	3.133	150	208	358
1/2" steel supply, 2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	3.126	207	196	403
2" cast iron waste, 2" steel vent	1.000	Ea.	3.225	168	202	370
2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.244	122	209	331
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.921	122	194	316
Piping, supply, 1/2" copper, type "L"	10.000	L.F.	.988	40.50	65.50	106
1/2" steel	10.000	L.F.	1.270	45	84.50	129.50
1/2" PVC	10.000	L.F.	1.482	73.50	98.50	172
Waste, 4" cast iron	7.000	L.F.	1.931	193	116	309
4" copper	7.000	L.F.	2.800	465	168	633
4" PVC	7.000	L.F.	2.333	147	140	287
Vent, 2" cast iron	12.000	L.F.	2.866	264	172	436
2" copper	12.000	L.F.	2.182	240	145	385
2" PVC	12.000	L.F.	3.254	121	195	316
2" steel	12.000	Ea.	3.000	104	179	283
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic, square edge 25" x 32"	2.670	L.F.	.712	135	42.50	177.50
25" x 38"	3.170	L.F.	.845	160	50	210
Post formed, laminated plastic, 25" x 32"	2.670	L.F.	.712	37	42.50	79.50
25" x 38"	3.170	L.F.	.845	44	50	94
Cultured marble, 25" x 32" with bowl	1.000	Ea.	2.500	180	150	330
25" x 38" with bowl	1.000	Ea.	2.500	224	150	374
Carrier for lavatory, steel for studs	1.000	Ea.	1.143	67.50	76	143.50
Wood 2" x 8" blocking	1.330	L.F.	.053	1.46	3.17	4.63



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM INSTALLED WITH VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron with accessories, white	1.000	Ea.	2.500	340	150	490
Rough-in, supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Bathtub, P.E. cast iron, 5' long with accessories, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Piping, supply, 1/2" diameter type "L" copper supply piping	20.000	L.F.	1.975	81	131	212
Waste, 4" diameter DWV piping	9.000	L.F.	2.483	247.50	148.50	396
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Vanity base cabinet, 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated square edge	3.000	L.F.	.800	114	47.55	161.55
	<b>TOTAL</b>	Ea.	24.489	3,542.40	1,499.15	5,041.55
<b>BATHROOM WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron, wall hung, white	1.000	Ea.	2.000	271	120	391
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron, 5' long with accessories, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	10.000	Ea.	1.482	138.50	98.50	237
Piping, supply, 1/2" diameter type "L" copper supply piping	20.000	L.F.	1.975	81	131	212
Waste, 4" diameter DWV piping	9.000	L.F.	2.483	247.50	148.50	396
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
	<b>TOTAL</b>	Ea.	24.221	3,005	1,497.20	4,502.20

The costs in this system are a cost each basis, all necessary piping is included.

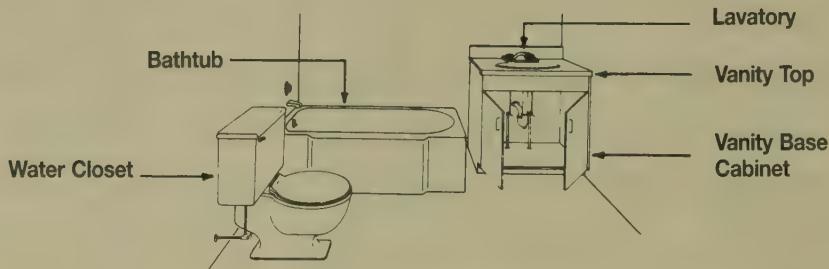
Three Fixture Bathroom Price Sheet	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece, elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in, for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC supply	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung, P.E. cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory, for vanity top, P.E. cast iron 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel, enameled 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Rough-in, for lavatory						
1/2" copper supply, 1-1/2" C.I. waste, 1-1/2" C.I. vent	1.000	Ea.	2.791	189	174	363
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.639	117	175	292
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	2.890	158	182	340
1-1/4" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.794	125	186	311
1/2" PVC supply, 1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.260	146	217	363
Bathtub, P.E. cast iron, 5' long corner with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Color	1.000	Ea.	3.636	1,700	218	1,918
Rough-in, for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.409	178	154	332
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.877	140	184	324
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	2.898	169	182	351
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.159	145	203	348
1/2" PVC supply, 4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.371	173	217	390
Piping, supply 1/2" copper	20.000	L.F.	1.975	81	131	212
1/2" steel	20.000	L.F.	2.540	90	169	259
1/2" PVC	20.000	L.F.	2.963	147	197	344
Piping, waste, 4" cast iron no hub	9.000	L.F.	2.483	248	149	397
4" PVC/DWV	9.000	L.F.	3.000	189	180	369
4" copper/DWV	9.000	L.F.	3.600	600	216	816
Piping, vent 2" cast iron no hub	6.000	L.F.	1.433	132	86	218
2" copper/DWV	6.000	L.F.	1.091	120	72.50	192.50
2" PVC/DWV	6.000	L.F.	1.627	60.50	97.50	158
2" steel, galvanized	6.000	L.F.	1.500	52	89.50	141.50
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic square edge 25" x 32"	2.670	L.F.	.712	101	42.50	143.50
25" x 38"	3.160	L.F.	.843	120	50	170
Cultured marble, 25" x 32", with bowl	1.000	Ea.	2.500	180	150	330
25" x 38", with bowl	1.000	Ea.	2.500	224	150	374
Carrier, for lavatory, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron with accessories, white	1.000	Ea.	2.500	340	150	490
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron 5' long with accessories, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Piping, supply, 1/2" diameter type "L" copper supply piping	10.000	L.F.	.988	40.50	65.50	106
Waste, 4" diameter DWV piping	6.000	L.F.	1.655	165	99	264
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Vanity base cabinet, 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated square edge	3.000	L.F.	.800	114	47.55	161.55
	<b>TOTAL</b>	Ea.	22.674	3,419.40	1,384.15	4,803.55
<b>BATHROOM WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron, wall hung, white	1.000	Ea.	2.000	271	120	391
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron, 5' long with accessories, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	10.000	L.F.	.988	40.50	65.50	106
Waste, 4" diameter DWV piping	6.000	L.F.	1.655	165	99	264
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
	<b>TOTAL</b>	Ea.	21.517	2,798.90	1,323.10	4,122

The costs in this system are on a cost each basis. All necessary piping is included.

Three Fixture Bathroom Price Sheet	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" carrier waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC supply	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung, PE cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory, for vanity top, PE cast iron 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel enameled 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Rough-in for lavatory						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.791	189	174	363
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.639	117	175	292
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	2.890	158	182	340
1-1/4" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.794	125	186	311
1/2" PVC supply, 1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.260	146	217	363
Bathtub, PE cast iron, 5' long corner with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Color	1.000	Ea.	3.636	1,700	218	1,918
Rough-in for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.409	178	154	332
4" PVC waste, 1/2" PVC vent	1.000	Ea.	2.877	140	184	324
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	2.898	169	182	351
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.159	145	203	348
1/2" PVC supply, 4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.371	173	217	390
Piping supply, 1/2" copper	10.000	L.F.	.988	40.50	65.50	106
1/2" steel	10.000	L.F.	1.270	45	84.50	129.50
1/2" PVC	10.000	L.F.	1.482	73.50	98.50	172
Piping waste, 4" cast iron no hub	6.000	L.F.	1.655	165	99	264
4" PVC/DWV	6.000	L.F.	2.000	126	120	246
4" copper/DWV	6.000	L.F.	2.400	400	144	544
Piping vent 2" cast iron no hub	6.000	L.F.	1.433	132	86	218
2" copper/DWV	6.000	L.F.	1.091	120	72.50	192.50
2" PVC/DWV	6.000	L.F.	1.627	60.50	97.50	158
2" steel, galvanized	6.000	L.F.	1.500	52	89.50	141.50
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic square edge 25" x 32"	2.670	L.F.	.712	101	42.50	143.50
25" x 38"	3.160	L.F.	.843	120	50	170
Cultured marble, 25" x 32", with bowl	1.000	Ea.	2.500	180	150	330
25" x 38", with bowl	1.000	Ea.	2.500	224	150	374
Carrier, for lavatory, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52

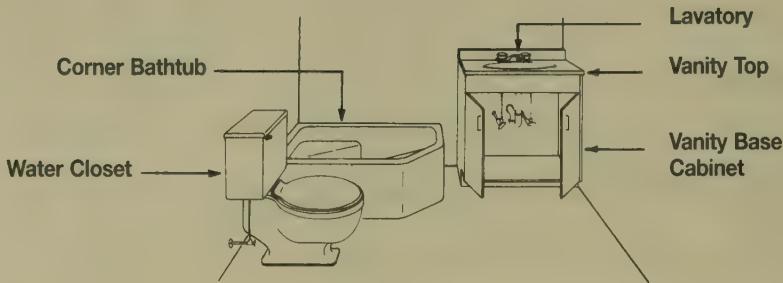


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", PE cast iron with accessories, white	1.000	Ea.	2.500	340	150	490
Rough-in, vent, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron, 5' long with accessories, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	32.000	L.F.	3.161	129.60	209.60	339.20
Waste, 4" diameter DWV piping	12.000	L.F.	3.310	330	198	528
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Vanity base cabinet, 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated square edge	3.000	L.F.	.800	114	47.55	161.55
	<b>TOTAL</b>	Ea.	26.502	3,673.50	1,627.25	5,300.75
<b>BATHROOM WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron, wall hung, white	1.000	Ea.	2.000	271	120	391
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron, 5' long with accessories, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	32.000	L.F.	3.161	129.60	209.60	339.20
Waste, 4" diameter DWV piping	12.000	L.F.	3.310	330	198	528
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Carrier steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
	<b>TOTAL</b>	Ea.	25.345	3,053	1,566.20	4,619.20

The costs in this system are on a cost each basis. All necessary piping is included.

**Three Fixture Bathroom Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece, elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece, elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in, for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC supply	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory wall hung, P.E. cast iron, 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china, 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory, for vanity top, P.E., cast iron, 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel, enameled, 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china, 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Rough-in, for lavatory						
1/2" copper supply, 1-1/2" C.I. waste, 1-1/2" C.I. vent	1.000	Ea.	2.791	189	174	363
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.639	117	175	292
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	2.890	158	182	340
1-1/4" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.794	125	186	311
1/2" PVC supply, 1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.260	146	217	363
Bathtub, P.E. cast iron, 5' long corner with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Color	1.000	Ea.	3.636	1,700	218	1,918
Rough-in, for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.409	178	154	332
4" PVC waste, 1/2" PVC vent	1.000	Ea.	2.877	140	184	324
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	2.898	169	182	351
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.159	145	203	348
1/2" PVC supply, 4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.371	173	217	390
Piping, supply, 1/2" copper	32.000	L.F.	3.161	130	210	340
1/2" steel	32.000	L.F.	4.063	144	270	414
1/2" PVC	32.000	L.F.	4.741	235	315	550
Piping, waste, 4" cast iron no hub	12.000	L.F.	3.310	330	198	528
4" PVC/DWV	12.000	L.F.	4.000	252	239	491
4" copper/DWV	12.000	L.F.	4.800	800	288	1,088
Piping, vent, 2" cast iron no hub	6.000	L.F.	1.433	132	86	218
2" copper/DWV	6.000	L.F.	1.091	120	72.50	192.50
2" PVC/DWV	6.000	L.F.	1.627	60.50	97.50	158
2" steel, galvanized	6.000	L.F.	1.500	52	89.50	141.50
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic square edge, 25" x 32"	2.670	L.F.	.712	101	42.50	143.50
25" x 38"	3.160	L.F.	.843	120	50	170
Cultured marble, 25" x 32", with bowl	1.000	Ea.	2.500	180	150	330
25" x 38", with bowl	1.000	Ea.	2.500	224	150	374
Carrier, for lavatory, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52

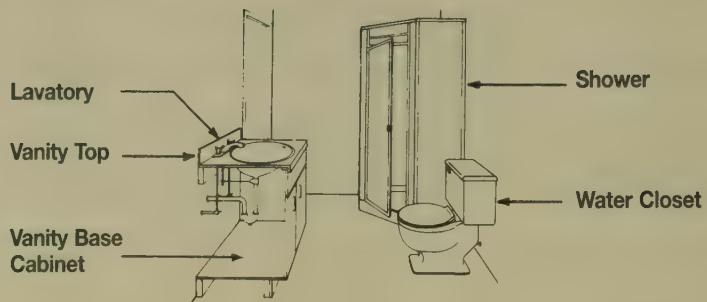


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron with fittings, white	1.000	Ea.	2.500	340	150	490
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron, corner with fittings, white	1.000	Ea.	3.636	3,200	218	3,418
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	32.000	L.F.	3.161	129.60	209.60	339.20
Waste, 4" diameter DWV piping	12.000	L.F.	3.310	330	198	528
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Vanity base cabinet, 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	3.000	L.F.	.800	151.50	47.55	199.05
	<b>TOTAL</b>	Ea.	26.502	5,511	1,627.25	7,138.25
<b>BATHROOM WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron, with fittings, white	1.000	Ea.	2.000	271	120	391
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Bathtub, P.E. cast iron, corner, with fittings, white	1.000	Ea.	3.636	3,200	218	3,418
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	32.000	L.F.	3.161	129.60	209.60	339.20
Waste, 4" diameter DWV piping	12.000	L.F.	3.310	330	198	528
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
	<b>TOTAL</b>	Ea.	25.345	4,853	1,566.20	6,419.20

The costs in this system are on a cost each basis. All necessary piping is included.

### Three Fixture Bathroom Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in, for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC supply	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung P.E. cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory, for vanity top, P.E., cast iron, 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel enameled 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Rough-in, for lavatory						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.791	189	174	363
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.639	117	175	292
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	2.890	158	182	340
1-1/4" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.794	125	186	311
1/2" PVC supply, 1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.260	146	217	363
Bathtub, P.E. cast iron, corner with fittings, white	1.000	Ea.	3.636	3,200	218	3,418
Color	1.000	Ea.	4.000	2,925	239	3,164
Rough-in, for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.409	178	154	332
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.877	140	184	324
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	2.898	169	182	351
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.159	145	203	348
1/2" PVC supply, 4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.371	173	217	390
Piping, supply, 1/2" copper	32.000	L.F.	3.161	130	210	340
1/2" steel	32.000	L.F.	4.063	144	270	414
1/2" PVC	32.000	L.F.	4.741	235	315	550
Piping, waste, 4" cast iron, no hub	12.000	L.F.	3.310	330	198	528
4" PVC/DWV	12.000	L.F.	4.000	252	239	491
4" copper/DWV	12.000	L.F.	4.800	800	288	1,088
Piping, vent 2" cast iron, no hub	6.000	L.F.	1.433	132	86	218
2" copper/DWV	6.000	L.F.	1.091	120	72.50	192.50
2" PVC/DWV	6.000	L.F.	1.627	60.50	97.50	158
2" steel, galvanized	6.000	L.F.	1.500	52	89.50	141.50
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic square edge 25" x 32"	2.670	L.F.	.712	135	42.50	177.50
25" x 38"	3.160	L.F.	.843	160	50	210
Cultured marble, 25" x 32", with bowl	1.000	Ea.	2.500	180	150	330
25" x 38", with bowl	1.000	Ea.	2.500	224	150	374
Carrier, for lavatory, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.053	1.46	3.17	4.63

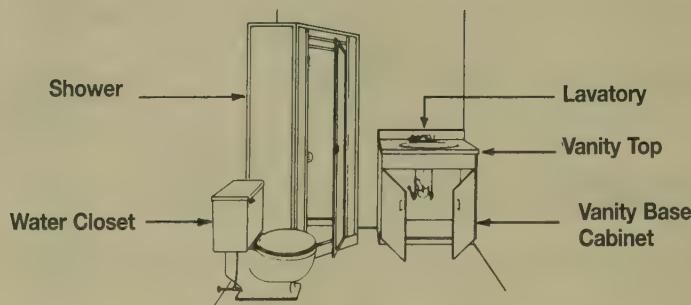


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH SHOWER, LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.500	340	150	490
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Shower, steel enameled, stone base, corner, white	1.000	Ea.	3.200	1,275	191	1,466
Shower mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, vent, 1-1/2" diameter DWV piping	1.000	Ea.	.225	18.50	13.50	32
Waste, 2" diameter DWV piping	6.000	Ea.	1.433	132	85.80	217.80
Supply, 1/2" diameter type "L" copper supply piping	16.000	Ea.	1.580	64.80	104.80	169.60
Piping, supply, 1/2" diameter type "L" copper supply piping	42.000	L.F.	4.148	170.10	275.10	445.20
Waste, 4" diameter DWV piping	10.000	L.F.	2.759	275	165	440
Vent, 2" diameter DWV piping	9.000	L.F.	2.250	78.30	134.55	212.85
Vanity base 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	3.000	L.F.	.800	154.50	47.55	202.05
		<b>TOTAL</b>		<b>Ea.</b>	<b>30.414</b>	<b>4,331.50</b>
						<b>1,880.80</b>
						<b>6,212.30</b>
<b>BATHROOM WITH SHOWER, WALL HUNG LAVATORY</b>						
Water closet, floor mounted, close coupled	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.000	271	120	391
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Shower, steel enameled, stone base, white	1.000	Ea.	3.200	1,275	191	1,466
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, vent, 1-1/2" diameter DWV piping	1.000	Ea.	.225	18.50	13.50	32
Waste, 2" diameter DWV piping	6.000	Ea.	1.433	132	85.80	217.80
Supply, 1/2" diameter type "L" copper supply piping	16.000	Ea.	1.580	64.80	104.80	169.60
Piping, supply, 1/2" diameter type "L" copper supply piping	42.000	L.F.	4.148	170.10	275.10	445.20
Waste, 4" diameter DWV piping	10.000	L.F.	2.759	275	165	440
Vent, 2" diameter DWV piping	9.000	L.F.	2.250	78.30	134.55	212.85
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
		<b>TOTAL</b>		<b>Ea.</b>	<b>29.257</b>	<b>3,670.50</b>
						<b>1,819.75</b>
						<b>5,490.25</b>

The costs in this system are on a cost each basis. All necessary piping is included.

### Three Fixture Bathroom Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in, for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC supply	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung, P.E. cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory, for vanity top, P.E. cast iron 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel enameled 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Rough-in, for lavatory						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.791	189	174	363
1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.639	117	175	292
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	2.890	158	182	340
1-1/4" PVC waste, 1-1/4" PVC vent	1.000	Ea.	2.921	122	194	316
1/2" PVC supply, 1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.260	146	217	363
Shower, steel enameled stone base, 32" x 32", white	1.000	Ea.	8.000	1,275	191	1,466
Color	1.000	Ea.	7.822	2,225	175	2,400
36" x 36" white	1.000	Ea.	8.889	1,825	199	2,024
Color	1.000	Ea.	8.889	2,525	199	2,724
Rough-in, for shower						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	3.238	215	204	419
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.429	134	217	351
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	3.665	215	233	448
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.881	142	247	389
1/2" PVC supply, 4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	4.219	187	270	457
Piping, supply, 1/2" copper	36.000	L.F.	4.148	170	275	445
1/2" steel	36.000	L.F.	5.333	189	355	544
1/2" PVC	36.000	L.F.	6.222	310	415	725
Piping, waste, 4" cast iron no hub	7.000	L.F.	2.759	275	165	440
4" PVC/DWV	7.000	L.F.	3.333	210	200	410
4" copper/DWV	7.000	L.F.	4.000	665	240	905
Piping, vent, 2" cast iron no hub	6.000	L.F.	2.149	198	129	327
2" copper/DWV	6.000	L.F.	1.636	180	109	289
2" PVC/DWV	6.000	L.F.	2.441	90.50	146	236.50
2" steel, galvanized	6.000	L.F.	2.250	78.50	135	213.50
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic square edge, 25" x 32"	2.170	L.F.	.712	138	42.50	180.50
25" x 38"	2.670	L.F.	.845	163	50	213
Carrier, for lavatory, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52

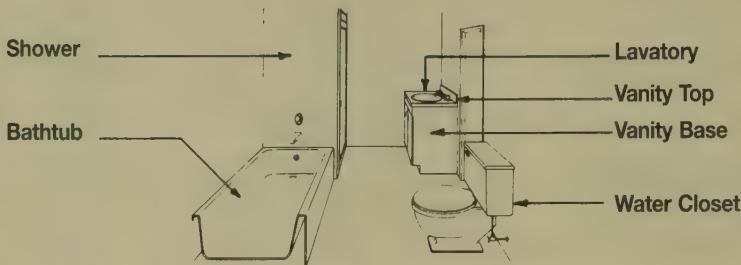


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18", P.E. cast iron with fittings, white	1.000	Ea.	2.500	340	150	490
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Shower, steel enameled, stone base, corner, white	1.000	Ea.	3.200	1,275	191	1,466
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, vent, 1-1/2" diameter DWV piping	1.000	Ea.	.225	18.50	13.50	32
Waste, 2" diameter DWV piping	6.000	Ea.	1.433	132	85.80	217.80
Supply, 1/2" diameter type "L" copper supply piping	16.000	Ea.	1.580	64.80	104.80	169.60
Piping, supply, 1/2" diameter type "L" copper supply piping	36.000	L.F.	3.556	145.80	235.80	381.60
Waste, 4" diameter DWV piping	7.000	L.F.	1.931	192.50	115.50	308
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Vanity base, 2 door, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	3.000	L.F.	.800	114	47.55	161.55
		Ea.	28.244	4,158.10	1,747.15	5,905.25
<b>BATHROOM, WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, wall hung, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.000	271	120	391
Rough-in, waste, 1-1/2" diameter DWV piping	8.000	Ea.	1.803	148	108	256
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Shower, steel enameled, stone base, corner, white	1.000	Ea.	3.200	1,275	191	1,466
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, waste, 1-1/2" diameter DWV piping	1.000	Ea.	.225	18.50	13.50	32
Waste, 2" diameter DWV piping	6.000	Ea.	1.433	132	85.80	217.80
Supply, 1/2" diameter type "L" copper supply piping	16.000	Ea.	1.580	64.80	104.80	169.60
Piping, supply, 1/2" diameter type "L" copper supply piping	36.000	L.F.	3.556	145.80	235.80	381.60
Waste, 4" diameter DWV piping	7.000	L.F.	1.931	192.50	115.50	308
Vent, 2" diameter DWV piping	6.000	L.F.	1.500	52.20	89.70	141.90
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
		Ea.	27.087	3,537.60	1,686.10	5,223.70

The costs in this system are on a cost each basis. All necessary piping is included.

### Three Fixture Bathroom Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.623	1,000	181	1,181
Rough-in, for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" P.V.C./DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" P.V.C. supply, 4" P.V.C. waste, 2" P.V.C. vent	1.000	Ea.	2.974	147	184	331
3" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" P.V.C. waste, 2" P.V.C. vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung P.E. cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory, for vanity top P.E. cast iron 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel enameled 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Rough-in, for lavatory						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.791	189	174	363
1-1/2" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	2.639	117	175	292
1/2" steel supply, 1-1/2" cast iron waste, 1-1/4" steel vent	1.000	Ea.	2.890	158	182	340
1-1/2" P.V.C. waste, 1-1/4" P.V.C. vent	1.000	Ea.	2.921	122	194	316
1/2" P.V.C. supply, 1-1/2" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.260	146	217	363
Shower, steel enameled stone base, 32" x 32", white	1.000	Ea.	8.000	1,275	191	1,466
Color	1.000	Ea.	7.822	2,225	175	2,400
36" x 36", white	1.000	Ea.	8.889	1,825	199	2,024
Color	1.000	Ea.	8.889	2,525	199	2,724
Rough-in, for shower						
1/2" copper supply, 2" cast iron waste, 1-1/2" copper vent	1.000	Ea.	3.161	211	200	411
2" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.429	134	217	351
1/2" steel supply, 2" cast iron waste, 1-1/2" steel vent	1.000	Ea.	3.887	248	246	494
2" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.881	142	247	389
1/2" P.V.C. supply, 2" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	4.219	187	270	457
Piping, supply, 1/2" copper	36.000	L.F.	3.556	146	236	382
1/2" steel	36.000	L.F.	4.571	162	305	467
1/2" P.V.C.	36.000	L.F.	5.333	265	355	620
Waste, 4" cast iron, no hub	7.000	L.F.	1.931	193	116	309
.4" P.V.C./DWV	7.000	L.F.	2.333	147	140	287
4" copper/DWV	7.000	L.F.	2.800	465	168	633
Vent, 2" cast iron, no hub	6.000	L.F.	1.091	120	72.50	192.50
2" copper/DWV	6.000	L.F.	1.091	120	72.50	192.50
2" P.V.C./DWV	6.000	L.F.	1.627	60.50	97.50	158
2" steel, galvanized	6.000	L.F.	1.500	52	89.50	141.50
Vanity base cabinet, 2 door, 24" x 30"	1.000	Ea.	1.000	505	59.50	564.50
24" x 36"	1.000	Ea.	1.200	440	71.50	511.50
Vanity top, laminated plastic square edge, 25" x 32"	2.670	L.F.	.712	101	42.50	143.50
25" x 38"	3.170	L.F.	.845	120	50	170
Carrier, for lavatory, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52

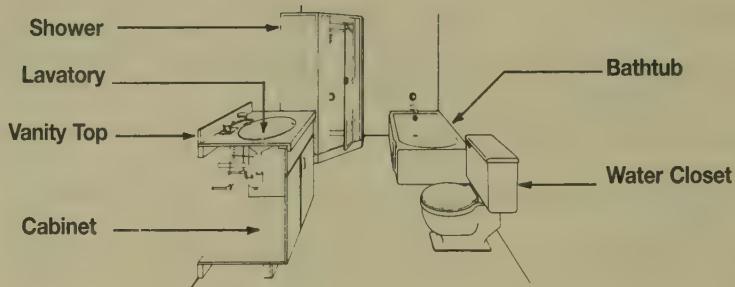


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.500	340	150	490
Shower, steel, enameled, stone base, corner, white	1.000	Ea.	3.333	2,250	199	2,449
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, waste, 1-1/2" diameter DWV piping	20.000	Ea.	4.507	370	270	640
Supply, 1/2" diameter type "L" copper supply piping	32.000	Ea.	3.161	129.60	209.60	339.20
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	42.000	L.F.	4.148	170.10	275.10	445.20
Waste, 4" diameter DWV piping	10.000	L.F.	2.759	275	165	440
Vent, 2" diameter DWV piping	13.000	L.F.	3.250	113.10	194.35	307.45
Vanity base, 2 doors, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	3.000	L.F.	.800	114	47.55	161.55
<b>TOTAL</b>		Ea.	<b>39.231</b>	<b>6,975</b>	<b>2,423</b>	<b>9,398</b>
<b>BATHROOM WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.000	271	120	391
Shower, steel enameled, stone base, corner, white	1.000	Ea.	3.333	2,250	199	2,449
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, waste, 1-1/2" diameter DWV piping	20.000	Ea.	4.507	370	270	640
Supply, 1/2" diameter type "L" copper supply piping	32.000	Ea.	3.161	129.60	209.60	339.20
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter copper DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	42.000	L.F.	4.148	170.10	275.10	445.20
Waste, 4" diameter DWV piping	10.000	L.F.	2.759	275	165	440
Vent, 2" diameter DWV piping	13.000	L.F.	3.250	113.10	194.35	307.45
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
<b>TOTAL</b>		Ea.	<b>38.074</b>	<b>6,354.50</b>	<b>2,361.95</b>	<b>8,716.45</b>

The costs in this system are on a cost each basis. All necessary piping is included.

**Four Fixture Bathroom Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" P.V.C. supply, 4" P.V.C. waste, 2" P.V.C. vent	1.000	Ea.	2.974	147	184	331
3" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" P.V.C. waste, 2" P.V.C. vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung P.E. cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory for vanity top, P.E. cast iron 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel enameled, 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Shower, steel enameled stone base, 36" square, white	1.000	Ea.	8.889	2,250	199	2,449
Color	1.000	Ea.	8.889	1,950	199	2,149
Rough-in, for lavatory or shower						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	3.834	250	240	490
1-1/2" P.V.C. waste, 1-1/4" P.V.C. vent	1.000	Ea.	3.675	159	244	403
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	4.103	222	259	481
1-1/4" P.V.C. waste, 1-1/4" P.V.C. vent	1.000	Ea.	3.937	172	262	434
1/2" P.V.C. supply, 1-1/2" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	4.592	209	305	514
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Color	1.000	Ea.	3.636	1,700	218	1,918
Steel, enameled 5' long with fittings, white	1.000	Ea.	2.909	620	174	794
Color	1.000	Ea.	2.909	620	174	794
Rough-in, for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.409	178	154	332
4" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	2.877	140	184	324
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	2.898	169	182	351
4" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.159	145	203	348
1/2" P.V.C. supply, 4" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.371	173	217	390
Piping, supply, 1/2" copper	42.000	L.F.	4.148	170	275	445
1/2" steel	42.000	L.F.	5.333	189	355	544
1/2" P.V.C.	42.000	L.F.	6.222	310	415	725
Waste, 4" cast iron, no hub	10.000	L.F.	2.759	275	165	440
4" P.V.C./DWV	10.000	L.F.	3.333	210	200	410
4" copper/DWV	10.000	Ea.	4.000	665	240	905
Vent 2" cast iron, no hub	13.000	L.F.	3.105	286	186	472
2" copper/DWV	13.000	L.F.	2.364	260	157	417
2" P.V.C./DWV	13.000	L.F.	3.525	131	211	342
2" steel, galvanized	13.000	L.F.	3.250	113	194	307
Vanity base cabinet, 2 doors, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	2.670	L.F.	.712	101	42.50	143.50
Carrier, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52

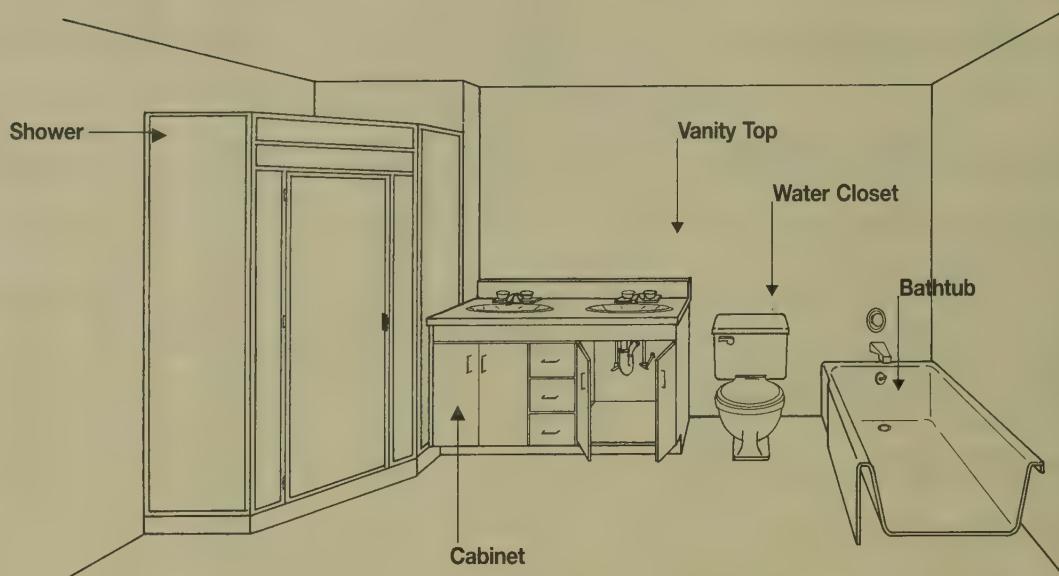


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH LAVATORY INSTALLED IN VANITY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.500	340	150	490
Shower, steel, enameled, stone base, corner, white	1.000	Ea.	3.333	2,250	199	2,449
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, waste, 1-1/2" diameter DWV piping	20.000	Ea.	4.507	370	270	640
Supply, 1/2" diameter type "L" copper supply piping	32.000	Ea.	3.161	129.60	209.60	339.20
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	50.000	L.F.	4.939	202.50	327.50	530
Waste, 4" diameter DWV piping	15.000	L.F.	4.138	412.50	247.50	660
Vent, 2" diameter DWV piping	18.000	L.F.	4.500	156.60	269.10	425.70
Vanity base, 2 doors, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	3.000	L.F.	.800	154.50	47.55	202.05
		Ea.	42.651	7,228.90	2,632.65	9,861.55
<b>BATHROOM WITH WALL HUNG LAVATORY</b>						
Water closet, floor mounted, 2 piece, close coupled, white	1.000	Ea.	3.019	241	181	422
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 18" P.E. cast iron with fittings, white	1.000	Ea.	2.000	271	120	391
Shower, steel enameled, stone base, corner, white	1.000	Ea.	3.333	2,250	199	2,449
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, waste, 1-1/2" diameter DWV piping	20.000	Ea.	4.507	370	270	640
Supply, 1/2" diameter type "L" copper supply piping	32.000	Ea.	3.161	129.60	209.60	339.20
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	50.000	L.F.	4.939	202.50	327.50	530
Waste, 4" diameter DWV piping	15.000	L.F.	4.138	412.50	247.50	660
Vent, 2" diameter DWV piping	18.000	L.F.	4.500	156.60	269.10	425.70
Carrier, steel for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
		Ea.	41.494	6,567.90	2,571.60	9,139.50

The costs in this system are on a cost each basis. All necessary piping is included.

## Four Fixture Bathroom Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece, elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in, for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" PVC/DWV waste, 2" PVC vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.388	118	152	270
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.014	176	128	304
1/2" PVC supply, 4" PVC waste, 2" PVC vent	1.000	Ea.	2.974	147	184	331
3" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" PVC waste, 2" PVC vent	1.000	Ea.	2.847	130	176	306
Lavatory wall hung, P.E. cast iron 20" x 18", white	1.000	Ea.	2.000	271	120	391
Color	1.000	Ea.	2.000	290	120	410
Vitreous china 19" x 17", white	1.000	Ea.	2.286	134	137	271
Color	1.000	Ea.	2.286	164	137	301
Lavatory for vanity top, P.E. cast iron, 20" x 18", white	1.000	Ea.	2.500	340	150	490
Color	1.000	Ea.	2.500	540	150	690
Steel, enameled 20" x 17", white	1.000	Ea.	2.759	139	165	304
Color	1.000	Ea.	2.500	133	150	283
Vitreous china 20" x 16", white	1.000	Ea.	2.963	232	177	409
Color	1.000	Ea.	2.963	232	177	409
Shower, steel enameled, stone base 36" square, white	1.000	Ea.	8.889	2,250	199	2,449
Color	1.000	Ea.	8.889	1,950	199	2,149
Rough-in, for lavatory and shower						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	7.668	500	480	980
1-1/2" PVC waste, 1-1/4" PVC vent	1.000	Ea.	7.352	320	490	810
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	1.000	Ea.	8.205	445	520	965
1-1/4" PVC waste, 1-1/4" PVC vent	1.000	Ea.	7.873	345	525	870
1/2" PVC supply, 1-1/2" PVC waste, 1-1/2" PVC vent	1.000	Ea.	9.185	415	610	1,025
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Color	1.000	Ea.	3.636	1,700	218	1,918
Steel enameled, 5' long with fittings, white	1.000	Ea.	2.909	620	174	794
Color	1.000	Ea.	2.909	620	174	794
Rough-in, for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.409	178	154	332
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	2.877	140	184	324
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	2.898	169	182	351
4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.159	145	203	348
1/2" PVC supply, 4" PVC waste, 1-1/2" PVC vent	1.000	Ea.	3.371	173	217	390
Piping supply, 1/2" copper	42.000	L.F.	4.148	170	275	445
1/2" steel	42.000	L.F.	5.333	189	355	544
1/2" PVC	42.000	L.F.	6.222	310	415	725
Piping, waste, 4" cast iron, no hub	10.000	L.F.	3.586	360	215	575
4" PVC/DWV	10.000	L.F.	4.333	273	259	532
4" copper/DWV	10.000	L.F.	5.200	865	310	1,175
Piping, vent, 2" cast iron, no hub	13.000	L.F.	3.105	286	186	472
2" copper/DWV	13.000	L.F.	2.364	260	157	417
2" PVC/DWV	13.000	L.F.	3.525	131	211	342
2" steel, galvanized	13.000	L.F.	3.250	113	194	307
Vanity base cabinet, 2 doors, 30" wide	1.000	Ea.	1.000	505	59.50	564.50
Vanity top, plastic laminated, square edge	3.160	L.F.	.843	120	50	170
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52



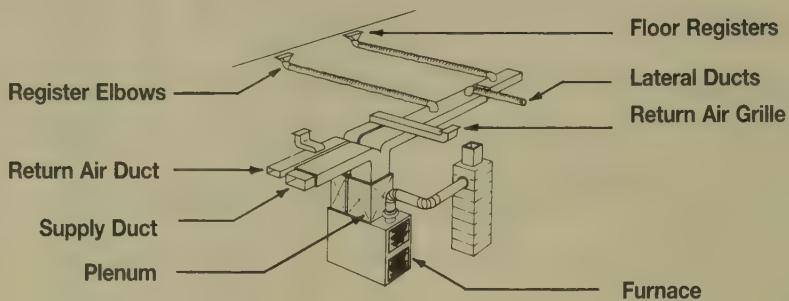
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>BATHROOM WITH SHOWER, BATHTUB, LAVATORIES IN VANITY</b>						
Water closet, floor mounted, 1 piece, white	1.000	Ea.	3.019	1,050	181	1,231
Rough-in, vent, 2" diameter DWV piping	4.000	Ea.	.955	88	57.20	145.20
Waste, 4" diameter DWV piping	3.000	Ea.	.828	82.50	49.50	132
Supply, 1/2" diameter type "L" copper supply piping	6.000	Ea.	.593	24.30	39.30	63.60
Lavatory, 20" x 16", vitreous china oval, with fittings, white	2.000	Ea.	5.926	464	354	818
Shower, steel enameled, stone base, corner, white	1.000	Ea.	3.333	2,250	199	2,449
Mixing valve	1.000	Ea.	1.333	159	88.50	247.50
Shower door	1.000	Ea.	1.000	535	65	600
Rough-in, waste, 1-1/2" diameter DWV piping	24.000	Ea.	5.408	444	324	768
Supply, 1/2" diameter type "L" copper supply piping	30.000	Ea.	2.963	121.50	196.50	318
Bathtub, P.E. cast iron, 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Rough-in, waste, 4" diameter DWV piping	4.000	Ea.	1.103	110	66	176
Supply, 1/2" diameter type "L" copper supply piping	10.000	Ea.	.988	40.50	65.50	106
Vent, 1-1/2" diameter copper DWV piping	4.000	Ea.	.593	55.40	39.40	94.80
Piping, supply, 1/2" diameter type "L" copper supply piping	42.000	L.F.	4.148	170.10	275.10	445.20
Waste, 4" diameter DWV piping	10.000	L.F.	2.759	275	165	440
Vent, 2" diameter DWV piping	13.000	L.F.	3.250	113.10	194.35	307.45
Vanity base, 2 door, 24" x 48"	1.000	Ea.	1.400	670	83	753
Vanity top, plastic laminated, square edge	4.170	L.F.	1.112	158.46	66.09	224.55
<b>TOTAL</b>		Ea.	<b>44.347</b>	<b>8,210.86</b>	<b>2,726.44</b>	<b>10,937.30</b>

The costs in this system are on a cost each basis. All necessary piping is included.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Five Fixture Bathroom Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Water closet, close coupled, standard 2 piece, white	1.000	Ea.	3.019	241	181	422
Color	1.000	Ea.	3.019	445	181	626
One piece elongated bowl, white	1.000	Ea.	3.019	990	181	1,171
Color	1.000	Ea.	3.019	1,000	181	1,181
Low profile, one piece elongated bowl, white	1.000	Ea.	3.019	1,050	181	1,231
Color	1.000	Ea.	3.019	1,000	181	1,181
Rough-in, supply, waste and vent for water closet						
1/2" copper supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.376	195	146	341
4" P.V.C./DWV waste, 2" P.V.C. vent	1.000	Ea.	2.678	128	164	292
4" copper waste, 2" copper vent	1.000	Ea.	2.520	305	160	465
3" cast iron waste, 1-1/2" cast iron vent	1.000	Ea.	2.244	187	138	325
3" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	2.388	118	152	270
3" copper waste, 1-1/2" copper vent	1.000	Ea.	2.014	176	128	304
1/2" P.V.C. supply, 4" P.V.C. waste, 2" P.V.C. vent	1.000	Ea.	2.974	147	184	331
3" P.V.C. waste, 1-1/2" P.V.C. supply	1.000	Ea.	2.684	138	172	310
1/2" steel supply, 4" cast iron waste, 2" cast iron vent	1.000	Ea.	2.545	198	157	355
4" cast iron waste, 2" steel vent	1.000	Ea.	2.590	144	160	304
4" P.V.C. waste, 2" P.V.C. vent	1.000	Ea.	2.847	130	176	306
Lavatory, wall hung, P.E. cast iron 20" x 18", white	2.000	Ea.	4.000	540	240	780
Color	2.000	Ea.	4.000	580	240	820
Vitreous china, 19" x 17", white	2.000	Ea.	4.571	268	274	542
Color	2.000	Ea.	4.571	330	274	604
Lavatory, for vanity top, P.E. cast iron, 20" x 18", white	2.000	Ea.	5.000	680	300	980
Color	2.000	Ea.	5.000	1,075	300	1,375
Steel enameled 20" x 17", white	2.000	Ea.	5.517	278	330	608
Color	2.000	Ea.	5.000	266	300	566
Vitreous china 20" x 16", white	2.000	Ea.	5.926	465	355	820
Color	2.000	Ea.	5.926	465	355	820
Shower, steel enameled, stone base 36" square, white	1.000	Ea.	8.889	2,250	199	2,449
Color	1.000	Ea.	8.889	1,950	199	2,149
Rough-in, for lavatory or shower						
1/2" copper supply, 1-1/2" cast iron waste, 1-1/2" cast iron vent	3.000	Ea.	8.371	565	520	1,085
1-1/2" P.V.C. waste, 1-1/4" P.V.C. vent	3.000	Ea.	7.916	350	525	875
1/2" steel supply, 1-1/4" cast iron waste, 1-1/4" steel vent	3.000	Ea.	8.670	475	545	1,020
1-1/4" P.V.C. waste, 1-1/4" P.V.C. vent	3.000	Ea.	8.381	375	555	930
1/2" P.V.C. supply, 1-1/2" P.V.C. waste, 1-1/2" P.V.C. vent	3.000	Ea.	9.778	440	650	1,090
Bathtub, P.E. cast iron 5' long with fittings, white	1.000	Ea.	3.636	1,400	218	1,618
Color	1.000	Ea.	3.636	1,700	218	1,918
Steel, enameled 5' long with fittings, white	1.000	Ea.	2.909	620	174	794
Color	1.000	Ea.	2.909	620	174	794
Rough-in, for bathtub						
1/2" copper supply, 4" cast iron waste, 1-1/2" copper vent	1.000	Ea.	2.684	206	171	377
4" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.210	161	204	365
1/2" steel supply, 4" cast iron waste, 1-1/2" steel vent	1.000	Ea.	3.173	197	198	395
4" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.492	166	223	389
1/2" P.V.C. supply, 4" P.V.C. waste, 1-1/2" P.V.C. vent	1.000	Ea.	3.704	194	237	431
Piping, supply, 1/2" copper	42.000	L.F.	4.148	170	275	445
1/2" steel	42.000	L.F.	5.333	189	355	544
1/2" P.V.C.	42.000	L.F.	6.222	310	415	725
Piping, waste, 4" cast iron, no hub	10.000	L.F.	2.759	275	165	440
4" P.V.C./DWV	10.000	L.F.	3.333	210	200	410
4" copper/DWV	10.000	L.F.	4.000	665	240	905
Piping, vent, 2" cast iron, no hub	13.000	L.F.	3.105	286	186	472
2" copper/DWV	13.000	L.F.	2.364	260	157	417
2" P.V.C./DWV	13.000	L.F.	3.525	131	211	342
2" steel, galvanized	13.000	L.F.	3.250	113	194	307
Vanity base cabinet, 2 doors, 24" x 48"	1.000	Ea.	1.400	670	83	753
Vanity top, plastic laminated, square edge	4.170	L.F.	1.112	158	66	224
Carrier, steel, for studs, no arms	1.000	Ea.	1.143	67.50	76	143.50
Wood, 2" x 8" blocking	1.300	L.F.	.052	1.43	3.09	4.52



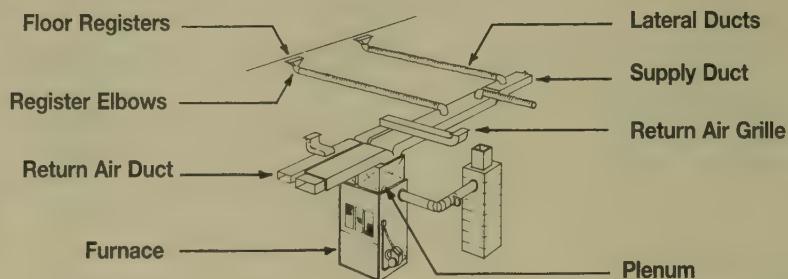
<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER SYSTEM</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>HEATING ONLY, GAS FIRED HOT AIR, ONE ZONE, 1200 S.F. BUILDING</b>						
Furnace, gas, up flow	1.000	Ea.	5.000	905	293	1,198
Intermittent pilot	1.000	Ea.		292		292
Supply duct, rigid fiberglass	176.000	S.F.	12.068	172.48	732.16	904.64
Return duct, sheet metal, galvanized	158.000	Lb.	16.137	104.28	979.60	1,083.88
Lateral ducts, 6" flexible fiberglass	144.000	L.F.	8.862	571.68	518.40	1,090.08
Register, elbows	12.000	Ea.	6.400	195.60	372	567.60
Floor registers, enameled steel	12.000	Ea.	3.000	193.20	195	388.20
Floor grille, return air	2.000	Ea.	.727	73	47	120
Thermostat	1.000	Ea.	1.000	46.50	68.50	115
Plenum	1.000	Ea.	1.000	112	58.50	170.50
TOTAL		System	54.194	2,665.74	3,264.16	5,929.90
<b>HEATING/COOLING, GAS FIRED FORCED AIR, ONE ZONE, 1200 S.F. BUILDING</b>						
Furnace, including plenum, compressor, coil	1.000	Ea.	14.720	6,095	860.20	6,955.20
Intermittent pilot	1.000	Ea.		292		292
Supply duct, rigid fiberglass	176.000	S.F.	12.068	172.48	732.16	904.64
Return duct, sheet metal, galvanized	158.000	Lb.	16.137	104.28	979.60	1,083.88
Lateral duct, 6" flexible fiberglass	144.000	L.F.	8.862	571.68	518.40	1,090.08
Register elbows	12.000	Ea.	6.400	195.60	372	567.60
Floor registers, enameled steel	12.000	Ea.	3.000	193.20	195	388.20
Floor grille return air	2.000	Ea.	.727	73	47	120
Thermostat	1.000	Ea.	1.000	46.50	68.50	115
Refrigeration piping, 25 ft. (pre-charged)	1.000	Ea.		315		315
TOTAL		System	62.914	8,058.74	3,772.86	11,831.60

The costs in these systems are based on complete system basis. For larger buildings use the price sheet on the opposite page.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER SYSTEM</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

**Gas Heating/Cooling Price Sheet**

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Furnace, heating only, 100 MBH, area to 1200 S.F. 120 MBH, area to 1500 S.F.	1.000	Ea.	5.000	905	293	1,198
160 MBH, area to 2000 S.F.	1.000	Ea.	5.714	1,925	335	2,260
200 MBH, area to 2400 S.F.	1.000	Ea.	6.154	3,875	360	4,235
Heating/cooling, 100 MBH heat, 36 MBH cool, to 1200 S.F. 120 MBH heat, 42 MBH cool, to 1500 S.F.	1.000	Ea.	16.000	6,625	935	7,560
144 MBH heat, 47 MBH cool, to 2000 S.F.	1.000	Ea.	20.000	8,175	1,225	9,400
200 MBH heat, 60 MBH cool, to 2400 S.F.	1.000	Ea.	34.286	8,575	2,075	10,650
Intermittent pilot, 100 MBH furnace 200 MBH furnace	1.000	Ea.		292		292
Supply duct, rectangular, area to 1200 S.F., rigid fiberglass Sheet metal insulated	176.000	S.F.	12.068	172	730	902
Area to 1500 S.F., rigid fiberglass Sheet metal insulated	176.000	S.F.	12.068	172	730	902
Area to 2400 S.F., rigid fiberglass Sheet metal insulated	205.000	S.F.	14.057	201	855	1,056
Round flexible, insulated 6" diameter, to 1200 S.F. To 1500 S.F.	156.000	L.F.	9.600	620	560	1,180
8" diameter, to 2000 S.F. To 2400 S.F.	269.000	L.F.	23.911	1,200	1,400	2,600
248.000	L.F.	22.045	1,100	1,300	2,400	
Return duct, sheet metal galvanized, to 1500 S.F. To 2400 S.F.	158.000	Lb.	16.137	104	980	1,084
Lateral ducts, flexible round 6" insulated, to 1200 S.F. To 1500 S.F.	144.000	L.F.	8.862	570	520	1,090
To 2000 S.F. To 2400 S.F.	172.000	L.F.	10.585	685	620	1,305
Spiral steel insulated, to 1200 S.F. To 1500 S.F.	261.000	L.F.	16.062	1,025	940	1,965
To 2000 S.F. To 2400 S.F.	300.000	L.F.	18.462	1,200	1,075	2,275
Rectangular sheet metal galvanized insulated, to 1200 S.F. To 1500 S.F.	144.000	L.F.	20.067	1,600	3,225	4,825
To 2000 S.F. To 2400 S.F.	172.000	L.F.	23.952	1,900	3,850	5,750
To 2000 S.F. To 2400 S.F.	261.000	L.F.	36.352	2,900	5,850	8,750
To 2400 S.F.	300.000	L.F.	41.825	3,325	6,725	10,050
Rectangular sheet metal galvanized insulated, to 1200 S.F. To 1500 S.F.	228.000	Lb.	39.056	1,850	5,075	6,925
To 2000 S.F. To 2400 S.F.	344.000	Lb.	53.966	2,250	6,500	8,750
Floor registers, enameled steel w/damper, to 1500 S.F. To 2400 S.F.	522.000	Lb.	81.926	3,425	9,875	13,300
Return air grille, area to 1500 S.F. 12" x 12" Area to 2400 S.F. 8" x 16"	2.000	Ea.	.727	73	47	120
Area to 2400 S.F. 8" x 16" 16" x 16"	2.000	Ea.	.444	48	29	77
Thermostat, manual, 1 set back	1.000	Ea.	1.000	46.50	68.50	115
Electric, timed, 1 set back 2 set back	1.000	Ea.	1.000	85.50	68.50	154
Diffusers, ceiling, 6" diameter, to 1500 S.F. To 2400 S.F.	1.000	Ea.	1.000	283	68.50	351.50
Plenum, heating only, 100 M.B.H. 120 MBH	1.000	Ea.	1.000	112	58.50	170.50
160 MBH	1.000	Ea.	1.000	112	58.50	170.50
200 MBH	1.000	Ea.	1.000	112	58.50	170.50
Refrigeration piping, 3/8"	25.000	L.F.		35.50		35.50
3/4"	25.000	L.F.		79.50		79.50
7/8"	25.000	L.F.		92.50		92.50
Refrigerant piping, 25 ft. (precharged)	1.000	Ea.		315		315
Diffusers, ceiling, 6" diameter, to 1500 S.F. To 2400 S.F.	10.000	Ea.	4.444	152	290	442
Floor, aluminum, adjustable, 2-1/4" x 12" to 1500 S.F. To 2400 S.F.	12.000	Ea.	6.000	194	390	584
Side wall, aluminum, adjustable, 8" x 4", to 1500 S.F. 5" x 10" to 2400 S.F.	12.000	Ea.	3.000	276	195	471
	12.000	Ea.	3.692	320	240	560

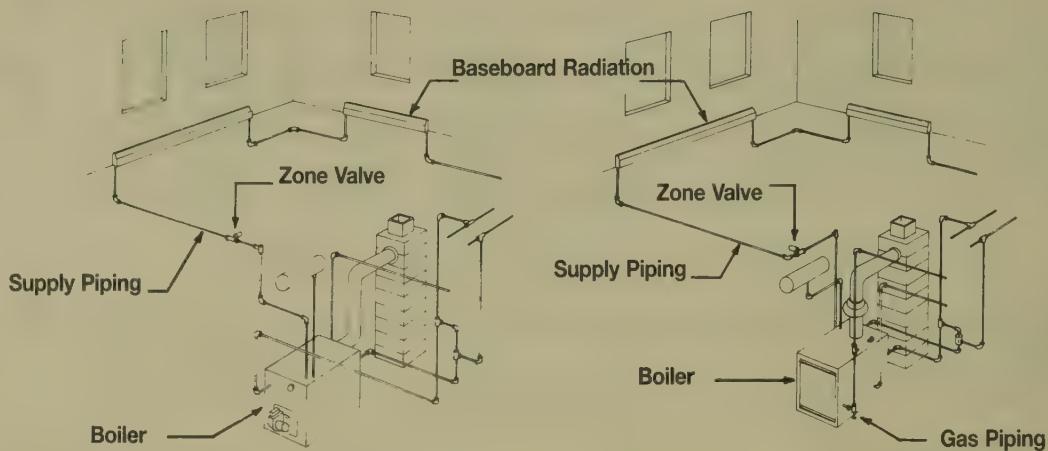


<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER SYSTEM</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>HEATING ONLY, OIL FIRED HOT AIR, ONE ZONE, 1200 S.F. BUILDING</b>						
Furnace, oil fired, atomizing gun type burner	1.000	Ea.	4.571	3,750	268	4,018
3/8" diameter copper supply pipe	1.000	Ea.	2.759	135	183	318
Shut off valve	1.000	Ea.	.333	20	22	42
Oil tank, 275 gallon, on legs	1.000	Ea.	3.200	560	198	758
Supply duct, rigid fiberglass	176.000	S.F.	12.068	172.48	732.16	904.64
Return duct, sheet metal, galvanized	158.000	Lb.	16.137	104.28	979.60	1,083.88
Lateral ducts, 6" flexible fiberglass	144.000	L.F.	8.862	571.68	518.40	1,090.08
Register elbows	12.000	Ea.	6.400	195.60	372	567.60
Floor register, enameled steel	12.000	Ea.	3.000	193.20	195	388.20
Floor grille, return air	2.000	Ea.	.727	73	47	120
Thermostat	1.000	Ea.	1.000	46.50	68.50	115
<b>TOTAL</b>		<b>System</b>	<b>59.057</b>	<b>5,821.74</b>	<b>3,583.66</b>	<b>9,405.40</b>
<b>HEATING/COOLING, OIL FIRED, FORCED AIR, ONE ZONE, 1200 S.F. BUILDING</b>						
Furnace, including plenum, compressor, coil	1.000	Ea.	16.000	7,075	935	8,010
3/8" diameter copper supply pipe	30.000	Ea.	2.759	135	183	318
Shut off valve	1.000	Ea.	.333	20	22	42
Oil tank, 275 gallon on legs	1.000	Ea.	3.200	560	198	758
Supply duct, rigid fiberglass	176.000	S.F.	12.068	172.48	732.16	904.64
Return duct, sheet metal, galvanized	158.000	Lb.	16.137	104.28	979.60	1,083.88
Lateral ducts, 6" flexible fiberglass	144.000	L.F.	8.862	571.68	518.40	1,090.08
Register elbows	12.000	Ea.	6.400	195.60	372	567.60
Floor registers, enameled steel	12.000	Ea.	3.000	193.20	195	388.20
Floor grille, return air	2.000	Ea.	.727	73	47	120
Refrigeration piping (precharged)	25.000	L.F.		315		315
<b>TOTAL</b>		<b>System</b>	<b>69.486</b>	<b>9,415.24</b>	<b>4,182.16</b>	<b>13,597.40</b>

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST PER SYSTEM</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

## Oil Fired Heating/Cooling Price Sheet

	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL
Furnace, heating, 95.2 MBH, area to 1200 S.F.	1.000	Ea.	4.706	3,725	276	4,001
123.2 MBH, area to 1500 S.F.	1.000	Ea.	5.000	3,675	293	3,968
151.2 MBH, area to 2000 S.F.	1.000	Ea.	5.333	4,075	310	4,385
200 MBH, area to 2400 S.F.	1.000	Ea.	6.154	4,600	360	4,960
Heating/cooling, 95.2 MBH heat, 36 MBH cool, to 1200 S.F.	1.000	Ea.	16.000	7,075	935	8,010
112 MBH heat, 42 MBH cool, to 1500 S.F.	1.000	Ea.	24.000	10,600	1,400	12,000
151 MBH heat, 47 MBH cool, to 2000 S.F.	1.000	Ea.	20.800	9,200	1,225	10,425
184.8 MBH heat, 60 MBH cool, to 2400 S.F.	1.000	Ea.	24.000	6,675	1,450	8,125
Oil piping to furnace, 3/8" dia., copper	1.000	Ea.	3.412	297	224	521
Oil tank, on legs above ground, 275 gallons	1.000	Ea.	3.200	560	198	758
550 gallons	1.000	Ea.	5.926	4,850	365	5,215
Below ground, 275 gallons	1.000	Ea.	3.200	560	198	758
550 gallons	1.000	Ea.	5.926	4,850	365	5,215
1000 gallons	1.000	Ea.	6.400	7,875	395	8,270
Supply duct, rectangular, area to 1200 S.F., rigid fiberglass	176.000	S.F.	12.068	172	730	902
Sheet metal, insulated	228.000	Lb.	31.331	1,025	3,275	4,300
Area to 1500 S.F., rigid fiberglass	176.000	S.F.	12.068	172	730	902
Sheet metal, insulated	228.000	Lb.	31.331	1,025	3,275	4,300
Area to 2400 S.F., rigid fiberglass	205.000	S.F.	14.057	201	855	1,056
Sheet metal, insulated	271.000	Lb.	37.048	1,200	3,850	5,050
Round flexible, insulated, 6" diameter to 1200 S.F.	156.000	L.F.	9.600	620	560	1,180
To 1500 S.F.	184.000	L.F.	11.323	730	660	1,390
8" diameter to 2000 S.F.	269.000	L.F.	23.911	1,200	1,400	2,600
To 2400 S.F.	269.000	L.F.	22.045	1,100	1,300	2,400
Return duct, sheet metal galvanized, to 1500 S.F.	158.000	Lb.	16.137	104	980	1,084
To 2400 S.F.	191.000	Lb.	19.507	126	1,175	1,301
Lateral ducts, flexible round, 6", insulated to 1200 S.F.	144.000	L.F.	8.862	570	520	1,090
To 1500 S.F.	172.000	L.F.	10.585	685	620	1,305
To 2000 S.F.	261.000	L.F.	16.062	1,025	940	1,965
To 2400 S.F.	300.000	L.F.	18.462	1,200	1,075	2,275
Spiral steel, insulated to 1200 S.F.	144.000	L.F.	20.067	1,600	3,225	4,825
To 1500 S.F.	172.000	L.F.	23.952	1,900	3,850	5,750
To 2000 S.F.	261.000	L.F.	36.352	2,900	5,850	8,750
To 2400 S.F.	300.000	L.F.	41.825	3,325	6,725	10,050
Rectangular sheet metal galvanized insulated, to 1200 S.F.	288.000	Lb.	45.183	1,900	5,450	7,350
To 1500 S.F.	344.000	Lb.	53.966	2,250	6,500	8,750
To 2000 S.F.	522.000	Lb.	81.926	3,425	9,875	13,300
To 2400 S.F.	600.000	Lb.	94.189	3,950	11,400	15,350
Register elbows, to 1500 S.F.	12.000	Ea.	6.400	196	370	566
To 2400 S.F.	14.000	Ea.	7.470	228	435	663
Floor registers, enameled steel w/damper, to 1500 S.F.	12.000	Ea.	3.000	193	195	388
To 2400 S.F.	14.000	Ea.	4.308	265	280	545
Return air grille, area to 1500 S.F., 12" x 12"	2.000	Ea.	.727	73	47	120
12" x 24"	1.000	Ea.	.444	48	29	77
Area to 2400 S.F., 8" x 16"	2.000	Ea.	.727	77	47	124
16" x 16"	1.000	Ea.	.364	46.50	23.50	70
Thermostat, manual, 1 set back	1.000	Ea.	1.000	46.50	68.50	115
Electric, timed, 1 set back	1.000	Ea.	1.000	85.50	68.50	154
2 set back	1.000	Ea.	1.000	283	68.50	351.50
Refrigeration piping, 3/8"	25.000	L.F.		35.50		35.50
3/4"	25.000	L.F.		79.50		79.50
Diffusers, ceiling, 6" diameter, to 1500 S.F.	10.000	Ea.	4.444	152	290	442
To 2400 S.F.	12.000	Ea.	6.000	194	390	584
Floor, aluminum, adjustable, 2-1/4" x 12" to 1500 S.F.	12.000	Ea.	3.000	155	195	350
To 2400 S.F.	14.000	Ea.	3.500	181	228	409
Side wall, aluminum, adjustable, 8" x 4", to 1500 S.F.	12.000	Ea.	3.000	276	195	471
5" x 10" to 2400 S.F.	12.000	Ea.	3.692	320	240	560

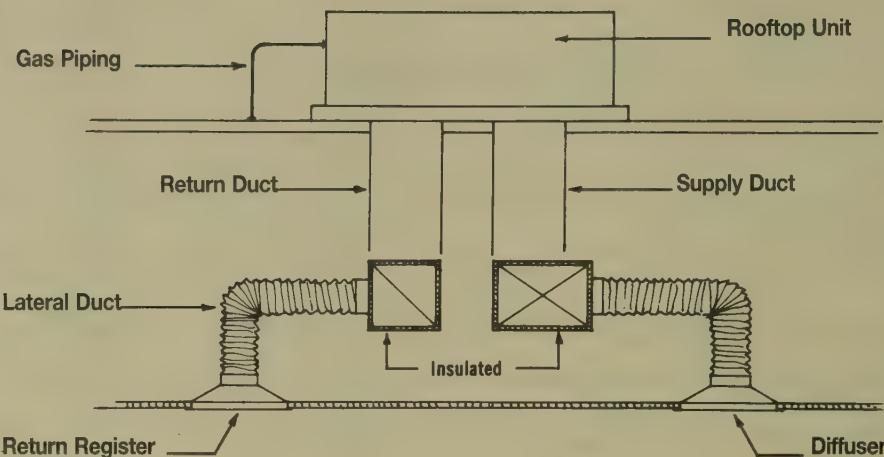


System Description	Quan.	Unit	Labor Hours	Cost Each		
				Mat.	Inst.	Total
<b>OIL FIRED HOT WATER HEATING SYSTEM, AREA TO 1200 S.F.</b>						
Boiler package, oil fired, 97 MBH, area to 1200 S.F. building	1.000	Ea.	15.000	2,200	890	3,090
3/8" diameter copper supply pipe	1.000	Ea.	2.759	135	183	318
Shut off valve	1.000	Ea.	.333	20	22	42
Oil tank, 275 gallon, with black iron filler pipe	1.000	Ea.	3.200	560	198	758
Supply piping, 3/4" copper tubing	176.000	L.F.	18.526	915.20	1,232	2,147.20
Supply fittings, copper 3/4"	36.000	Ea.	15.158	106.20	1,008	1,114.20
Supply valves, 3/4"	2.000	Ea.	.800	378	53	431
Baseboard radiation, 3/4"	106.000	L.F.	35.333	943.40	2,173	3,116.40
Zone valve	1.000	Ea.	.400	149	27.50	176.50
	TOTAL	Ea.	91.509	5,406.80	5,786.50	11,193.30
<b>OIL FIRED HOT WATER HEATING SYSTEM, AREA TO 2400 S.F.</b>						
Boiler package, oil fired, 225 MBH, area to 2400 S.F. building	1.000	Ea.	25.105	5,575	1,500	7,075
3/8" diameter copper supply pipe	1.000	Ea.	2.759	135	183	318
Shut off valve	1.000	Ea.	.333	20	22	42
Oil tank, 550 gallon, with black iron pipe filler pipe	1.000	Ea.	5.926	4,850	365	5,215
Supply piping, 3/4" copper tubing	228.000	L.F.	23.999	1,185.60	1,596	2,781.60
Supply fittings, copper	46.000	Ea.	19.368	135.70	1,288	1,423.70
Supply valves	2.000	Ea.	.800	378	53	431
Baseboard radiation	212.000	L.F.	70.666	1,886.80	4,346	6,232.80
Zone valve	1.000	Ea.	.400	149	27.50	176.50
	TOTAL	Ea.	149.356	14,315.10	9,380.50	23,695.60

The costs in this system are on a cost each basis. The costs represent total cost for the system based on a gross square foot of plan area.

<b>Description</b>	QUAN.	UNIT	LABOR HOURS	COST EACH		
				MAT.	INST.	TOTAL





<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>ROOFTOP HEATING/COOLING UNIT, AREA TO 2000 S.F.</b>						
Rooftop unit, single zone, electric cool, gas heat, to 2000 S.F.	1.000	Ea.	28.521	4,925	1,750	6,675
Gas piping	34.500	L.F.	5.207	294.98	346.73	641.71
Duct, supply and return, galvanized steel	38.000	Lb.	3.881	25.08	235.60	260.68
Insulation, ductwork	33.000	S.F.	6.286	163.02	349.80	512.82
Lateral duct, flexible duct 12" diameter, insulated	72.000	L.F.	11.520	482.40	673.20	1,155.60
Diffusers	4.000	Ea.	4.571	1,320	298	1,618
Return registers	1.000	Ea.	.727	124	47.50	171.50
	<b>TOTAL</b>		<b>Ea.</b>	<b>60.713</b>	<b>7,334.48</b>	<b>3,700.83</b>
<b>ROOFTOP HEATING/COOLING UNIT, AREA TO 5000 S.F.</b>						
Rooftop unit, single zone, electric cool, gas heat, to 5000 S.F.	1.000	Ea.	42.032	14,600	2,500	17,100
Gas piping	86.250	L.F.	13.019	737.44	866.81	1,604.25
Duct supply and return, galvanized steel	95.000	Lb.	9.702	62.70	589	651.70
Insulation, ductwork	82.000	S.F.	15.619	405.08	869.20	1,274.28
Lateral duct, flexible duct, 12" diameter, insulated	180.000	L.F.	28.800	1,206	1,683	2,889
Diffusers	10.000	Ea.	11.429	3,300	745	4,045
Return registers	3.000	Ea.	2.182	372	142.50	514.50
	<b>TOTAL</b>		<b>Ea.</b>	<b>122.783</b>	<b>20,683.22</b>	<b>7,395.51</b>
<b> </b>						

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>





# Division 9 - Electrical

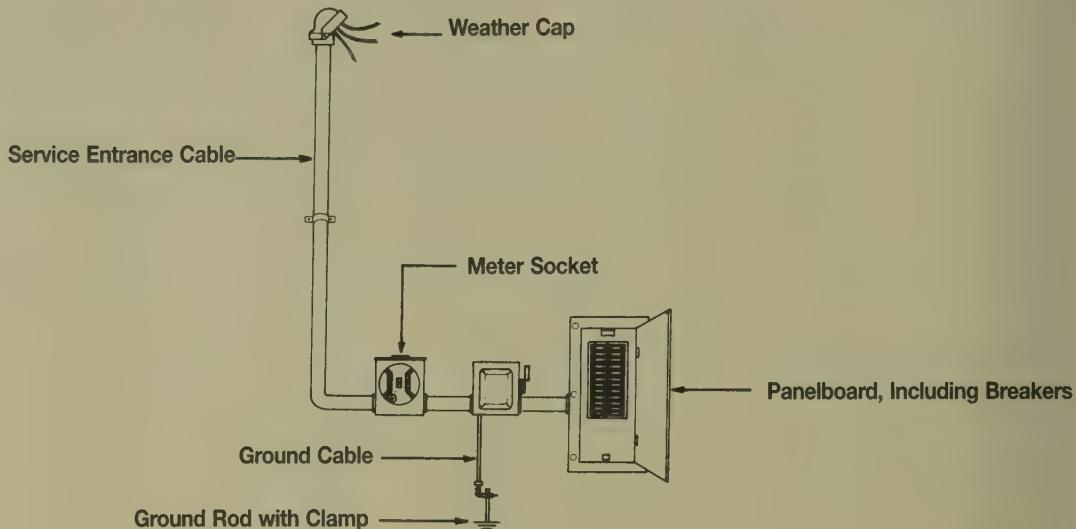
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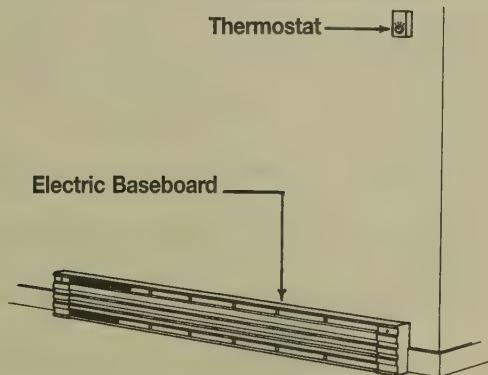
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<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>100 AMP SERVICE</b>						
Weather cap	1.000	Ea.	.667	8.65	45.50	54.15
Service entrance cable	10.000	L.F.	.762	35.20	52	87.20
Meter socket	1.000	Ea.	2.500	58	170	228
Ground rod with clamp	1.000	Ea.	1.455	25	99	124
Ground cable	5.000	L.F.	.250	8	17	25
Panel board, 12 circuit	1.000	Ea.	6.667	140	455	595
<b>TOTAL</b>		Ea.	12.301	274.85	838.50	1,113.35
<b>200 AMP SERVICE</b>						
Weather cap	1.000	Ea.	1.000	19.60	68	87.60
Service entrance cable	10.000	L.F.	1.143	32.10	77.50	109.60
Meter socket	1.000	Ea.	4.211	121	286	407
Ground rod with clamp	1.000	Ea.	1.818	58.50	124	182.50
Ground cable	10.000	L.F.	.500	16	34	50
3/4" EMT	5.000	L.F.	.308	5.90	20.90	26.80
Panel board, 24 circuit	1.000	Ea.	12.308	293	755	1,048
<b>TOTAL</b>		Ea.	21.288	546.10	1,365.40	1,911.50
<b>400 AMP SERVICE</b>						
Weather cap	1.000	Ea.	2.963	205	201	406
Service entrance cable	180.000	L.F.	5.760	549	390.60	939.60
Meter socket	1.000	Ea.	4.211	121	286	407
Ground rod with clamp	1.000	Ea.	2.000	60.50	136	196.50
Ground cable	20.000	L.F.	.485	49.60	33	82.60
3/4" Greenfield	20.000	L.F.	1.000	13.40	68	81.40
Current transformer cabinet	1.000	Ea.	6.154	182	420	602
Panel board, 42 circuit	1.000	Ea.	33.333	5,750	2,275	8,025
<b>TOTAL</b>		Ea.	55.906	6,930.50	3,809.60	10,740.10



<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
<b>4' BASEBOARD HEATER</b>						
Electric baseboard heater, 4' long	1.000	Ea.	1.194	45	81	126
Thermostat, integral	1.000	Ea.	.500	32	34	66
Romex, 12-3 with ground	40.000	L.F.	1.600	18	108.80	126.80
Panel board breaker, 15-50 amp	1.000	Ea.	.300	18.60	20.40	39
	<b>TOTAL</b>		Ea.	3.594	113.60	244.20
						357.80
<b>6' BASEBOARD HEATER</b>						
Electric baseboard heater, 6' long	1.000	Ea.	1.600	63	109	172
Thermostat, integral	1.000	Ea.	.500	32	34	66
Romex, 12-3 with ground	40.000	L.F.	1.600	18	108.80	126.80
Panel board breaker, 15-50 amp	1.000	Ea.	.400	24.80	27.20	52
	<b>TOTAL</b>		Ea.	4.100	137.80	279
						416.80
<b>8' BASEBOARD HEATER</b>						
Electric baseboard heater, 8' long	1.000	Ea.	2.000	77	136	213
Thermostat, integral	1.000	Ea.	.500	32	34	66
Romex, 12-3 with ground	40.000	L.F.	1.600	18	108.80	126.80
Panel board breaker, 15-50 amp	1.000	Ea.	.500	31	34	65
	<b>TOTAL</b>		Ea.	4.600	158	312.80
						470.80
<b>10' BASEBOARD HEATER</b>						
Electric baseboard heater, 10' long	1.000	Ea.	2.424	178	165	343
Thermostat, integral	1.000	Ea.	.500	32	34	66
Romex, 12-3 with ground	40.000	L.F.	1.600	18	108.80	126.80
Panel board breaker, 15-50 amp	1.000	Ea.	.750	46.50	51	97.50
	<b>TOTAL</b>		Ea.	5.274	274.50	358.80
						633.30

The costs in this system are on a cost each basis and include all necessary conduit fittings.

<b>Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>

<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
Air conditioning receptacles						
Using non-metallic sheathed cable	1.000	Ea.	.800	21.50	54.50	76
Using BX cable	1.000	Ea.	.964	32	65.50	97.50
Using EMT conduit	1.000	Ea.	1.194	46	81	127
Disposal wiring						
Using non-metallic sheathed cable	1.000	Ea.	.889	22	60.50	82.50
Using BX cable	1.000	Ea.	1.067	32	72.50	104.50
Using EMT conduit	1.000	Ea.	1.333	48	90.50	138.50
Dryer circuit						
Using non-metallic sheathed cable	1.000	Ea.	1.455	32.50	99	131.50
Using BX cable	1.000	Ea.	1.739	41	118	159
Using EMT conduit	1.000	Ea.	2.162	52.50	147	199.50
Duplex receptacles						
Using non-metallic sheathed cable	1.000	Ea.	.615	21.50	42	63.50
Using BX cable	1.000	Ea.	.741	32	50.50	82.50
Using EMT conduit	1.000	Ea.	.920	46	62.50	108.50
Exhaust fan wiring						
Using non-metallic sheathed cable	1.000	Ea.	.800	13.55	54.50	68.05
Using BX cable	1.000	Ea.	.964	24	65.50	89.50
Using EMT conduit	1.000	Ea.	1.194	38.50	81	119.50
Furnace circuit & switch						
Using non-metallic sheathed cable	1.000	Ea.	1.333	29	90.50	119.50
Using BX cable	1.000	Ea.	1.600	41	109	150
Using EMT conduit	1.000	Ea.	2.000	52	136	188
Ground fault						
Using non-metallic sheathed cable	1.000	Ea.	1.000	62.50	68	130.50
Using BX cable	1.000	Ea.	1.212	71.50	82.50	154
Using EMT conduit	1.000	Ea.	1.481	87.50	101	188.50
Heater circuits						
Using non-metallic sheathed cable	1.000	Ea.	1.000	24.50	68	92.50
Using BX cable	1.000	Ea.	1.212	30.50	82.50	113
Using EMT conduit	1.000	Ea.	1.481	42.50	101	143.50
Lighting wiring						
Using non-metallic sheathed cable	1.000	Ea.	.500	28	34	62
Using BX cable	1.000	Ea.	.602	33	41	74
Using EMT conduit	1.000	Ea.	.748	40	51	91
Range circuits						
Using non-metallic sheathed cable	1.000	Ea.	2.000	78	136	214
Using BX cable	1.000	Ea.	2.424	118	165	283
Using EMT conduit	1.000	Ea.	2.963	94.50	201	295.50
Switches, single pole						
Using non-metallic sheathed cable	1.000	Ea.	.500	13.55	34	47.55
Using BX cable	1.000	Ea.	.602	24	41	65
Using EMT conduit	1.000	Ea.	.748	38.50	51	89.50
Switches, 3-way						
Using non-metallic sheathed cable	1.000	Ea.	.667	16.85	45.50	62.35
Using BX cable	1.000	Ea.	.800	23	54.50	77.50
Using EMT conduit	1.000	Ea.	1.333	40	90.50	130.50
Water heater						
Using non-metallic sheathed cable	1.000	Ea.	1.600	22.50	109	131.50
Using BX cable	1.000	Ea.	1.905	36.50	129	165.50
Using EMT conduit	1.000	Ea.	2.353	43	160	203
Weatherproof receptacle						
Using non-metallic sheathed cable	1.000	Ea.	1.333	148	90.50	238.50
Using BX cable	1.000	Ea.	1.600	154	109	263
Using EMT conduit	1.000	Ea.	2.000	169	136	305

<b>System Description</b>	<b>QUAN.</b>	<b>UNIT</b>	<b>LABOR HOURS</b>	<b>COST EACH</b>		
				<b>MAT.</b>	<b>INST.</b>	<b>TOTAL</b>
Fluorescent strip, 4' long, 1 light, average	1.000	Ea.	.941	35	64	99
Deluxe	1.000	Ea.	1.129	42	77	119
2 lights, average	1.000	Ea.	1.000	54	68	122
Deluxe	1.000	Ea.	1.200	65	81.50	146.50
8' long, 1 light, average	1.000	Ea.	1.194	63	81	144
Deluxe	1.000	Ea.	1.433	75.50	97	172.50
2 lights, average	1.000	Ea.	1.290	78	87.50	165.50
Deluxe	1.000	Ea.	1.548	93.50	105	198.50
Surface mounted, 4' x 1', economy	1.000	Ea.	.914	60.50	62	122.50
Average	1.000	Ea.	1.143	75.50	77.50	153
Deluxe	1.000	Ea.	1.371	90.50	93	183.50
4' x 2', economy	1.000	Ea.	1.208	76.50	82.50	159
Average	1.000	Ea.	1.509	95.50	103	198.50
Deluxe	1.000	Ea.	1.811	115	124	239
Recessed, 4' x 1', 2 lamps, economy	1.000	Ea.	1.123	47	76.50	123.50
Average	1.000	Ea.	1.404	58.50	95.50	154
Deluxe	1.000	Ea.	1.684	70	115	185
4' x 2', 4' lamps, economy	1.000	Ea.	1.362	57	93	150
Average	1.000	Ea.	1.702	71	116	187
Deluxe	1.000	Ea.	2.043	85	139	224
Incandescent, exterior, 150W, single spot	1.000	Ea.	.500	39	34	73
Double spot	1.000	Ea.	1.167	112	79.50	191.50
Recessed, 100W, economy	1.000	Ea.	.800	59.50	54.50	114
Average	1.000	Ea.	1.000	74.50	68	142.50
Deluxe	1.000	Ea.	1.200	89.50	81.50	171
150W, economy	1.000	Ea.	.800	91	54.50	145.50
Average	1.000	Ea.	1.000	114	68	182
Deluxe	1.000	Ea.	1.200	137	81.50	218.50
Surface mounted, 60W, economy	1.000	Ea.	.800	74	54.50	128.50
Average	1.000	Ea.	1.000	82	68	150
Deluxe	1.000	Ea.	1.194	114	81	195
Metal halide, recessed 2' x 2' 250W	1.000	Ea.	2.500	330	170	500
2' x 2', 400W	1.000	Ea.	2.759	405	187	592
Surface mounted, 2' x 2', 250W	1.000	Ea.	2.963	375	201	576
2' x 2', 400W	1.000	Ea.	3.333	445	227	672
High bay, single, unit, 400W	1.000	Ea.	3.478	465	236	701
Twin unit, 400W	1.000	Ea.	5.000	905	340	1,245
Low bay, 250W	1.000	Ea.	2.500	400	170	570



# Unit Price Section

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# RSMeans data: Unit Prices—How They Work

All RSMeans data: Unit Prices are organized in the same way.

## 03 30 Cast-In-Place Concrete

### 03 30 53 – Miscellaneous Cast-In-Place Concrete

1	03 30 53.40 Concrete In Place	0010 CONCRETE IN PLACE	4	Daily	Labor-	Material	2020 Bare Costs	Equipment	9	Total	Total Ind O&P
				Crew Output	Hours					10	
		0020 Including forms (4 uses), Grade 60 rebar, concrete (Portland cement		4	5	6	7	8			
		0050 Type I), placement and finishing unless otherwise indicated									
		0500 Chimney foundations (5000 psi), over 5 C.Y.		G-14C	32.22	3.476	C.Y.		178	119	.83
		0510 (3500 psi), under 5 C.Y.		"	23.71	4.724	"		208	162	1.13
		3540 Equipment pad (3000 psi), 3' x 3' x 6" thick	3				Ea.		50.50	38	.60
2		3550 4' x 4' x 6" thick			30	1.600			78	57	.90
		3560 5' x 5' x 8" thick			18	2.667			138	95	1.49
		3570 6' x 6' x 8" thick			14	3.429			190	122	1.92
		3580 8' x 8' x 10" thick			8	6			395	214	3.36
		3590 10' x 10' x 12" thick			5	9.600			695	340	5.40
		3800 Footings (3000 psi), spread under 1 C.Y.		G-14C	28	4	C.Y.		203	137	.96
		3825 1 C.Y. to 5 C.Y.			43	2.605			240	89.50	.63
		3850 Over 5 C.Y.			75	1.493			220	51.50	.36
										271.86	325

It is important to understand the structure of RSMeans data: Unit Prices so that you can find information easily and use it correctly.

### 1 Line Numbers

**Line Numbers** consist of 12 characters, which identify a unique location in the database for each task. The first 6 or 8 digits conform to the Construction Specifications Institute MasterFormat® 2018. The remainder of the digits are a further breakdown in order to arrange items in understandable groups of similar tasks. Line numbers are consistent across all of our publications, so a line number in any of our products will always refer to the same item of work.

### 2 Descriptions

**Descriptions** are shown in a hierarchical structure to make them readable. In order to read a complete description, read up through the indents to the top of the section. Include everything that is above and to the left that is not contradicted by information below. For instance, the complete description for line 03 30 53.40 3550 is "Concrete in place, including forms (4 uses), Grade 60 rebar, concrete (Portland cement Type 1), placement and finishing unless otherwise indicated; Equipment pad (3000 psi), 4' x 4' x 6" thick."

### 3 RSMeans data

When using **RSMeans data**, it is important to read through an entire section to ensure that you use the data that most closely matches your work. Note that sometimes there is additional information shown in the section that may improve your price. There are frequently lines that further describe, add to, or adjust data for specific situations.

### 4 Reference Information

Gordian's RSMeans engineers have created **reference** information to assist you in your estimate. If there is information that applies to a section, it will be indicated at the start of the section. The Reference Section is located in the back of the data set.

### 5 Crews

**Crews** include labor and/or equipment necessary to accomplish each task. In this case, Crew C-14H is used. Gordian's RSMeans staff selects a crew to represent the workers and equipment that are

typically used for that task. In this case, Crew C-14H consists of one carpenter foreman (outside), two carpenters, one rodman, one laborer, one cement finisher, and one gas engine vibrator. Details of all crews can be found in the Reference Section.

## Crews - Residential

Crew No.	Bare Costs		Incl. Subs O & P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$35.62	\$58.33
2 Carpenters	36.15	578.40	59.40	950.40		
1 Rodman (reinf.)	39.50	316.00	65.00	520.00		
1 Laborer	27.80	222.40	45.65	365.20		
1 Cement Finisher	35.95	287.60	57.90	463.20		
1 Gas Engine Vibrator		26.85		29.54	0.56	0.62
48 L.H., Daily Totals		\$1736.45		\$2829.53	\$36.18	\$58.95

## 6 Daily Output

The **Daily Output** is the amount of work that the crew can do in a normal 8-hour workday, including mobilization, layout, movement of materials, and cleanup. In this case, crew C-14H can install thirty 4' × 4' × 6" thick concrete pads in a day. Daily output is variable and based on many factors, including the size of the job, location, and environmental conditions. RSMeans data represents work done in daylight (or adequate lighting) and temperate conditions.

## 7 Labor-Hours

The figure in the **Labor-Hours** column is the amount of labor required to perform one unit of work—in this case the amount of labor required to construct one 4' × 4' equipment pad. This figure is calculated by dividing the number of hours of labor in the crew by the daily output (48 labor-hours divided by 30 pads = 1.6 hours of labor per pad). Multiply 1.6 times 60 to see the value in minutes:  $60 \times 1.6 = 96$

## National Average

The RSMeans data in our print publications represent a "national average" cost. This data should be modified to the project location using the **City Cost Indexes or Location Factors** tables found in the Reference Section. Use the Location Factors to adjust estimate totals if the project covers multiple trades. Use the City Cost Indexes (CCI) for single trade

minutes. Note: the labor-hour figure is not dependent on the crew size. A change in crew size will result in a corresponding change in daily output, but the labor-hours per unit of work will not change.

## 8

### Unit of Measure

All RSMeans data: Unit Prices include the typical **Unit of Measure** used for estimating that item. For concrete-in-place the typical unit is cubic yards (C.Y.) or each (Ea.). For installing broadloom carpet it is square yard and for gypsum board it is square foot. The estimator needs to take special care that the unit in the data matches the unit in the take-off. Unit conversions may be found in the Reference Section.

## 9

### Bare Costs

**Bare Costs** are the costs of materials, labor, and equipment that the installing contractor pays. They represent the cost, in U.S. dollars, for one unit of work. They do not include any markups for profit or labor burden.

## 10

### Bare Total

The **Total column** represents the total bare cost for the installing contractor in U.S. dollars. In this case, the sum of \$78 for material + \$57 for labor + \$.90 for equipment is \$135.90.

## 11

### Total Incl O&P

The **Total Incl O&P column** is the total cost, including overhead and profit, that the installing contractor will charge the customer. This represents the cost of materials plus 10% profit, the cost of labor plus labor burden and 10% profit, and the cost of equipment plus 10% profit. It does not include the general contractor's overhead and profit. Note: See the inside back cover of the printed product or the Reference Section of the electronic product for details on how the labor burden is calculated.

projects or projects where a more detailed analysis is required. All figures in the two tables are derived from the same research. The last row of data in the CCI—the weighted average—is the same as the numbers reported for each location in the location factor table.

# RSMeans data: Unit Prices— How They Work (Continued)

Project Name: Pre-Engineered Steel Building		Architect: As Shown						
Location:	Anywhere, USA	01/01/20 RESI						
Line Number	Description	Qty	Unit	Material	Labor	Equipment	SubContract	Estimate Total
03 30 53.40 3940	Strip footing, 12" x 24", reinforced	15	C.Y.	\$2,565.00	\$1,200.00	\$8.40	\$0.00	
03 30 53.40 3950	Strip footing, 12" x 36", reinforced	34	C.Y.	\$5,610.00	\$2,176.00	\$15.30	\$0.00	
03 11 13.65 3000	Concrete slab edge forms	500	L.F.	\$165.00	\$850.00	\$0.00	\$0.00	
03 22 11.10 0200	Welded wire fabric reinforcing	150	C.S.F.	\$2,872.50	\$3,075.00	\$0.00	\$0.00	
03 31 13.35 0300	Ready mix concrete, 4000 psi for slab on grade	278	C.Y.	\$35,306.00	\$0.00	\$0.00	\$0.00	
03 31 13.70 4300	Place, strike off & consolidate concrete slab	278	C.Y.	\$0.00	\$3,572.30	\$136.22	\$0.00	
03 35 13.30 0250	Machine float & trowel concrete slab	15,000	S.F.	\$0.00	\$6,900.00	\$750.00	\$0.00	
03 15 16.20 0140	Cut control joints in concrete slab	950	L.F.	\$47.50	\$304.00	\$57.00	\$0.00	
03 39 23.13 0300	Sprayed concrete curing membrane	150	C.S.F.	\$1,867.50	\$702.00	\$0.00	\$0.00	
<b>Division 03</b>	<b>Subtotal</b>			<b>\$48,433.50</b>	<b>\$18,779.30</b>	<b>\$966.92</b>	<b>\$0.00</b>	<b>\$68,179.72</b>
08 36 13.10 2650	Manual 10' x 10' steel sectional overhead door	8	Ea.	\$11,000.00	\$2,560.00	\$0.00	\$0.00	
08 36 13.10 2860	Insulation and steel back panel for OH door	800	S.F.	\$4,000.00	\$0.00	\$0.00	\$0.00	
<b>Division 08</b>	<b>Subtotal</b>			<b>\$15,000.00</b>	<b>\$2,560.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$17,560.00</b>
13 34 19.50 1100	Pre-Engineered Steel Building, 100' x 150' x 24'	15,000	SF Flr.	\$0.00	\$0.00	\$0.00	\$315,000.00	
13 34 19.50 6050	Framing for PESB door opening, 3' x 7'	4	Opng.	\$0.00	\$0.00	\$0.00	\$1,980.00	
13 34 19.50 6100	Framing for PESB door opening, 10' x 10'	8	Opng.	\$0.00	\$0.00	\$0.00	\$8,800.00	
13 34 19.50 6200	Framing for PESB window opening, 4' x 3'	6	Opng.	\$0.00	\$0.00	\$0.00	\$3,030.00	
13 34 19.50 5750	PESB door, 3' x 7', single leaf	4	Opng.	\$2,920.00	\$516.00	\$0.00	\$0.00	
13 34 19.50 7750	PESB sliding window, 4' x 3' with screen	6	Opng.	\$2,940.00	\$297.00	\$67.80	\$0.00	
13 34 19.50 6550	PESB gutter, eave type, 26 ga., painted	300	L.F.	\$2,415.00	\$606.00	\$0.00	\$0.00	
13 34 19.50 8650	PESB roof vent, 12" wide x 10' long	15	Ea.	\$570.00	\$2,415.00	\$0.00	\$0.00	
13 34 19.50 6900	PESB insulation, vinyl faced, 4" thick	27,400	S.F.	\$11,782.00	\$6,850.00	\$0.00	\$0.00	
<b>Division 13</b>	<b>Subtotal</b>			<b>\$20,627.00</b>	<b>\$10,684.00</b>	<b>\$67.80</b>	<b>\$328,810.00</b>	<b>\$360,188.80</b>
	<b>Subtotal</b>			<b>\$84,060.50</b>	<b>\$32,023.30</b>	<b>\$1,034.72</b>	<b>\$328,810.00</b>	<b>\$445,928.52</b>
<b>Division 01</b>	<b>2 General Requirements @ 7%</b>			<b>5,884.24</b>	<b>2,241.63</b>	<b>72.43</b>	<b>23,016.70</b>	
<b>3</b>	Estimate Subtotal			<b>\$89,944.74</b>	<b>\$34,264.93</b>	<b>\$1,107.15</b>	<b>\$351,826.70</b>	<b>\$445,928.52</b>
<b>4</b>	Sales Tax @ 5%			<b>4,497.24</b>		<b>55.36</b>	<b>8,795.67</b>	
<b>5</b>	Subtotal A			<b>94,441.97</b>	<b>34,264.93</b>	<b>1,162.51</b>	<b>360,622.37</b>	
<b>6</b>	GC O & P			<b>9,444.20</b>	<b>22,375.00</b>	<b>116.25</b>	<b>36,062.24</b>	
<b>7</b>	Subtotal B			<b>103,886.17</b>	<b>56,639.93</b>	<b>1,278.76</b>	<b>396,684.60</b>	<b>\$558,489.46</b>
<b>5</b>	Contingency @ 5%							<b>27,924.47</b>
<b>6</b>	Subtotal C							<b>\$586,413.94</b>
<b>7</b>	Bond @ \$12/1000 +10% O&P							<b>7,740.66</b>
<b>7</b>	Subtotal D							<b>\$594,154.60</b>
<b>7</b>	Location Adjustment Factor				<b>115.50</b>			<b>92,093.96</b>
	<b>Grand Total</b>							<b>\$686,248.56</b>

This estimate is based on an interactive spreadsheet. You are free to download it and adjust it to your methodology.  
A copy of this spreadsheet is available at [RSMeans.com/2020books](http://RSMeans.com/2020books).

## Sample Estimate

This sample demonstrates the elements of an estimate, including a tally of the RSMeans data lines and a summary of the markups on a contractor's work to arrive at a total cost to the owner. The Location Factor with RSMeans data is added at the bottom of the estimate to adjust the cost of the work to a specific location.

1

### Work Performed

The body of the estimate shows the RSMeans data selected, including the line number, a brief description of each item, its take-off unit and quantity, and the bare costs of materials, labor, and equipment. This estimate also includes a column titled "SubContract." This data is taken from the column "Total Incl O&P" and represents the total that a subcontractor would charge a general contractor for the work, including the sub's markup for overhead and profit.

2

### Division 1, General Requirements

This is the first division numerically but the last division estimated. Division 1 includes project-wide needs provided by the general contractor. These requirements vary by project but may include temporary facilities and utilities, security, testing, project cleanup, etc. For small projects a percentage can be used—typically between 5% and 15% of project cost. For large projects the costs may be itemized and priced individually.

3

### Sales Tax

If the work is subject to state or local sales taxes, the amount must be added to the estimate. Sales tax may be added to material costs, equipment costs, and subcontracted work. In this case, sales tax was added in all three categories. It was assumed that approximately half the subcontracted work would be material cost, so the tax was applied to 50% of the subcontract total.

4

### GC O&P

This entry represents the general contractor's markup on material, labor, equipment, and subcontractor costs. Our standard markup on materials, equipment, and subcontracted work is 10%. In this estimate, the markup on the labor performed by the GC's workers uses "Skilled Workers Average" shown in Column F on the table "Installing Contractor's Overhead & Profit," which can be found on the inside back cover of the printed product or in the Reference Section of the electronic product.

5

### Contingency

A factor for contingency may be added to any estimate to represent the cost of unknowns that may occur between the time that the estimate is performed and the time the project is constructed. The amount of the allowance will depend on the stage of design at which the estimate is done and the contractor's assessment of the risk involved. Refer to section 01 21 16.50 for contingency allowances.

6

### Bonds

Bond costs should be added to the estimate. The figures here represent a typical performance bond, ensuring the owner that if the general contractor does not complete the obligations in the construction contract the bonding company will pay the cost for completion of the work.

7

### Location Adjustment

Published prices are based on national average costs. If necessary, adjust the total cost of the project using a location factor from the "Location Factor" table or the "City Cost Index" table. Use location factors if the work is general, covering multiple trades. If the work is by a single trade (e.g., masonry) use the more specific data found in the "City Cost Indexes."



## Estimating Tips

### 01 20 00 Price and Payment Procedures

- Allowances that should be added to estimates to cover contingencies and job conditions that are not included in the national average material and labor costs are shown in Section 01 21.
- When estimating historic preservation projects (depending on the condition of the existing structure and the owner's requirements), a 15–20% contingency or allowance is recommended, regardless of the stage of the drawings.

### 01 30 00 Administrative Requirements

- Before determining a final cost estimate, it is good practice to review all the items listed in Subdivisions 01 31 and 01 32 to make final adjustments for items that may need customizing to specific job conditions.
- Requirements for initial and periodic submittals can represent a significant cost to the General Requirements of a job. Thoroughly check the submittal specifications when estimating a project to determine any costs that should be included.

### 01 40 00 Quality Requirements

- All projects will require some degree of quality control. This cost is not included in the unit cost of construction listed in each division. Depending upon the terms of the contract, the various costs of inspection and testing can be the responsibility of either the owner or the contractor. Be sure to include the required costs in your estimate.

### 01 50 00 Temporary Facilities and Controls

- Barricades, access roads, safety nets, scaffolding, security, and many more requirements for the execution of a safe project are elements of direct cost. These costs can easily be overlooked when preparing an estimate. When looking through the major classifications of this subdivision, determine which items apply to each division in your estimate.
- Construction equipment rental costs can be found in the Reference Section in Section 01 54 33. Operators' wages are not included in equipment rental costs.
- Equipment mobilization and demobilization costs are not included in equipment rental costs and must be considered separately.

- The cost of small tools provided by the installing contractor for his workers is covered in the "Overhead" column on the "Installing Contractor's Overhead and Profit" table that lists labor trades, base rates, and markups. Therefore, it is included in the "Total Incl. O&P" cost of any unit price line item.

### 01 70 00 Execution and Closeout Requirements

- When preparing an estimate, thoroughly read the specifications to determine the requirements for Contract Closeout. Final cleaning, record documentation, operation and maintenance data, warranties and bonds, and spare parts and maintenance materials can all be elements of cost for the completion of a contract. Do not overlook these in your estimate.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 01 11 Summary of Work

## 01 11 31 – Professional Consultants

01 11 31.10 Architectural Fees		0010 ARCHITECTURAL FEES	R011110-10	Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0020 For new construction											
0060 Minimum										4.90%	4.90%
0090 Maximum										16%	16%
0100 For alteration work, to \$500,000, add to new construction fee										50%	50%
0150 Over \$500,000, add to new construction fee										25%	25%
<b>01 11 31.20 Construction Management Fees</b>											
0010 CONSTRUCTION MANAGEMENT FEES											
0060 For work to \$100,000										10%	10%
0070 To \$250,000										9%	9%
0090 To \$1,000,000										6%	6%
<b>01 11 31.75 Renderings</b>											
0010 RENDERINGS Color, matted, 20" x 30", eye level,											
0050 Average								Ea.	3,200		3,200
											3,525

# 01 21 Allowances

## 01 21 16 – Contingency Allowances

### 01 21 16.50 Contingencies

0010 CONTINGENCIES Add to estimate	0020 Conceptual stage	0150 Final working drawing stage	Project	20%	20%
			"		
				3%	3%

## 01 21 55 – Job Conditions Allowance

### 01 21 55.50 Job Conditions

0010 JOB CONDITIONS Modifications to applicable	8000 Remove and reset contents of small room	1 Clab	6.50	1.231	Room	34	34	56
	8010 Average room		4.70	1.702		47.50	47.50	77.50
	8020 Large room		3.50	2.286		63.50	63.50	104
	8030 Extra large room		2.40	3.333		92.50	92.50	152

## 01 21 63 – Taxes

### 01 21 63.10 Taxes

0010 TAXES	0020 Sales tax, State, average	R012909-80	%	5.08%
	0050 Maximum	R012909-85		7.50%
	0200 Social Security, on first \$118,500 of wages			7.65%
	0300 Unemployment, combined Federal and State, minimum	R012909-86		.60%
	0350 Average			9.60%
	0400 Maximum			12%

# 01 31 Project Management and Coordination

## 01 31 13 – Project Coordination

01 31 13.30 Insurance		013113-40	Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Labor Costs	Equipment	Total	Total Incl O&P
0010	INSURANCE	R013113-40			Job			.24%	.24%
0020	Builders risk, standard, minimum							.64%	.64%
0050	Maximum	R013113-50						.25%	.25%
0200	All-risk type, minimum							.62%	.62%
0250	Maximum	R013113-60			Value			.50%	.50%
0400	Contractor's equipment floater, minimum				"			1.50%	1.50%
0450	Maximum							2.02%	2.02%
0600	Public liability, average				Job				
0800	Workers' compensation & employer's liability, average								
0850	by trade, carpentry, general				Payroll			13.05%	
0900	Clerical							.46%	
0950	Concrete							12.44%	
1000	Electrical							5.52%	
1050	Excavation							9.03%	
1100	Glazing							12.91%	
1150	Insulation							11.13%	
1200	Lathing							8.67%	
1250	Masonry							13.73%	
1300	Painting & decorating							11.68%	
1350	Pile driving							14.53%	
1400	Plastering							10.73%	
1450	Plumbing							6.94%	
1500	Roofing							30.73%	
1550	Sheet metal work (HVAC)							8.82%	
1600	Steel erection, structural							27.45%	
1650	Tile work, interior ceramic							8.85%	
1700	Waterproofing, brush or hand caulking							7.01%	
1800	Wrecking							20.85%	
2000	Range of 35 trades in 50 states, excl. wrecking & clerical, min.							1.41%	
2100	Average							12.25%	
2200	Maximum							108.79%	

## 01 31 14 – Facilities Services Coordination

### 01 31 14.20 Lock Out/Tag Out

01 31 14.20 Lock Out / Tag Out		1 Elec	220	.036	Ea.	24	1.52	25.52	29
0020	Miniature circuit breaker lock out device		220	.036		19.90	1.52	21.42	24.50
0030	Miniature pin circuit breaker lock out device		220	.036		21	1.52	22.52	25.50
0040	Single circuit breaker lock out device		210	.038		19.90	1.59	21.49	24.50
0050	Multi-pole circuit breaker lock out device (15 to 225 Amp)		210	.038		21	1.59	22.59	26
0060	Large 3 pole circuit breaker lock out device (over 225 Amp)		210	.038		33	1.59	34.59	38.50
0080	Square D I-Line circuit breaker lock out device		330	.024		11	1.01	12.01	13.75
0090	Lock out disconnect switch, 30 to 100 Amp		330	.024		11	1.01	12.01	13.75
0100	100 to 400 Amp		330	.024		11	1.01	12.01	13.75
0110	Over 400 Amp		330	.024		11	1.01	12.01	13.75
0120	Lock out hasp for multiple lockout tags		200	.040		5.60	1.67	7.27	8.85
0130	Electrical cord plug lock out device		220	.036		10.50	1.52	12.02	14
0140	Electrical plug prong lock out device (3-wire grounding plug)		220	.036		6.95	1.52	8.47	10.10
0150	Wall switch lock out		200	.040		25	1.67	26.67	30.50
0160	Fire alarm pull station lock out	1 Stpi	200	.040		18.75	1.68	20.43	23.50
0170	Sprinkler valve tamper and flow switch lock out device	1 Skwk	220	.036		16.60	1.34	17.94	20.50
0180	Lock out sign		330	.024		18.90	.90	19.80	22.50
0190	Lock out tag		440	.018		5	.67	5.67	6.60

# 01 41 Regulatory Requirements

## 01 41 26 – Permit Requirements

		Daily Crew	Output	Labor- Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
<b>01 41 26.50 Permits</b>										
0010 PERMITS										
0020 Rule of thumb, most cities, minimum					Job				.50%	.50%
0100 Maximum					"				2%	2%

# 01 54 Construction Aids

## 01 54 16 – Temporary Hoists

### 01 54 16.50 Weekly Forklift Crew

0010 WEEKLY FORKLIFT CREW	A-3P	.20	40	Week	1,450	1,875	3,325	4,400
0100 All-terrain forklift, 45' lift, 35' reach, 9000 lb. capacity								

## 01 54 19 – Temporary Cranes

### 01 54 19.50 Daily Crane Crews

0010 DAILY CRANE CREWS for small jobs, portal to portal	A-3H	1	8	Day	310	725	1,035	1,300
0100 12-ton truck-mounted hydraulic crane								
0900 If crane is needed on a Saturday, Sunday or Holiday				Day	50%			
0910 At time-and-a-half, add				"	100%			
0920 At double time, add								

## 01 54 23 – Temporary Scaffolding and Platforms

### 01 54 23.60 Pump Staging

0010 PUMP STAGING, Aluminum	2 Corp	84.80	.189	C.S.F.	6.25	6.80	13.05	18.10
1300 System in place, 50' working height, per use based on 50 uses	R015423-20	84.80	.189		3.13	6.80	9.93	14.65
1400 100 uses		84.80	.189		2.09	6.80	8.89	13.50

### 01 54 23.70 Scaffolding

0010 SCAFFOLDING	R015423-10							
0015 Steel tube, regular, no plank, labor only to erect & dismantle								
0091 Building exterior, wall face, 1 to 5 stories, 6'-4" x 5' frames	3 Clab	8	3	C.S.F.	83.50		83.50	137
0201 6 to 12 stories	4 Clab	8	4		111		111	183
0310 13 to 20 stories	5 Carp	8	5		181		181	297
0461 Building interior, wall face area, up to 16' high	3 Clab	12	2		55.50		55.50	91.50
0561 16' to 40' high		10	2.400		66.50		66.50	110
0801 Building interior floor area, up to 30' high	150	.160		C.C.F.	4.45		4.45	7.30
0901 Over 30' high	4 Clab	160	.200	"	5.55		5.55	9.15
0906 Complete system for face of walls, no plank, material only rent/mo				C.S.F.	34		34	37.50
0908 Interior spaces, no plank, material only rent/mo				C.C.F.	3.88		3.88	4.27
0910 Steel tubular, heavy duty shoring, buy								
0920 Frames 5' high 2' wide				Ea.	89.50		89.50	98.50
0925 5' high 4' wide					106		106	116
0930 6' high 2' wide					107		107	118
0935 6' high 4' wide					115		115	126
0940 Accessories								
0945 Cross braces				Ea.	17.05		17.05	18.80
0950 U-head, 8" x 8"					20.50		20.50	22.50
0955 Head, 4" x 8"					14.90		14.90	16.40
0960 Base plate, 8" x 8"					16.05		16.05	17.65
0965 Leveling jack					35		35	38
1000 Steel tubular, regular, buy								
1100 Frames 3' high 5' wide				Ea.	92.50		92.50	102
1150 5' high 5' wide					108		108	119
1200 6'-4" high 5' wide					90.50		90.50	99.50
1350 7'-6" high 6' wide					151		151	166

# 01 54 Construction Aids

## 01 54 23 – Temporary Scaffolding and Platforms

01 54 23.70 Scaffolding		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
1500	Accessories, cross braces				Ea.	18.85			18.85	20.50
1550	Guardrail post					23.50			23.50	25.50
1600	Guardrail 7' section					8.20			8.20	9.05
1650	Screw jacks & plates					26			26	28.50
1700	Sidearm brackets					23.50			23.50	26
1750	8" casters					37.50			37.50	41
1800	Plank 2" x 10" x 16'-0"					64.50			64.50	71
1900	Stairway section					292			292	320
1910	Stairway starter bar					32.50			32.50	35.50
1920	Stairway inside handrail					54.50			54.50	60
1930	Stairway outside handrail					87.50			87.50	96
1940	Walk-thru frame guardrail					42			42	46.50
2000	Steel tubular, regular, rent/mo.									
2100	Frames 3' high 5' wide				Ea.	4.50			4.50	4.95
2150	5' high 5' wide					4.50			4.50	4.95
2200	6'-4" high 5' wide					5.70			5.70	6.30
2250	7'-6" high 6' wide					9.90			9.90	10.90
2500	Accessories, cross braces					.90			.90	.99
2550	Guardrail post					.90			.90	.99
2600	Guardrail 7' section					.90			.90	.99
2650	Screw jacks & plates					1.80			1.80	1.98
2700	Sidearm brackets					1.80			1.80	1.98
2750	8" casters					7.20			7.20	7.90
2800	Outrigger for rolling tower					2.70			2.70	2.97
2850	Plank 2" x 10" x 16'-0"					9.95			9.95	10.90
2900	Stairway section					31.50			31.50	35
2940	Walk-thru frame guardrail					2.25			2.25	2.48
3000	Steel tubular, heavy duty shoring, rent/mo.									
3250	5' high 2' & 4' wide				Ea.	8.45			8.45	9.30
3300	6' high 2' & 4' wide					8.45			8.45	9.30
3500	Accessories, cross braces					.90			.90	.99
3600	U-head, 8" x 8"					2.50			2.50	2.75
3650	J-head, 4" x 8"					2.50			2.50	2.75
3700	Base plate, 8" x 8"					.90			.90	.99
3750	Leveling jack					2.47			2.47	2.72
5700	Planks, 2" x 10" x 16'-0", labor only to erect & remove to 50' H	3 Corp	72	.333			12.05		12.05	19.80
5800	Over 50' high	4 Corp	80	.400			14.45		14.45	24

## 01 54 23.80 Staging Aids

0010 STAGING AIDS and fall protection equipment										
0100	Sidewall staging bracket, tubular, buy				Ea.	61.50			61.50	67.50
0110	Cost each per day, based on 250 days use				Day	.25			.25	.27
0200	Guard post, buy				Ea.	53.50			53.50	59
0210	Cost each per day, based on 250 days use				Day	.21			.21	.24
0300	End guard chains, buy per pair				Pair	47			47	51.50
0310	Cost per set per day, based on 250 days use				Day	.25			.25	.27
1010	Cost each per day, based on 250 days use				"	.04			.04	.05
1100	Wood bracket, buy				Ea.	28			28	31
1110	Cost each per day, based on 250 days use				Day	.11			.11	.12
2010	Cost per pair per day, based on 250 days use					.56			.56	.61
3010	Cost each per day, based on 250 days use					.23			.23	.25
3100	Aluminum scaffolding plank, 20" wide x 24' long, buy				Ea.	635			635	695
3110	Cost each per day, based on 250 days use				Day	2.53			2.53	2.79

# 01 54 Construction Aids

## 01 54 23 – Temporary Scaffolding and Platforms

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
						Labor	Equipment			
<b>01 54 23.80 Staging Aids</b>										
4010	Cost each per day, based on 250 days use				Day	.74			.74	.82
4100	Rope for safety line, 5/8" x 100' nylon, buy				Ea.	61.50			61.50	67.50
4110	Cost each per day, based on 250 days use				Day	.25			.25	.27
4200	Permanent U-Bolt roof anchor, buy				Ea.	31			31	34
4300	Temporary (one use) roof ridge anchor, buy				"	6.40			6.40	7
5000	Installation (setup and removal) of staging aids									
5010	Sidewall staging bracket	2 Corp	64	.250	Ea.		9.05		9.05	14.85
5020	Guard post with 2 wood rails	"	64	.250			9.05		9.05	14.85
5030	End guard chains, set	1 Corp	64	.125			4.52		4.52	7.45
5100	Roof shingling bracket		96	.083			3.01		3.01	4.95
5200	Ladder jack		64	.125			4.52		4.52	7.45
5300	Wood plank, 2" x 10" x 16'	2 Corp	80	.200			7.25		7.25	11.90
5310	Aluminum scaffold plank, 20" x 24"	"	40	.400			14.45		14.45	24
5410	Safety rope	1 Corp	40	.200			7.25		7.25	11.90
5420	Permanent U-Bolt roof anchor (install only)	2 Corp	40	.400			14.45		14.45	24
5430	Temporary roof ridge anchor (install only)	1 Corp	64	.125			4.52		4.52	7.45

## 01 54 36 – Equipment Mobilization

### 01 54 36.50 Mobilization

0010	<b>MOBILIZATION</b> (Use line item again for demobilization)	R015436-50								
0015	Up to 25 mi. haul dist. (50 mi. RT for mob/demob crew)									
1200	Small equipment, placed in rear of, or towed by pickup truck	A-3A	4	2	Ea.	72	44	116	167	
1300	Equipment hauled on 3-ton capacity towed trailer	A-3Q	2.67	3		108	92.50	200.50	279	
1400	20-ton capacity	B-34U	2	8		279	221	500	700	
1500	40-ton capacity	B-34N	2	8		287	340	627	845	
1700	Crane, truck-mounted, up to 75 ton (driver only)	1 Eqhv	4	2		77		77	126	
2500	For each additional 5 miles haul distance, add					10%	10%			
3000	For large pieces of equipment, allow for assembly/knockdown									
3100	For mob/demob of micro-tunneling equip, see Section 33 05 07.36									

# 01 56 Temporary Barriers and Enclosures

## 01 56 13 – Temporary Air Barriers

### 01 56 13.60 Tarpaulins

0010	<b>TARPAULINS</b>									
0020	Cotton duck, 10-13.13 oz./S.Y., 6' x 8'				S.F.	.75		.75	.83	
0050	30' x 30'					.63		.63	.69	
0200	Reinforced polyethylene 3 mils thick, white					.05		.05	.06	
0300	4 mils thick, white, clear or black					.16		.16	.18	
0730	Polyester reinforced w/integral fastening system, 11 mils thick					.20		.20	.22	

## 01 56 16 – Temporary Dust Barriers

### 01 56 16.10 Dust Barriers, Temporary

0010	<b>DUST BARRIERS, TEMPORARY</b> , erect and dismantle									
0020	Spring loaded telescoping pole & head, to 12', erect and dismantle	1 Clab	240	.033	Ea.		.93		.93	1.52
0025	Cost per day (based upon 250 days)				Day	.22		.22	.24	
0030	To 21', erect and dismantle	1 Clab	240	.033	Ea.		.93		.93	1.52
0035	Cost per day (based upon 250 days)				Day	.72		.72	.79	
0040	Accessories, caution tape reel, erect and dismantle	1 Clab	480	.017	Ea.		.46		.46	.76
0045	Cost per day (based upon 250 days)				Day	.33		.33	.37	
0060	Foam rail and connector, erect and dismantle	1 Clab	240	.033	Ea.		.93		.93	1.52
0065	Cost per day (based upon 250 days)				Day	.10		.10	.11	
0070	Caution tape	1 Clab	384	.021	C.L.F.	2.49	.58		3.07	3.69

# 01 56 Temporary Barriers and Enclosures

## 01 56 16 – Temporary Dust Barriers

01 56 16.10 Dust Barriers, Temporary			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0080 Zipper, standard duty			1 Clab	60	.133	Ea.	10.55	3.71	14.26	17.70
0090 Heavy duty				48	.167	"	10.65	4.63	15.28	19.30
0100 Polyethylene sheet, 4 mil				37	.216	Sq.	2.62	6	8.62	12.75
0110 6 mil				37	.216	"	4	6	10	14.25
1000 Dust partition, 6 mil polyethylene, 1" x 3" frame			2 Corp	2000	.008	S.F.	.33	.29	.62	.84
1080 2" x 4" frame				2000	.008	"	.39	.29	.68	.91
4000 Dust & infectious control partition, adj. to 10' high, obscured, 4' panel				90	.178	Ea.	580	6.45	586.45	650
4010 3' panel				90	.178		550	6.45	556.45	615
4020 2' panel				90	.178		430	6.45	436.45	485
4030 1' panel			1 Corp	90	.089		285	3.21	288.21	320
4040 6" panel				"	90	.089	265	3.21	268.21	297
4050 2' panel with HEPA filtered discharge port			2 Corp	90	.178		500	6.45	506.45	560
4060 3' panel with 32" door				90	.178		895	6.45	901.45	995
4070 4' panel with 36" door				90	.178		995	6.45	1,001.45	1,100
4080 4'-6" panel with 44" door				90	.178		1,200	6.45	1,206.45	1,325
4090 Hinged corner				80	.200		185	7.25	192.25	216
4100 Outside corner				80	.200		150	7.25	157.25	177
4110 T post				80	.200		150	7.25	157.25	177
4120 Accessories, ceiling grid clip				360	.044		7.45	1.61	9.06	10.85
4130 Panel locking clip				360	.044		5.15	1.61	6.76	8.30
4140 Panel joint closure strip				360	.044		8	1.61	9.61	11.45
4150 Screw jack				360	.044		6.65	1.61	8.26	9.95
4160 Digital pressure difference guage							275		275	305
4180 Combination lockset			1 Corp	13	.615		200	22.50	222.50	257
4185 Sealant tape, 2" wide			1 Clab	192	.042	C.L.F.	6.75	1.16	7.91	9.35
4190 System in place, including door and accessories										
4200 Based upon 25 uses			2 Corp	51	.314	L.F.	9.85	11.35	21.20	29.50
4210 Based upon 50 uses				51	.314		4.94	11.35	16.29	24
4230 Based upon 100 uses				51	.314		2.47	11.35	13.82	21.50

# 01 66 Product Storage and Handling Requirements

## 01 66 19 – Material Handling

### 01 66 19.10 Material Handling

0010 MATERIAL HANDLING			2 Clab	145	.110	C.Y.		3.07	3.07	5.05
0020 Above 2nd story, via stairs, per C.Y. of material per floor										
0030 Via elevator, per C.Y. of material				240	.067			1.85	1.85	3.04
0050 Distances greater than 200', per C.Y. of material per each addl 200'				300	.053			1.48	1.48	2.43

# 01 71 Examination and Preparation

## 01 71 23 – Field Engineering

### 01 71 23.13 Construction Layout

0010 CONSTRUCTION LAYOUT			A-6	1	16	Day		575	31	606	985
1100 Crew for layout of building, trenching or pipe laying, 2 person crew											
1200 3 person crew			A-7	1	24	"		920	30.50	950.50	1,550

# 01 74 Cleaning and Waste Management

## 01 74 13 – Progress Cleaning

01 74 13.20 Cleaning Up	Crew	Daily	Labor-	Unit	Material	2020	Bare	Costs	Total	Total	Ind O&P
		Output	Hours			Labor	Equipment	Total			
0010 CLEANING UP						Job			.30%	.30%	
0020 After job completion, allow, minimum						"					
0040 Maximum						"			1%	1%	

# 01 76 Protecting Installed Construction

## 01 76 13 – Temporary Protection of Installed Construction

### 01 76 13.20 Temporary Protection

0010 TEMPORARY PROTECTION	2 Corp	1500	.011	S.F.	.50	.39	.89	1.18
0020 Flooring, 1/8" tempered hardboard, taped seams	1 Clab	3200	.003	"	.13	.07	.20	.25
0030 Peel away carpet protection								

## Estimating Tips

### 02 30 00 Subsurface Investigation

In preparing estimates on structures involving earthwork or foundations, all information concerning soil characteristics should be obtained. Look particularly for hazardous waste, evidence of prior dumping of debris, and previous stream beds.

### 02 40 00 Demolition and Structure Moving

The costs shown for selective demolition do not include rubbish handling or disposal. These items should be estimated separately using RSMeans data or other sources.

- Historic preservation often requires that the contractor remove materials from the existing structure, rehab them, and replace them. The estimator must be aware of any related measures and precautions that must be taken when doing selective demolition and cutting and patching. Requirements may include special handling and storage, as well as security.

- In addition to Subdivision 02 41 00, you can find selective demolition items in each division. Example: Roofing demolition is in Division 7.
- Absent of any other specific reference, an approximate demolish-in-place cost can be obtained by halving the new-install labor cost. To remove for reuse, allow the entire new-install labor figure.

RO28213-20 and RO28319-60 for further guidance in using these unit price lines.

### 02 90 00 Monitoring Chemical Sampling, Testing Analysis

This section provides costs for on-site sampling and testing hazardous waste.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

### 02 40 00 Building Deconstruction

This section provides costs for the careful dismantling and recycling of most low-rise building materials.

### 02 50 00 Containment of Hazardous Waste

This section addresses on-site hazardous waste disposal costs.

### 02 80 00 Hazardous Material Disposal/Remediation

This subdivision includes information on hazardous waste handling, asbestos remediation, lead remediation, and mold remediation. See reference numbers

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# 02 21 Surveys

## 02 21 13 – Site Surveys

				Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
02 21 13.09 Topographical Surveys				Crew	Output			Labor			
0010	TOPOGRAPHICAL SURVEYS			A-7	3.30	7.273	Acre	23.50	279	9.30	311.80
0020	Topographical surveying, conventional, minimum			A-8	.60	53.333	"	63	2,000	51	2,114
0100	Maximum										3,425

## 02 21 13.13 Boundary and Survey Markers

02 21 13.13 Boundary and Survey Markers				Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0300	Lot location and lines, large quantities, minimum			A-7	2	12	Acre	36	460	15.35	511.35
0320	Average			"	1.25	19.200	"	63.50	735	24.50	823
0400	Small quantities, maximum			A-8	1	32	"	76.50	1,200	30.50	1,307
0600	Monuments, 3' long			A-7	10	2.400	Ea.	35.50	92	3.07	130.57
0800	Property lines, perimeter, cleared land			"	1000	.024	L.F.	.08	.92	.03	1.03
0900	Wooded land			A-8	875	.037	"	.10	1.37	.04	1.51
											2.41

# 02 32 Geotechnical Investigations

## 02 32 13 – Subsurface Drilling and Sampling

### 02 32 13.10 Boring and Exploratory Drilling

02 32 13.10 Boring and Exploratory Drilling				Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	BORING AND EXPLORATORY DRILLING			A-6	1	16	Day	575	31	606	985
0020	Borings, initial field stake out & determination of elevations						Total	335		335	425
0100	Drawings showing boring details							775		775	970
0200	Report and recommendations from P.E.										
0300	Mobilization and demobilization			B-55	4	4	"	122	305	427	535
0350	For over 100 miles, per added mile				450	.036	Mile	1.08	2.69	3.77	4.74
0600	Auger holes in earth, no samples, 2-1/2" diameter				78.60	.204	L.F.	6.20	15.40	21.60	27
0800	Cased borings in earth, with samples, 2-1/2" diameter				55.50	.288	"	20.50	8.80	22	51.30
1400	Borings, earth, drill rig and crew with truck mounted auger						Day	485	1,200	1,685	2,125
1500	For inner city borings, odd, minimum									10%	10%
1510	Maximum									20%	20%

# 02 41 Demolition

## 02 41 13 – Selective Site Demolition

### 02 41 13.17 Demolish, Remove Pavement and Curb

02 41 13.17 Demolish, Remove Pavement and Curb				R024119-10	Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	DEMOLISH, REMOVE PAVEMENT AND CURB				B-38	690	.035	S.Y.	1.06	1.80	2.86	3.72
5010	Pavement removal, bituminous roads, up to 3" thick					420	.057		1.75	2.96	4.71	6.10
5050	4"-6" thick					640	.038		1.15	1.94	3.09	4.01
5100	Bituminous driveways					255	.094		2.88	4.87	7.75	10.05
5200	Concrete to 6" thick, hydraulic hammer, mesh reinforced					200	.120	"	3.67	6.20	9.87	12.85
5300	Rod reinforced					1900	.025	S.F.	.71	.19	.90	1.38
5600	With hand held air equipment, bituminous, to 6" thick					1600	.030		.84	.22	1.06	1.64
5700	Concrete to 6" thick, no reinforcing					1400	.034		.96	.26	1.22	1.86
5800	Mesh reinforced					765	.063	"	1.77	.47	2.24	3.41
5900	Rod reinforced					360	.067	L.F.	2.04	.59	2.63	3.99
6000	Curbs, concrete, plain					275	.087		2.67	.78	3.45	5.25
6100	Reinforced					360	.067		2.04	.59	2.63	3.99
6200	Granite					528	.045	"	1.39	.41	1.80	2.73
6300	Bituminous											

### 02 41 13.23 Utility Line Removal

02 41 13.23 Utility Line Removal				R024119-10	Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	UTILITY LINE REMOVAL				B-6	7	3.429	Ea.	105	30.50	135.50	206
0015	No hauling, abandon catch basin or manhole					4	6		183	53.50	236.50	360
0020	Remove existing catch basin or manhole, masonry					13	1.846		56.50	16.45	72.95	111
0030	Catch basin or manhole frames and covers, stored											

# 02 41 Demolition

## 02 41 13 – Selective Site Demolition

02 41 13.23 Utility Line Removal			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
			Crew			Labor	Equipment	Total		
0040	Remove and reset	B-6	7	3.429	Ea.		105	30.50	135.50	206
2900	Pipe removal, sewer/water, no excavation, 12" diameter		175	.137	L.F.		4.19	1.22	5.41	8.20
2930	15"-18" diameter	B-12Z	150	.160			5	9.75	14.75	18.95
2960	21"-24" diameter	"	120	.200			6.25	12.20	18.45	24

## 02 41 13.30 Minor Site Demolition

0010 MINOR SITE DEMOLITION		R024119-10									
			B-5	1800	.022	C.F.		.67	.85	1.52	2.03
1000	Masonry walls, block, solid			900	.044			1.34	1.70	3.04	4.07
1200	Brick, solid			900	.044			1.34	1.70	3.04	4.07
1400	Stone, with mortar										
1500	Dry set		1500	.027				.81	1.02	1.83	2.44
4000	Sidewalk removal, bituminous, 2" thick	B-6	350	.069	S.Y.			2.09	.61	2.70	4.10
4010	2-1/2" thick		325	.074				2.26	.66	2.92	4.42
4050	Brick, set in mortar		185	.130				3.96	1.16	5.12	7.75
4100	Concrete, plain, 4"		160	.150				4.58	1.34	5.92	8.95
4110	Plain, 5"		140	.171				5.25	1.53	6.78	10.30
4120	Plain, 6"		120	.200				6.10	1.78	7.88	11.95
4200	Mesh reinforced, concrete, 4"		150	.160				4.89	1.43	6.32	9.55
4210	5" thick		131	.183				5.60	1.63	7.23	11
4220	6" thick		112	.214				6.55	1.91	8.46	12.85
4300	Slab on grade removal, plain	B-5	45	.889	C.Y.			27	34	61	81.50
4310	Mesh reinforced		33	1.212				36.50	46	82.50	111
4320	Rod reinforced		25	1.600				48.50	61	109.50	147
4400	For congested sites or small quantities, add up to									200%	200%
4450	For disposal on site, add	B-11A	232	.069				2.27	6.50	8.77	10.85
4500	To 5 miles, add	B-34D	76	.105				3.56	8.50	12.06	15.20

## 02 41 13.60 Selective Demolition Fencing

0010 SELECTIVE DEMOLITION FENCING		R024119-10									
			2 Clb	430	.037	L.F.		1.03		1.03	1.70
1600	Fencing, barbed wire, 3 strand										
1650	5 strand		"	280	.057			1.59		1.59	2.61
1700	Chain link, posts & fabric, 8'-10' high, remove only	B-6	445	.054				1.65	.48	2.13	3.23

## 02 41 16 – Structure Demolition

02 41 16.13 Building Demolition		R024119-10									
			B-3	14800	.003	C.F.		.10	.16	.26	.34
0500	Small bldgs, or single bldgs, no salvage included, steel										
0600	Concrete		"	11300	.004	"		.14	.21	.35	.45
0605	Concrete, plain	B-5	33	1.212	C.Y.			36.50	46	82.50	111
0610	Reinforced		25	1.600				48.50	61	109.50	147
0615	Concrete walls		34	1.176				35.50	45	80.50	108
0620	Elevated slabs		26	1.538				46.50	58.50	105	141
0650	Masonry	B-3	14800	.003	C.F.			.10	.16	.26	.34
0700	Wood		14800	.003	"			.10	.16	.26	.34
1000	Demolition single family house, one story, wood 1600 S.F.			1	48	Ea.		1,525	2,325	3,850	5,050
1020	3200 S.F.			.50	96			3,050	4,625	7,675	10,100
1200	Demolition two family house, two story, wood 2400 S.F.			.67	71.964			2,300	3,475	5,775	7,575
1220	4200 S.F.			.38	128			4,075	6,175	10,250	13,500
1300	Demolition three family house, three story, wood 3200 S.F.			.50	96			3,050	4,625	7,675	10,100
1320	5400 S.F.			.30	160			5,100	7,725	12,825	16,900

# 02 41 Demolition

## 02 41 16 – Structure Demolition

02 41 16.17 Building Demolition Footings and Foundations				R024119-10	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Total	Total Ind O&P
0010	BUILDING DEMOLITION FOOTINGS AND FOUNDATIONS											
0200	Floors, concrete slab on grade,											
0240	4" thick, plain concrete	B-13L	5000	.003	S.F.				.12	.42	.54	.66
0280	Reinforced, wire mesh		4000	.004					.15	.52	.67	.82
0300	Rods		4500	.004					.14	.46	.60	.73
0400	6" thick, plain concrete		4000	.004					.15	.52	.67	.82
0420	Reinforced, wire mesh		3200	.005					.19	.65	.84	1.02
0440	Rods		3600	.004					.17	.58	.75	.91
1000	Footings, concrete, 1" thick, 2' wide		300	.053	L.F.				2.05	6.95	9	10.95
1080	1'-6" thick, 2' wide		250	.064					2.46	8.30	10.76	13.15
1120	3' wide		200	.080					3.08	10.40	13.48	16.50
1200	Average reinforcing, add										10%	10%
2000	Walls, block, 4" thick	B-13L	8000	.002	S.F.				.08	.26	.34	.42
2040	6" thick		6000	.003					.10	.35	.45	.55
2080	8" thick		4000	.004					.15	.52	.67	.82
2100	12" thick		3000	.005					.20	.69	.89	1.10
2400	Concrete, plain concrete, 6" thick		4000	.004					.15	.52	.67	.82
2420	8" thick		3500	.005					.18	.59	.77	.94
2440	10" thick		3000	.005					.20	.69	.89	1.10
2500	12" thick		2500	.006					.25	.83	1.08	1.31
2600	For average reinforcing, add										10%	10%
4000	For congested sites or small quantities, add up to										200%	200%
4200	Add for disposal, on site	B-11A	232	.069	C.Y.				2.27	6.50	8.77	10.85
4250	To five miles	B-30	220	.109	"				3.84	8.35	12.19	15.45

## 02 41 19 – Selective Demolition

### 02 41 19.13 Selective Building Demolition

#### 0010 SELECTIVE BUILDING DEMOLITION

0020 Costs related to selective demolition of specific building components  
0025 are included under Common Work Results (XX 05)  
0030 in the component's appropriate division.

#### 02 41 19.16 Selective Demolition, Cutout

02 41 19.16 Selective Demolition, Cutout				R024119-10	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Total	Total Ind O&P
0010	SELECTIVE DEMOLITION, CUTOUT											
0020	Concrete, elev. slab, light reinforcement, under 6 C.F.	B-9	65	.615	C.F.				17.35	5.50	22.85	34.50
0050	Light reinforcing, over 6 C.F.		75	.533	"				15.05	4.76	19.81	30
0200	Slab on grade to 6" thick, not reinforced, under 8 S.F.		85	.471	S.F.				13.25	4.20	17.45	26.50
0250	8-16 S.F.		175	.229	"				6.45	2.04	8.49	12.85
0255	For over 16 S.F. see Line 02 41 16.17 0400											
0600	Walls, not reinforced, under 6 C.F.	B-9	60	.667	C.F.				18.80	5.95	24.75	37.50
0650	6-12 C.F.	"	80	.500	"				14.10	4.47	18.57	28
0655	For over 12 C.F. see Line 02 41 16.17 2500											
1000	Concrete, elevated slab, bar reinforced, under 6 C.F.	B-9	45	.889	C.F.				25	7.95	32.95	50
1050	Bar reinforced, over 6 C.F.		50	.800	"				22.50	7.15	29.65	45
1200	Slab on grade to 6" thick, bar reinforced, under 8 S.F.		75	.533	S.F.				15.05	4.76	19.81	30
1250	8-16 S.F.		150	.267	"				7.50	2.38	9.88	14.95
1255	For over 16 S.F. see Line 02 41 16.17 0440											
1400	Walls, bar reinforced, under 6 C.F.	B-9	50	.800	C.F.				22.50	7.15	29.65	45
1450	6-12 C.F.	"	70	.571	"				16.10	5.10	21.20	32
1455	For over 12 C.F. see Lines 02 41 16.17 2500 and 2600											
2000	Brick, to 4 S.F. opening, not including toothing											
2040	4" thick	B-9	30	1.333	Ea.				37.50	11.90	49.40	75
2060	8" thick		18	2.222					62.50	19.85	82.35	125

# 02 41 Demolition

## 02 41 19 - Selective Demolition

02 41 19.16 Selective Demolition, Cutout		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
2080	12" thick	B-9	10	4	Ea.		113	35.50	148.50	225	
2400	Concrete block, to 4 S.F. opening, 2" thick		35	1.143			32	10.20	42.20	64	
2420	4" thick		30	1.333			37.50	11.90	49.40	75	
2440	8" thick		27	1.481			42	13.25	55.25	83	
2460	12" thick		24	1.667			47	14.90	61.90	93.50	
2600	Gypsum block, to 4 S.F. opening, 2" thick		80	.500			14.10	4.47	18.57	28	
2620	4" thick		70	.571			16.10	5.10	21.20	32	
2640	8" thick		55	.727			20.50	6.50	27	40.50	
2800	Terra cotta, to 4 S.F. opening, 4" thick		70	.571			16.10	5.10	21.20	32	
2840	8" thick		65	.615			17.35	5.50	22.85	34.50	
2880	12" thick		50	.800			22.50	7.15	29.65	45	
3000	Toothing masonry cutouts, brick, soft old mortar	1 Brhe	40	.200	V.L.E.		6		6	9.95	
3100	Hard mortar		30	.267			8		8	13.25	
3200	Block, soft old mortar		70	.114			3.43		3.43	5.70	
3400	Hard mortar		50	.160			4.81		4.81	7.95	
6000	Walls, interior, not including re-framing,										
6010	openings to 5 S.F.										
6100	Drywall to 5/8" thick	1 Clab	24	.333	Ea.		9.25		9.25	15.20	
6200	Paneling to 3/4" thick		20	.400			11.10		11.10	18.25	
6300	Plaster, on gypsum lath		20	.400			11.10		11.10	18.25	
6340	On wire lath		14	.571			15.90		15.90	26	
7000	Wood frame, not including re-framing, openings to 5 S.F.										
7200	Floors, sheathing and flooring to 2" thick	1 Clab	5	1.600	Ea.		44.50		44.50	73	
7310	Roofs, sheathing to 1" thick, not including roofing		6	1.333			37		37	61	
7410	Walls, sheathing to 1" thick, not including siding		7	1.143			32		32	52	

## 02 41 19.19 Selective Demolition

0010	<b>SELECTIVE DEMOLITION</b> , Rubbish Handling	R024119-10								
0020	The following are to be added to the demolition prices									
0600	Dumpster, weekly rental, 1 dump/week, 6 C.Y. capacity (2 tons)			Week		415		415	455	
0700	10 C.Y. capacity (3 tons)					480		480	530	
0725	20 C.Y. capacity (5 tons)	R024119-20				565		565	625	
0800	30 C.Y. capacity (7 tons)					730		730	800	
0840	40 C.Y. capacity (10 tons)					775		775	850	
2000	Load, haul, dump and return, 0'-50' haul, hand carried	2 Clab	24	.667	C.Y.		18.55		18.55	30.50
2005	Wheeled		37	.432			12		12	19.75
2040	0'-100' haul, hand carried		16.50	.970			27		27	44.50
2045	Wheeled		25	.640			17.80		17.80	29
2050	Forklift	A-3R	25	.320			11.55	10.25	21.80	30
2080	Haul and return, add per each extra 100' haul, hand carried	2 Clab	35.50	.451			12.55		12.55	20.50
2085	Wheeled		54	.296			8.25		8.25	13.55
2120	For travel in elevators, up to 10 floors, add		140	.114			3.18		3.18	5.20
2130	0'-50' haul, incl. up to 5 riser stairs, hand carried		23	.696			19.35		19.35	32
2135	Wheeled		35	.457			12.70		12.70	21
2140	6-10 riser stairs, hand carried		22	.727			20		20	33
2145	Wheeled		34	.471			13.10		13.10	21.50
2150	11-20 riser stairs, hand carried		20	.800			22		22	36.50
2155	Wheeled		31	.516			14.35		14.35	23.50
2160	21-40 riser stairs, hand carried		16	1			28		28	45.50
2165	Wheeled		24	.667			18.55		18.55	30.50
2170	0'-100' haul, incl. 5 riser stairs, hand carried		15	1.067			29.50		29.50	48.50
2175	Wheeled		23	.696			19.35		19.35	32
2180	6-10 riser stairs, hand carried		14	1.143			32		32	52

# 02 41 Demolition

## 02 41 19 – Selective Demolition

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
02 41 19.19 Selective Demolition		Crew			Labor	Equipment			
2185	Wheeled	2 Clab	21	.762	C.Y.		21		35
2190	11-20 riser stairs, hand carried		12	1.333			37		61
2195	Wheeled		18	.889			24.50		40.50
2200	21-40 riser stairs, hand carried		8	2			55.50		91.50
2205	Wheeled		12	1.333			37		61
2210	Haul and return, add per each extra 100' haul, hand carried		35.50	.451			12.55		20.50
2215	Wheeled		54	.296			8.25		13.55
2220	For each additional flight of stairs, up to 5 risers, add		550	.029	Flight		.81		1.33
2225	6-10 risers, add		275	.058			1.62		2.66
2230	11-20 risers, add		138	.116			3.22		5.30
2235	21-40 risers, add		69	.232			6.45		10.60
3000	Loading & trucking, including 2 mile haul, chute loaded	B-16	45	.711	C.Y.		21	12.75	33.75
3040	Hand loading truck, 50' haul	"	48	.667			19.85	11.95	31.80
3080	Machine loading truck	B-17	120	.267			8.35	5.35	13.70
5000	Haul, per mile, up to 8 C.Y. truck	B-34B	1165	.007			.23	.49	.72
5100	Over 8 C.Y. truck	"	1550	.005			.17	.37	.54
									.70

## 02 41 19.20 Selective Demolition, Dump Charges

0010 SELECTIVE DEMOLITION, DUMP CHARGES		R024119-10							
0020	Dump charges, typical urban city, tipping fees only								
0100	Building construction materials			Ton	74			74	81
0200	Trees, brush, lumber				63			63	69.50
0300	Rubbish only				63			63	69.50
0500	Reclamation station, usual charge				74			74	81

## 02 41 19.21 Selective Demolition, Gutting

0010 SELECTIVE DEMOLITION, GUTTING		R024119-10							
0020	Building interior, including disposal, dumpster fees not included								
0500	Residential building								
0560	Minimum	B-16	400	.080	SF Flr.		2.38	1.43	3.81
0580	Maximum	"	360	.089	"		2.65	1.59	4.24
0900	Commercial building								
1000	Minimum	B-16	350	.091	SF Flr.		2.72	1.64	4.36
1020	Maximum	"	250	.128	"		3.81	2.29	6.10
									8.75

# 02 83 Lead Remediation

## 02 83 19 – Lead-Based Paint Remediation

02 83 19.22 Preparation of Lead Containment Area									
0010	PREPARATION OF LEAD CONTAINMENT AREA								
0020	Lead abatement work area, test kit, per swab	1 Skwk	16	.500	Ea.	3.40	18.50		21.90
0025	For dust barriers see Section 01 56 16.10								34
0050	Caution sign	1 Skwk.	48	.167	Ea.	9	6.15		15.15
0100	Pre-cleaning, HEPA vacuum and wet wipe, floor and wall surfaces	3 Skwk.	5000	.005	S.F.	.01	.18		.30
0105	Ceiling, 6'-11' high		4100	.006		.07	.22		.44
0108	12'-15' high		3550	.007		.07	.25		.49
0115	Over 15' high		3000	.008		.09	.30		.59
0500	Cover surfaces with polyethylene sheeting								
0550	Floors, each layer, 6 mil	3 Skwk.	8000	.003	S.F.	.04	.11		.23
0560	Walls, each layer, 6 mil	"	6000	.004	"	.04	.15		.29
0570	For heights above 14', add						20%		
2400	Post abatement cleaning of protective sheeting, HEPA vacuum & wet wipe	3 Skwk.	5000	.005	S.F.	.01	.18		.30
2450	Doff, bag and seal protective sheeting		12000	.002		.01	.07		.13

# 02 83 Lead Remediation

## 02 83 19 – Lead-Based Paint Remediation

02 83 19.22 Preparation of Lead Containment Area		Crew 2500	Daily Output 3 Skwk	Labor- Hours 5000	Unit .005	Material .01	2020 Bare Labor .18	Costs Equipment	Total .19	Total Incl O&P .30
Post abatement cleaning, HEPA vacuum & wet wipe										
<b>02 83 19.23 Encapsulation of Lead-Based Paint</b>										
0010	ENCAPSULATION OF LEAD-BASED PAINT									
0020	Interior, brushwork, trim, under 6"		1 Pord	240	.033	L.F.	2.45	1.01		3.46
0030	6"-12" wide			180	.044		3.19	1.34		4.53
0040	Balustrades			300	.027		2.07	.81		2.88
0050	Pipe to 4" diameter			500	.016		1.27	.48		1.75
0060	To 8" diameter			375	.021		1.56	.64		2.20
0070	To 12" diameter			250	.032		2.36	.97		3.33
0080	To 16" diameter			170	.047		3.50	1.42		4.92
0090	Cabinets, ornate design			200	.040	S.F.	3.19	1.21		4.40
0100	Simple design			250	.032	"	2.42	.97		3.39
0110	Doors, 3' x 7', both sides, incl. frame & trim									4.23
0120	Flush		1 Pord	6	1.333	Ea.	30	40.50		70.50
0130	French, 10-15 lite			3	2.667		6.45	80.50		86.95
0140	Panel			4	2		36.50	60.50		97
0150	Louvered			2.75	2.909		34.50	88		122.50
0160	Windows, per interior side, per 15 S.F.									181
0170	1-6 lite		1 Pord	14	.571	Ea.	21.50	17.25		38.75
0180	7-10 lite			7.50	1.067		23.50	32		55.50
0190	12 lite			5.75	1.391		32	42		74
0200	Radiators			8	1		74.50	30		104.50
0210	Grilles, vents			275	.029	S.F.	2.11	.88		2.99
0220	Walls, roller, drywall or plaster			1000	.008		.63	.24		.87
0230	With spunbonded reinforcing fabric			720	.011		.73	.34		1.07
0240	Wood			800	.010		.72	.30		1.02
0250	Ceilings, roller, drywall or plaster			900	.009		.73	.27		1
0260	Wood			700	.011		.87	.35		1.22
0270	Exterior, brushwork, gutters and downspouts			300	.027	L.F.	2.04	.81		2.85
0280	Columns			400	.020	S.F.	1.48	.60		2.08
0290	Spray, siding			600	.013	"	1.06	.40		1.46
0300	Miscellaneous									1.83
0310	Electrical conduit, brushwork, to 2" diameter		1 Pord	500	.016	L.F.	1.27	.48		1.75
0320	Brick, block or concrete, spray			500	.016	S.F.	1.27	.48		2.19
0330	Steel, flat surfaces and tanks to 12"			500	.016		1.27	.48		1.75
0340	Beams, brushwork			400	.020		1.48	.60		2.08
0350	Trusses			400	.020		1.48	.60		2.08
<b>02 83 19.26 Removal of Lead-Based Paint</b>										
0010	REMOVAL OF LEAD-BASED PAINT									
0011	By chemicals, per application									
0050	Baseboard, to 6" wide		1 Pord	64	.125	L.F.	.84	3.78		4.62
0070	To 12" wide			32	.250	"	1.49	7.55		9.04
0200	Balustrades, one side			28	.286	S.F.	1.49	8.65		10.14
1400	Cabinets, simple design			32	.250		1.39	7.55		8.94
1420	Ornate design			25	.320		1.55	9.65		11.20
1600	Cornice, simple design			60	.133		1.59	4.03		5.62
1620	Ornate design			20	.400		5.50	12.10		17.60
2800	Doors, one side, flush			84	.095		1.88	2.88		4.76
2820	Two panel			80	.100		1.39	3.02		4.41
2840	Four panel			45	.178		1.40	5.35		6.75
2880	For trim, one side, add			64	.125	L.F.	.80	3.78		4.58
3000	Fence, picket, one side			30	.267	S.F.	1.39	8.05		9.44
										14.65

# 02 83 Lead Remediation

## 02 83 19 – Lead-Based Paint Remediation

02 83 19.26 Removal of Lead-Based Paint			Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
							Material	Labor	Equipment		
3200	Grilles, one side, simple design		1 Pord	30	.267	S.F.	1.40	8.05		9.45	14.65
3220	Ornate design			25	.320	↓	1.46	9.65		11.11	17.35
3240	Handrails			90	.089	L.F.	1.40	2.68		4.08	5.90
4400	Pipes, to 4" diameter			90	.089		1.88	2.68		4.56	6.45
4420	To 8" diameter			50	.160		3.76	4.83		8.59	12
4440	To 12" diameter			36	.222		5.65	6.70		12.35	17.10
4460	To 16" diameter			20	.400	↓	7.55	12.10		19.65	28
4500	For hangers, odd			40	.200	Ea.	2.54	6.05		8.59	12.65
4800	Siding			90	.089	S.F.	1.36	2.68		4.04	5.85
5000	Trusses, open			55	.145	SF Face	2.05	4.39		6.44	9.40
6200	Windows, one side only, double-hung, 1/1 light, 24" x 48" high			4	2	Ea.	25.50	60.50		86	127
6220	30" x 60" high			3	2.667		33.50	80.50		114	168
6240	36" x 72" high			2.50	3.200		41	96.50		137.50	202
6280	40" x 80" high			2	4		51	121		172	253
6400	Colonial window, 6/6 light, 24" x 48" high			2	4		51	121		172	253
6420	30" x 60" high			1.50	5.333		67	161		228	335
6440	36" x 72" high			1	8		101	242		343	505
6480	40" x 80" high			1	8		101	242		343	505
6600	8/8 light, 24" x 48" high			2	4		51	121		172	253
6620	40" x 80" high			1	8		101	242		343	505
6800	12/12 light, 24" x 48" high			1	8		101	242		343	505
6820	40" x 80" high			75	10.667	↓	136	320		456	675
6840	Window frame & trim items, included in pricing above										

# 02 87 Biohazard Remediation

## 02 87 13 – Mold Remediation

### 02 87 13.33 Removal and Disposal of Materials With Mold

0010 REMOVAL AND DISPOSAL OF MATERIALS WITH MOLD											
0015	Demolition in mold contaminated area										
0200	Ceiling, including suspension system, plaster and lath		A-9	2100	.030	S.F.	.08	1.13		1.21	1.97
0210	Finished plaster, leaving wire lath			585	.109		.27	4.05		4.32	7.10
0220	Suspended acoustical tile			3500	.018		.05	.68		.73	1.18
0230	Concealed tile grid system			3000	.021		.05	.79		.84	1.38
0240	Metal pan grid system			1500	.043		.11	1.58		1.69	2.77
0250	Gypsum board			2500	.026		.06	.95		1.01	1.66
0255	Plywood			2500	.026		.06	.95		1.01	1.66
0260	Lighting fixtures up to 2' x 4'			72	.889	Ea.	2.23	33		35.23	57.50
0400	Partitions, non load bearing										
0410	Plaster, lath, and studs		A-9	690	.093	S.F.	.90	3.43		4.33	6.75
0450	Gypsum board and studs			1390	.046		.12	1.70		1.82	2.98
0465	Carpet & pad			1390	.046	↓	.12	1.70		1.82	2.98
0600	Pipe insulation, air cell type, up to 4" diameter pipe			900	.071	L.F.	.18	2.63		2.81	4.61
0610	4" to 8" diameter pipe			800	.080		.20	2.96		3.16	5.20
0620	10" to 12" diameter pipe			700	.091		.23	3.38		3.61	5.90
0630	14" to 16" diameter pipe			550	.116		.29	4.31		4.60	7.50
0650	Over 16" diameter pipe			650	.098	S.F.	.25	3.64		3.89	6.35
9000	For type B (supplied air) respirator equipment, add					%				10%	10%

## Estimating Tips

### General

- Carefully check all the plans and specifications. Concrete often appears on drawings other than structural drawings, including mechanical and electrical drawings for equipment pads. The cost of cutting and patching is often difficult to estimate. See Subdivision 03 81 for Concrete Cutting, Subdivision 02 41 19.16 for Cutout Demolition, Subdivision 03 05 05.10 for Concrete Demolition, and Subdivision 02 41 19.19 for Rubbish Handling (handling, loading, and hauling of debris).
- Always obtain concrete prices from suppliers near the job site. A volume discount can often be negotiated, depending upon competition in the area. Remember to add for waste, particularly for slabs and footings on grade.

### 03 10 00 Concrete Forming and Accessories

- A primary cost for concrete construction is forming. Most jobs today are constructed with prefabricated forms. The selection of the forms best suited for the job and the total square feet of forms required for efficient concrete forming and placing are key elements in estimating concrete construction. Enough forms must be available for erection to make efficient use of the concrete placing equipment and crew.
- Concrete accessories for forming and placing depend upon the

- systems used. Study the plans and specifications to ensure that all special accessory requirements have been included in the cost estimate, such as anchor bolts, inserts, and hangers.
- Included within costs for forms-in-place are all necessary bracing and shoring.

### 03 20 00 Concrete Reinforcing

- Ascertain that the reinforcing steel supplier has included all accessories, cutting, bending, and an allowance for lapping, splicing, and waste. A good rule of thumb is 10% for lapping, splicing, and waste. Also, 10% waste should be allowed for welded wire fabric.
- The unit price items in the subdivisions for Reinforcing In Place, Glass Fiber Reinforcing, and Welded Wire Fabric include the labor to install accessories such as beam and slab bolsters, high chairs, and bar ties and tie wire. The material cost for these accessories is not included; they may be obtained from the Accessories Subdivisions.

### 03 30 00 Cast-In-Place Concrete

- When estimating structural concrete, pay particular attention to requirements for concrete additives, curing methods, and surface treatments. Special consideration for climate, hot or cold, must be included in your estimate. Be sure to include requirements for concrete placing equipment and concrete finishing.

- For accurate concrete estimating, the estimator must consider each of the following major components individually: forms, reinforcing steel, ready-mix concrete, placement of the concrete, and finishing of the top surface. For faster estimating, Subdivision 03 30 53.40 for Concrete-In-Place can be used; here, various items of concrete work are presented that include the costs of all five major components (unless specifically stated otherwise).

### 03 40 00 Precast Concrete

### 03 50 00 Cast Decks and Underlayment

- The cost of hauling precast concrete structural members is often an important factor. For this reason, it is important to get a quote from the nearest supplier. It may become economically feasible to set up precasting beds on the site if the hauling costs are prohibitive.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 03 01 Maintenance of Concrete

## 03 01 30 – Maintenance of Cast-In-Place Concrete

03 01 30.64 Floor Patching		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	FLOOR PATCHING								
0012	Floor patching, 1/4" thick, small areas, regular	1 Cefi	170	.047	S.F.	3.40	1.69	5.09	6.45
0100	Epoxy	"	100	.080	"	8.75	2.88	11.63	14.25

# 03 05 Common Work Results for Concrete

## 03 05 13 – Basic Concrete Materials

### 03 05 13.85 Winter Protection

0010 WINTER PROTECTION					C.Y.				
0012	For heated ready mix, add								
0100	Temporary heat to protect concrete, 24 hours	2 Clob	50	.320	M.S.F.	203	8.90	211.90	238
0200	Temporary shelter for slab on grade, wood frame/polyethylene sheeting								
0201	Build or remove, light framing for short spans	2 Corp	10	1.600	M.S.F.	345	58	403	475
0210	Large framing for long spans	"	3	5.333	"	460	193	653	825
0710	Electrically heated pads, 15 watts/S.F., 20 uses				S.F.	.58		.58	.64

# 03 11 Concrete Forming

## 03 11 13 – Structural Cast-In-Place Concrete Forming

### 03 11 13.25 Forms In Place, Columns

0010 FORMS IN PLACE, COLUMNS		G	C-1	155	.206	L.F.	2.96	6.60	9.56	14.10
1500 Round fiber tube, recycled paper, 1 use, 8" diameter		G		155	.206		3.91	6.60	10.51	15.15
1550 10" diameter		G		155	.206		4.54	6.80	11.34	16.25
1600 12" diameter		G		150	.213		4.54	7.05	11.59	16.60
1650 14" diameter		G		145	.221		5.65	7.30	12.95	18.25
1700 16" diameter		G		140	.229		6.60	7.30	13.90	19.30
1720 18" diameter		G		140	.229		2.88	6.20	9.08	13.35
5000 Job-built plywood, 8" x 8" columns, 1 use				165	.194	SFCA	2.88	6.20	8.50	12.45
5500 12" x 12" columns, 1 use				180	.178	"	2.80	5.70		
7400 Steel framed plywood, based on 50 uses of purchased forms, and 4 uses of bracing lumber										
7420 8" x 8" column			C-1	340	.094	SFCA	2.22	3.01	5.23	7.40
7500 10" x 10"				350	.091		1.98	2.92	4.90	7
7600 12" x 12"				370	.086	↓	1.68	2.76	4.44	6.40

### 03 11 13.45 Forms In Place, Footings

0010 FORMS IN PLACE, FOOTINGS		G	C-1	375	.085	SFCA	6.85	2.73	9.58	12.05
0020 Continuous wall, plywood, 1 use				"	.485	.066	2.23	2.11	4.34	5.95
0150 4 use										
1500 Keyway, 4 use, tapered wood, 2" x 4"		1 Corp	530	.015	L.F.	.25	.55		.80	1.18
1550 2" x 6"				"	500	.016	.34	.58		.92
5000 Spread footings, job-built lumber, 1 use			C-1	305	.105	SFCA	2.28	3.35	5.63	8
5150 4 use				"	414	.077	.74	2.47	3.21	4.89

### 03 11 13.50 Forms In Place, Grade Beam

0010 FORMS IN PLACE, GRADE BEAM		C-2	530	.091	SFCA	3.15	2.92		6.07	8.30
0020 Job-built plywood, 1 use				"	605	.079	"	1.02	2.56	3.58
0150 4 use										

### 03 11 13.65 Forms In Place, Slab On Grade

0010 FORMS IN PLACE, SLAB ON GRADE		G	C-1	510	.063	L.F.	1.10	2	3.10	4.51
1000 Bulkhead forms w/keyway, wood, 6" high, 1 use										
1400 Bulkhead form for slab, 4-1/2" high, exp metal, incl. keyway & stakes										

# 03 11 Concrete Forming

## 03 11 13 – Structural Cast-In-Place Concrete Forming

03 11 13.65 Forms In Place, Slab On Grade				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			G	C-1	1100	.029	L.F.	Material	Labor	Equipment	Total	Incl O&P
1410	5-1/2" high		G					1.19	.93		2.12	2.84
1420	7-1/2" high		G		960	.033		1.40	1.06		2.46	3.29
1430	9-1/2" high		G		840	.038	↓	1.56	1.22		2.78	3.73
2000	Curb forms, wood, 6" to 12" high, on grade, 1 use				215	.149	SFCA	2.19	4.75		6.94	10.25
2150	4 use				275	.116	"	.71	3.72		4.43	6.90
3000	Edge forms, wood, 4 use, on grade, to 6" high				600	.053	L.F.	.33	1.70		2.03	3.17
3050	7" to 12" high				435	.074	SFCA	.75	2.35		3.10	4.70
4000	For slab blockouts, to 12" high, 1 use				200	.160	L.F.	.82	5.10		5.92	9.30
4100	Plastic (extruded), to 6" high, multiple use, on grade				800	.040	"	6.50	1.28		7.78	9.25
8760	Void form, corrugated fiberboard, 4" x 12", 4' long		G		3000	.011	S.F.	3.64	.34		3.98	4.56
8770	6" x 12", 4' long				3000	.011		4.47	.34		4.81	5.50
8780	1/4" thick hardboard protective cover for void form			2 Corp	1500	.011	↓	.72	.39		1.11	1.42

## 03 11 13.85 Forms In Place, Walls

0010 FORMS IN PLACE, WALLS				C-2	24	2	Ea.	28	64.50	92.50	137	
0100	Box out for wall openings, to 16" thick, to 10 S.F.			"	280	.171	L.F.	2.45	5.55	8	11.80	
0150	Over 10 S.F. (use perimeter)											
0250	Brick shelf, 4" w, add to wall forms, use wall area above shelf											
0260	1 use			G-2	240	.200	SFCA	2.70	6.45		9.15	13.60
0350	4 use				300	.160	"	1.08	5.15		6.23	9.70
0500	Bulkhead, wood with keyway, 1 use, 2 piece			↓	265	.181	L.F.	2.19	5.85		8.04	12.05
0600	Bulkhead forms with keyway, 1 piece expanded metal, 8" wall		G	C-1	1000	.032		1.40	1.02		2.42	3.22
0610	10" wall		G		"	.040	↓	1.56	1.28		2.84	3.83
2000	Wall, job-built plywood, to 8' high, 1 use			G-2	370	.130	SFCA	2.99	4.19		7.18	10.20
2050	2 use				435	.110		1.91	3.56		5.47	7.95
2100	3 use				495	.097		1.39	3.13		4.52	6.70
2150	4 use				505	.095		1.13	3.07		4.20	6.30
2400	Over 8' to 16' high, 1 use				280	.171		3.32	5.55		8.87	12.75
2450	2 use				345	.139		1.44	4.49		5.93	9
2500	3 use				375	.128		1.03	4.13		5.16	7.95
2550	4 use			↓	395	.122	↓	.84	3.92		4.76	7.40
7800	Modular prefabricated plywood, based on 20 uses of purchased forms, and 4 uses of bracing lumber											
7820	To 8' high			C-2	800	.060	SFCA	1.15	1.94		3.09	4.45
8060	Over 8' to 16' high			"	600	.080	"	1.20	2.58		3.78	5.60

## 03 11 19 – Insulating Concrete Forming

### 03 11 19.10 Insulating Forms, Left In Place

0010 INSULATING FORMS, LEFT IN PLACE				4 Corp	1984	.016	S.F.	3.62	.58		4.20	4.94
0020	Forms include layout, exclude rebar, embedments, bucks for openings, scaffolding, wall bracing, concrete, and concrete placing.				1808	.018		3.64	.64		4.28	5.05
0030					1536	.021		3.77	.75		4.52	5.40
0040	S.F. is for exterior face but includes forms for both faces of wall				1152	.028		4.30	1		5.30	6.40
0100	Straight blocks or panels, molded, walls up to 4' high				992	.032		4.89	1.17		6.06	7.30
0110	4" core wall			4 Corp								
0120	6" core wall				1808	.018		3.64	.64		4.28	5.05
0130	8" core wall				1536	.021		3.77	.75		4.52	5.40
0140	10" core wall				1152	.028		4.30	1		5.30	6.40
0150	12" core wall				992	.032		4.89	1.17		6.06	7.30
0200	90 degree corner blocks or panels, molded, walls up to 4' high											
0210	4" core wall			4 Corp	1880	.017	S.F.	3.73	.62		4.35	5.10
0220	6" core wall				1708	.019		3.75	.68		4.43	5.25
0230	8" core wall				1324	.024		3.88	.87		4.75	5.70
0240	10" core wall				987	.032		4.49	1.17		5.66	6.85
0250	12" core wall			↓	884	.036	↓	4.81	1.31		6.12	7.45

# 03 11 Concrete Forming

## 03 11 19 – Insulating Concrete Forming

		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Ind O&P
03 11 19.10 Insulating Forms, Left In Place						Material	Labor	Equipment		
0300	45 degree corner blocks or panels, molded, walls up to 4' high									
0310	4" core wall	4 Corp	1880	.017	S.F.	3.93	.62		4.55	5.35
0320	6" core wall		1712	.019		4.06	.68		4.74	5.60
0330	8" core wall		1324	.024		4.17	.87		5.04	6.05
0400	T blocks or panels, molded, walls up to 4' high									
0420	6" core wall	4 Corp	1540	.021	S.F.	4.79	.75		5.54	6.50
0430	8" core wall		1325	.024		4.84	.87		5.71	6.75
0440	Non-standard corners or Ts requiring trimming & strapping		192	.167		4.89	6.05		10.94	15.30
0500	Radius blocks or panels, molded, walls up to 4' high, 6" core wall									
0520	5' to 10' diameter, molded blocks or panels	4 Corp	2400	.013	S.F.	5.90	.48		6.38	7.30
0530	10' to 15' diameter, requiring trimming and strapping, add		500	.064		4.44	2.31		6.75	8.70
0540	15'-1" to 30' diameter, requiring trimming and strapping, add		1200	.027		4.44	.96		5.40	6.45
0550	30'-1" to 60' diameter, requiring trimming and strapping, add		1600	.020		4.44	.72		5.16	6.05
0560	60'-1" to 100' diameter, requiring trimming and strapping, add		2800	.011		4.44	.41		4.85	5.55
0600	Additional labor for blocks/panels in higher walls (excludes scaffolding)									
0610	4'-1" to 9'-4" high, add						10%			
0620	9'-5" to 12'-0" high, add						20%			
0630	12'-1" to 20'-0" high, add						35%			
0640	Over 20'-0" high, add						55%			
0700	Taper block or panels, molded, single course									
0720	6" core wall	4 Corp	1600	.020	S.F.	3.91	.72		4.63	5.50
0730	8" core wall	"	1392	.023	"	3.96	.83		4.79	5.75
0800	ICF brick ledge (corbel) block or panels, molded, single course									
0820	6" core wall	4 Corp	1200	.027	S.F.	4.31	.96		5.27	6.30
0830	8" core wall	"	1152	.028	"	4.41	1		5.41	6.50
0900	ICF curb (shelf) block or panels, molded, single course									
0930	8" core wall	4 Corp	688	.047	S.F.	3.72	1.68		5.40	6.85
0940	10" core wall	"	544	.059	"	4.25	2.13		6.38	8.15
0950	Wood form to hold back concrete to form shelf, 8" high	2 Corp	400	.040	L.F.	.87	1.45		2.32	3.33
1000	ICF half height block or panels, molded, single course									
1010	4" core wall	4 Corp	1248	.026	S.F.	4.72	.93		5.65	6.70
1020	6" core wall		1152	.028		4.74	1		5.74	6.85
1030	8" core wall		942	.034		4.79	1.23		6.02	7.25
1040	10" core wall		752	.043		5.30	1.54		6.84	8.35
1050	12" core wall		648	.049		5.20	1.79		6.99	8.70
1100	ICF half height block/panels, made by field sawing full height block/panels									
1110	4" core wall	4 Corp	800	.040	S.F.	1.81	1.45		3.26	4.37
1120	6" core wall		752	.043		1.82	1.54		3.36	4.53
1130	8" core wall		600	.053		1.89	1.93		3.82	5.25
1140	10" core wall		496	.065		2.15	2.33		4.48	6.20
1150	12" core wall		400	.080		2.45	2.89		5.34	7.45
1200	Additional insulation inserted into forms between ties									
1210	1 layer (2" thick)	4 Corp	14000	.002	S.F.	1.03	.08		1.11	1.27
1220	2 layers (4" thick)		7000	.005		2.06	.17		2.23	2.54
1230	3 layers (6" thick)		4622	.007		3.09	.25		3.34	3.81
1300	EPS window/door bucks, molded, permanent									
1310	4" core wall (9" wide)	2 Corp	200	.080	L.F.	3.47	2.89		6.36	8.55
1320	6" core wall (11" wide)		200	.080		3.56	2.89		6.45	8.65
1330	8" core wall (13" wide)		176	.091		3.73	3.29		7.02	9.50
1340	10" core wall (15" wide)		152	.105		4.86	3.81		8.67	11.60
1350	12" core wall (17" wide)		152	.105		5.45	3.81		9.26	12.20
1360	2" x 6" temporary buck bracing (includes installing and removing)		400	.040		.68	1.45		2.13	3.12
1400	Wood window/door bucks (instead of EPS bucks), permanent									

# 03 11 Concrete Forming

## 03 11 19 – Insulating Concrete Forming

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
		Crew			Labor	Equipment			
03 11 19.10	Insulating Forms, Left In Place								
1410	4" core wall (9" wide)	2 Corp	400	.040	L.F.	1.31	1.45	2.76	3.82
1420	6" core wall (11" wide)		400	.040		1.72	1.45	3.17	4.27
1430	8" core wall (13" wide)		350	.046		7.35	1.65	9	10.75
1440	10" core wall (15" wide)		300	.053		10.15	1.93	12.08	14.35
1450	12" core wall (17" wide)		300	.053		10.15	1.93	12.08	14.35
1460	2" x 6" temporary buck bracing (includes installing and removing)		800	.020		.68	.72	1.40	1.93
1500	ICF alignment brace (incl. stiff-back, diagonal kick-back, work platform bracket & guard rail post), fastened to one face of wall forms @ 6' O.C.								
1510	1st tier up to 10' tall								
1520	Rental of ICF alignment brace set, per set			Week		10.05		10.05	11.05
1530	Labor (includes installing & removing)	2 Corp	30	.533	Ea.		19.30	19.30	31.50
1560	2nd tier from 10' to 20' tall (excludes mason's scaffolding up to 10' high)			Week		10.05		10.05	11.05
1570	Rental of ICF alignment brace set, per set			Week		10.05		10.05	11.05
1580	Labor (includes installing & removing)	4 Corp	30	1.067	Ea.		38.50	38.50	63.50
1600	2" x 10" wood plank for work platform, 16' long								
1610	Plank material cost pro-rated over 20 uses			Ea.		1.05		1.05	1.15
1620	Labor (includes installing & removing)	2 Corp	48	.333	"		12.05	12.05	19.80
1700	2" x 4" lumber for top & middle rails for work platform								
1710	Railing material cost pro-rated over 20 uses			Ea.		.02		.02	.03
1720	Labor (includes installing & removing)	2 Corp	2400	.007	L.F.		.24	.24	.40
1800	ICF accessories								
1810	Wire clip to secure forms in place	2 Corp	2100	.008	Ea.	.39	.28	.67	.88
1820	Masonry anchor embedment (excludes ties by mason)		1600	.010		4.24	.36	4.60	5.25
1830	Ledger anchor embedment (excludes timber hanger & screws)		128	.125		7.60	4.52	12.12	15.80
1900	See section 01 54 23.70 for mason's scaffolding components								
1910	See section 03 15 19.05 for anchor bolt sleeves								
1920	See section 03 15 19.10 for anchor bolts								
1930	See section 03 15 19.20 for dovetail anchor components								
1940	See section 03 15 19.30 for embedded inserts								
1950	See section 03 21 05.10 for rebar accessories								
1960	See section 03 21 11.60 for reinforcing bars in place								
1970	See section 03 31 13.35 for ready-mix concrete material								
1980	See section 03 31 13.70 for placement and consolidation of concrete								
1990	See section 06 05 23.60 for timber connectors								

## 03 11 23 – Permanent Stair Forming

### 03 11 23.75 Forms In Place, Stairs

0010	FORMS IN PLACE, STAIRS								
0015	(Slant length x width), 1 use	C-2	165	.291	S.F.	6.15	9.40	15.55	22.50
0150	4 use		190	.253		2.17	8.15	10.32	15.85
2000	Stairs, cast on sloping ground (length x width), 1 use		220	.218		2.57	7.05	9.62	14.45
2025	2 use		232	.207		1.42	6.65	8.07	12.55
2050	3 use		244	.197		1.03	6.35	7.38	11.60
2100	4 use		256	.188		.84	6.05	6.89	10.90

# 03 15 Concrete Accessories

## 03 15 05 – Concrete Forming Accessories

03 15 05.12 Chamfer Strips		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 CHAMFER STRIPS											
5000 Wood, 1/2" wide		1 Carp	535	.015	L.F.		.14	.54		.68	1.04
5200 3/4" wide			525	.015			.18	.55		.73	1.11
5400 1" wide			515	.016			.29	.56		.85	1.24

## 03 15 05.15 Column Form Accessories

0010 COLUMN FORM ACCESSORIES		G	Set	171		171	188
1000 Column clamps, adjustable to 24" x 24", buy		G	"	171		171	188
1100 Rent per month		G	"	13.65		13.65	15

## 03 15 05.75 Sleeves and Chases

0010 SLEEVES AND CHASES		1 Corp	100	.080	Ea.	2.32	2.89		5.21	7.30
0100 Plastic, 1 use, 12" long, 2" diameter			90	.089		4.97	3.21		8.18	10.75
0150 4" diameter			75	.107		10.85	3.86		14.71	18.25

## 03 15 05.80 Snap Ties

0010 SNAP TIES, 8-1/4" L&W (Lumber and wedge)		G	C	97.50		97.50	107
0100 2250 lb., w/flat washer, 8" wall		G		163		163	179
0150 10" wall		G		166		166	183
0200 12" wall		G		86		86	94.50
0500 With plastic cone, 8" wall		G		88		88	97
0550 10" wall		G		96.50		96.50	106
0600 12" wall		G					

## 03 15 05.95 Wall and Foundation Form Accessories

0010 WALL AND FOUNDATION FORM ACCESSORIES		G	Ea.	2.70		2.70	2.97
4000 Nail stakes, 3/4" diameter, 18" long		G		2.68		2.68	2.95
4050 24" long		G		3.38		3.38	3.72
4200 30" long		G		4.25		4.25	4.68
4250 36" long		G					

## 03 15 13 – Waterstops

0010 WATERSTOPS, PVC and Rubber		1 Corp	155	.052	L.F.	1.55	1.87		3.42	4.78
0020 PVC, ribbed 3/16" thick, 4" wide			145	.055		2.78	1.99		4.77	6.35
0050 6" wide			135	.059		2.68	2.14		4.82	6.45
0500 With center bulb, 6" wide, 3/16" thick			130	.062		4.85	2.22		7.07	9
0550 3/8" thick			125	.064		8.15	2.31		10.46	12.75

## 03 15 16 – Concrete Construction Joints

03 15 16.20 Control Joints, Saw Cut		C-27	2000	.008	L.F.	.03	.29	.06	.38	.56
0010 CONTROL JOINTS, SAW CUT										
0100 Sawcut control joints in green concrete										
0120 1" depth										
0140 1-1/2" depth										
0160 2" depth										
0180 Sawcut joint reservoir in cured concrete										
0182 3/8" wide x 3/4" deep, with single saw blade		C-27	1000	.016	L.F.	.05	.58	.11	.74	1.11
0184 1/2" wide x 1" deep, with double saw blades			900	.018		.10	.64	.12	.86	1.28
0186 3/4" wide x 1-1/2" deep, with double saw blades			800	.020		.20	.72	.14	1.06	1.53
0190 Water blast joint to wash away laitance, 2 passes		C-29	2500	.003			.09	.04	.13	.19
0200 Air blast joint to blow out debris and air dry, 2 passes		C-28	2000	.004			.14	.02	.16	.25
0300 For backer rod, see Section 07 91 23.10										
0340 For joint sealant, see Section 03 15 16.30 or 07 92 13.20										

# 03 15 Concrete Accessories

## 03 15 16 – Concrete Construction Joints

03 15 16.30 Expansion Joints		Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010	<b>EXPANSION JOINTS</b>								
0020	Keyed, cold, 24 ga., incl. stakes, 3-1/2" high	G 1 Carp.	200 .040	L.F.	.89	1.45		2.34	3.36
0050	4-1/2" high	G	200 .040		.94	1.45		2.39	3.41
0100	5-1/2" high	G	195 .041		1.19	1.48		2.67	3.75
2000	Premolded, bituminous fiber, 1/2" x 6"		375 .021		.44	.77		1.21	1.75
2050	1" x 12"		300 .027		2.03	.96		2.99	3.81
2140	Concrete expansion joint, recycled paper and fiber, 1/2" x 6"	G	390 .021		.43	.74		1.17	1.69
2150	1/2" x 12"	G	360 .022		.86	.80		1.66	2.27
2500	Neoprene sponge, closed cell, 1/2" x 6"		375 .021		2.43	.77		3.20	3.94
2550	1" x 12"		300 .027		8.90	.96		9.86	11.35
5000	For installation in walls, add						75%		
5250	For installation in boxouts, add						25%		

## 03 15 19 – Cast-In Concrete Anchors

### 03 15 19.05 Anchor Bolt Accessories

0010 ANCHOR BOLT ACCESSORIES		Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0015	For anchor bolts set in fresh concrete, see Section 03 15 19.10								
8150	Anchor bolt sleeve, plastic, 1" diameter bolts	G 1 Carp.	60 .133	Ea.	11.60	4.82		16.42	20.50
8500	1-1/2" diameter		28 .286		21.50	10.35		31.85	40.50
8600	2" diameter		24 .333		19.10	12.05		31.15	41
8650	3" diameter		20 .400		35	14.45		49.45	62.50

### 03 15 19.10 Anchor Bolts

0010 ANCHOR BOLTS		Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0015	Made from recycled materials								
0025	Single bolts installed in fresh concrete, no templates								
0030	Hooked w/nut and washer, 1/2" diameter, 8" long	G 1 Carp.	132 .061	Ea.	1.62	2.19		3.81	5.40
0040	12" long	G	131 .061		1.80	2.21		4.01	5.60
0070	3/4" diameter, 8" long	G	127 .063		4.18	2.28		6.46	8.35
0080	12" long	G	125 .064		5.20	2.31		7.51	9.55

### 03 15 19.30 Inserts

0010 INSERTS		Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
1000	Inserts, slotted nut type for 3/4" bolts, 4" long	G 1 Carp.	84 .095	Ea.	20.50	3.44		23.94	28
2100	6" long	G	84 .095		24	3.44		27.44	32
2150	8" long	G	84 .095		32	3.44		35.44	41
2200	Slotted, strap type, 4" long	G	84 .095		21.50	3.44		24.94	29
2300	8" long	G	84 .095		34	3.44		37.44	43
9950	For galvanized inserts, add				30%				

# 03 21 Reinforcement Bars

## 03 21 11 – Plain Steel Reinforcement Bars

### 03 21 11.60 Reinforcing In Place

0010 REINFORCING IN PLACE		Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0020	Includes labor, but not material cost, to install accessories								
0030	Made from recycled materials								
0502	Footing, #4 to #7	G 4 Rodm	4200 .008	Lb.	.56	.30		.86	1.12
0550	#8 to #18	G	3.60 8.889	Ton	1,125	350		1,475	1,825
0602	Slab on grade, #3 to #7	G	4200 .008	Lb.	.56	.30		.86	1.12
0702	Walls, #3 to #7	G	6000 .005	"	.56	.21		.77	.97
0750	#8 to #18	G	4 8	Ton	1,125	315		1,440	1,775
0900	For other than 50-60 ton lots								

# 03 21 Reinforcement Bars

## 03 21 11 – Plain Steel Reinforcement Bars

03 21 11.60 Reinforcing In Place		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
1000	Under 10 ton job, #3 to #7, add					25%	10%		
1010	#8 to #18, add					20%	10%		
1050	10-50 ton job, #3 to #7, add					10%			
1060	#8 to #18, add					5%			
1100	60-100 ton job, #3 to #7, deduct					5%			
1110	#8 to #18, deduct					10%			
1150	Over 100 ton job, #3 to #7, deduct					10%			
1160	#8 to #18, deduct					15%			
2400	Dowels, 2 feet long, deformed, #3	[G]	2 Rodm	520	.031 Ea.	.47	1.22	1.69	2.51
2410	#4	[G]		480	.033	.83	1.32	2.15	3.08
2420	#5	[G]		435	.037	1.30	1.45	2.75	3.82
2430	#6	[G]	↓	360	.044	1.87	1.76	3.63	4.94
2600	Dowel sleeves for CIP concrete, 2-part system								
2610	Sleeve base, plastic, for 5/8" smooth dowel sleeve, fasten to edge form	1 Rodm	200	.040	Ea.	.54	1.58	2.12	3.19
2615	Sleeve, plastic, 12" long, for 5/8" smooth dowel, snap onto base		400	.020		1.54	.79	2.33	2.99
2620	Sleeve base, for 3/4" smooth dowel sleeve		175	.046		.54	1.81	2.35	3.56
2625	Sleeve, 12" long, for 3/4" smooth dowel		350	.023		1.22	.90	2.12	2.83
2630	Sleeve base, for 1" smooth dowel sleeve		150	.053		.71	2.11	2.82	4.25
2635	Sleeve, 12" long, for 1" smooth dowel		300	.027		1.67	1.05	2.72	3.57
2700	Dowel caps, visual warning only, plastic, #3 to #8	2 Rodm	800	.020		.37	.79	1.16	1.71
2720	#8 to #18		750	.021		.89	.84	1.73	2.37
2750	Impalement protective, plastic, #4 to #9		↓	800	.020	1.18	.79	1.97	2.60

# 03 22 Fabric and Grid Reinforcing

## 03 22 11 – Plain Welded Wire Fabric Reinforcing

### 03 22 11.10 Welded Wire Fabric

0011	<b>WELDED WIRE FABRIC</b> , 6 x 6 - W1.4 x W1.4 (10 x 10)	[G]	2 Rodm	3500	.005 S.F.	.16	.18	.34	.48
0301	6 x 6 - W2.9 x W2.9 (6 x 6) 42 lb./C.S.F.	[G]		2900	.006	.28	.22	.50	.66
0501	4 x 4 - W1.4 x W1.4 (10 x 10) 31 lb./C.S.F.	[G]	↓	3100	.005	↓	.24	.20	.44
0750	Rolls								
0901	2 x 2 - #12 galv. for gunite reinforcing	[G]	2 Rodm	650	.025 S.F.	.73	.97	1.70	2.40

## 03 22 13 – Galvanized Welded Wire Fabric Reinforcing

### 03 22 13.10 Galvanized Welded Wire Fabric

0010	<b>GALVANIZED WELDED WIRE FABRIC</b>								
0100	Add to plain welded wire pricing for galvanized welded wire					Lb.	.26		.28

## 03 22 16 – Epoxy-Coated Welded Wire Fabric Reinforcing

### 03 22 16.10 Epoxy-Coated Welded Wire Fabric

0010	<b>EPOXY-COATED WELDED WIRE FABRIC</b>								
0100	Add to plain welded wire pricing for epoxy-coated welded wire					Lb.	.54		.60

# 03 23 Stressed Tendon Reinforcing

## 03 23 05 – Prestressing Tendons

03 23 05.50 Prestressing Steel		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
0010	PRESTRESSING STEEL									
3000	Slabs on grade, 0.5-inch diam. non-bonded strands, HDPE sheathed,									
3050	attached dead-end anchors, loose stressing-end anchors									
3100	25' x 30' slab, strands @ 36" OC, placing	2 Rodm	2940	.005	S.F.	.68	.21		.89	1.10
3105	Stressing	C-4A	3750	.004			.17	.02	.19	.30
3110	42" OC, placing	2 Rodm	3200	.005		.60	.20		.80	.99
3115	Stressing	C-4A	4040	.004			.16	.02	.18	.28
3120	48" OC, placing	2 Rodm	3510	.005		.53	.18		.71	.88
3125	Stressing	C-4A	4390	.004			.14	.02	.16	.26
3150	25' x 40' slab, strands @ 36" OC, placing	2 Rodm	3370	.005		.66	.19		.85	1.03
3155	Stressing	C-4A	4360	.004			.15	.02	.17	.26
3160	42" OC, placing	2 Rodm	3760	.004		.57	.17		.74	.91
3165	Stressing	C-4A	4820	.003			.13	.02	.15	.24
3170	48" OC, placing	2 Rodm	4090	.004		.51	.15		.66	.81
3175	Stressing	C-4A	5190	.003			.12	.01	.13	.22
3200	30' x 30' slab, strands @ 36" OC, placing	2 Rodm	3260	.005		.66	.19		.85	1.04
3205	Stressing	C-4A	4190	.004			.15	.02	.17	.27
3210	42" OC, placing	2 Rodm	3530	.005		.59	.18		.77	.94
3215	Stressing	C-4A	4500	.004			.14	.02	.16	.25
3220	48" OC, placing	2 Rodm	3840	.004		.52	.16		.68	.85
3225	Stressing	C-4A	4850	.003			.13	.02	.15	.23
3230	30' x 40' slab, strands @ 36" OC, placing	2 Rodm	3780	.004		.63	.17		.80	.97
3235	Stressing	C-4A	4920	.003			.13	.02	.15	.23
3240	42" OC, placing	2 Rodm	4190	.004		.55	.15		.70	.86
3245	Stressing	C-4A	5410	.003			.12	.01	.13	.21
3250	48" OC, placing	2 Rodm	4520	.004		.50	.14		.64	.78
3255	Stressing	C-4A	5790	.003			.11	.01	.12	.19
3260	30' x 50' slab, strands @ 36" OC, placing	2 Rodm	4300	.004		.60	.15		.75	.89
3265	Stressing	C-4A	5650	.003			.11	.01	.12	.19
3270	42" OC, placing	2 Rodm	4720	.003		.53	.13		.66	.80
3275	Stressing	C-4A	6150	.003			.10	.01	.11	.18
3280	48" OC, placing	2 Rodm	5240	.003		.46	.12		.58	.71
3285	Stressing	C-4A	6760	.002			.09	.01	.10	.16

# 03 24 Fibrous Reinforcing

## 03 24 05 – Reinforcing Fibers

### 03 24 05.30 Synthetic Fibers

0010	SYNTHETIC FIBERS									
0100	Synthetic fibers, add to concrete					Lb.	5.05		5.05	5.55
0110	1-1/2 lb./C.Y.					C.Y.	7.80		7.80	8.55

### 03 24 05.70 Steel Fibers

0010 STEEL FIBERS										
0140	ASTM A850, Type V, continuously deformed, 1-1/2" long x 0.045" diam.									
0150	Add to price of ready mix concrete	[G]				Lb.	1.23		1.23	1.35
0205	Alternate pricing, dosing at 5 lb./C.Y., add to price of RMC	[G]				C.Y.	6.15		6.15	6.75
0210	10 lb./C.Y.	[G]					12.30		12.30	13.55
0215	15 lb./C.Y.	[G]					18.45		18.45	20.50
0220	20 lb./C.Y.	[G]					24.50		24.50	27
0225	25 lb./C.Y.	[G]					31		31	34
0230	30 lb./C.Y.	[G]					37		37	40.50
0235	35 lb./C.Y.	[G]					43		43	47.50

# 03 24 Fibrous Reinforcing

## 03 24 05 – Reinforcing Fibers

03 24 05.70 Steel Fibers		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0240	40 lb./C.Y.	G			C.Y.	49		49	54
0250	50 lb./C.Y.	G				61.50		61.50	67.50
0275	75 lb./C.Y.	G				92.50		92.50	101
0300	100 lb./C.Y.	G			↓	123		123	135

# 03 30 Cast-In-Place Concrete

## 03 30 53 – Miscellaneous Cast-In-Place Concrete

### 03 30 53.40 Concrete In Place

0010 CONCRETE IN PLACE										
0020 Including forms (4 uses), Grade 60 rebar, concrete (Portland cement).										
0050 Type I), placement and finishing unless otherwise indicated										
0500 Chimney foundations (5000 psi), over 5 C.Y.		G-14C	32.22	3.476	C.Y.	178	119	.83	297.83	390
0510 (3500 psi), under 5 C.Y.		"	23.71	4.724	"	208	162	1.13	371.13	495
3540 Equipment pad (3000 psi), 3' x 3' x 6" thick		G-14H	45	1.067	Eq.	50.50	38	.60	89.10	118
3550 4' x 4' x 6" thick			30	1.600		78	57	.90	135.90	180
3560 5' x 5' x 8" thick			18	2.667		138	95	1.49	234.49	310
3570 6' x 6' x 8" thick			14	3.429		190	122	1.92	313.92	410
3580 8' x 8' x 10" thick			8	6		395	214	3.36	612.36	790
3590 10' x 10' x 12" thick			5	9.600	↓	695	340	5.40	1,040.40	1,325
3800 Footings (3000 psi), spread under 1 C.Y.		G-14C	28	4	C.Y.	203	137	.96	340.96	450
3825 1 C.Y. to 5 C.Y.			43	2.605		240	89.50	.63	330.13	415
3850 Over 5 C.Y.		↓	75	1.493		220	51.50	.36	271.86	325
3900 Footings, strip (3000 psi), 18" x 9", unreinforced		G-14L	40	2.400		154	80.50	.67	235.17	300
3920 18" x 9", reinforced		G-14C	35	3.200		181	110	.77	291.77	380
3925 20" x 10", unreinforced		G-14L	45	2.133		150	71.50	.60	222.10	283
3930 20" x 10", reinforced		G-14C	40	2.800		172	96	.67	268.67	350
3935 24" x 12", unreinforced		G-14L	55	1.745		148	58.50	.49	206.99	260
3940 24" x 12", reinforced		G-14C	48	2.333		171	80	.56	251.56	320
3945 36" x 12", unreinforced		G-14L	70	1.371		144	46	.38	190.38	235
3950 36" x 12", reinforced		G-14C	60	1.867		165	64	.45	229.45	286
4000 Foundation mat (3000 psi), under 10 C.Y.			38.67	2.896		246	99.50	.70	346.20	435
4050 Over 20 C.Y.		↓	56.40	1.986	↓	217	68.50	.48	285.98	350
4520 Handicap access ramp (4000 psi), railing both sides, 3' wide		G-14H	14.58	3.292	L.F.	390	117	1.84	508.84	625
4525 5' wide			12.22	3.928		400	140	2.20	542.20	670
4530 With 6" curb and rails both sides, 3' wide			8.55	5.614		400	200	3.14	603.14	770
4535 5' wide		↓	7.31	6.566	↓	405	234	3.68	642.68	840
4650 Slab on grade (3500 psi), not including finish, 4" thick		G-14E	60.75	1.449	C.Y.	147	51	.45	198.45	246
4700 6" thick		"	92	.957	"	141	33.50	.30	174.80	212
4701 Thickened slab edge (3500 psi), for slab on grade poured monolithically with slab; depth is in addition to slab thickness;										
4703 formed vertical outside edge, earthen bottom and inside slope										
4705 8" deep x 8" wide bottom, unreinforced		G-14L	2190	.044	L.F.	4.07	1.47	.01	5.55	6.90
4710 8" x 8", reinforced		G-14C	1670	.067		6.70	2.31	.02	9.03	11.20
4715 12" deep x 12" wide bottom, unreinforced		G-14L	1800	.053		8.30	1.79	.01	10.10	12.10
4720 12" x 12", reinforced		G-14C	1310	.086		13.15	2.94	.02	16.11	19.30
4725 16" deep x 16" wide bottom, unreinforced		G-14L	1440	.067		14	2.23	.02	16.25	19.10
4730 16" x 16", reinforced		G-14C	1120	.100		19.75	3.44	.02	23.21	27.50
4735 20" deep x 20" wide bottom, unreinforced		G-14L	1150	.083		21	2.80	.02	23.82	28
4740 20" x 20", reinforced		G-14C	920	.122		28.50	4.18	.03	32.71	38.50
4745 24" deep x 24" wide bottom, unreinforced		G-14L	930	.103		30	3.46	.03	33.49	38.50
4750 24" x 24", reinforced		G-14C	740	.151		39.50	5.20	.04	44.74	52

# 03 30 Cast-In-Place Concrete

## 03 30 53 – Miscellaneous Cast-In-Place Concrete

03 30 53.40 Concrete In Place		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
4751	Slab on grade (3500 psi), incl. troweled finish, not incl. forms									
4760	or reinforcing, over 10,000 S.F., 4" thick	C-14F	3425	.021	S.F.	1.62	.70	.01	2.33	2.93
4820	6" thick	"	3350	.021	"	2.36	.72	.01	3.09	3.77
5000	Slab on grade (3000 psi), incl. broom finish, not incl. forms									
5001	or reinforcing, 4" thick	C-14G	2873	.019	S.F.	1.67	.64	.01	2.32	2.89
5010	6" thick		2590	.022		2.62	.71	.01	3.34	4.04
5020	8" thick		2320	.024		3.41	.79	.01	4.21	5.05
6800	Stairs (3500 psi), not including safety treads, free standing, 3'-6" wide	C-14H	83	.578	LF Nose	6.40	20.50	.32	27.22	41
6850	Cast on ground		125	.384	"	5.40	13.70	.22	19.32	28.50
7000	Stair landings, free standing		200	.240	S.F.	5.10	8.55	.13	13.78	19.80
7050	Cast on ground		475	.101	"	4.15	3.60	.06	7.81	10.55

# 03 31 Structural Concrete

## 03 31 13 – Heavyweight Structural Concrete

### 03 31 13.25 Concrete, Hand Mix

0010	CONCRETE, HAND MIX for small quantities or remote areas									
0050	Includes bulk local aggregate, bulk sand, bagged Portland									
0060	cement (Type I) and water, using gas powered cement mixer									
0125	2500 psi	C-30	135	.059	C.F.	4.33	1.65	1.04	7.02	8.60
0130	3000 psi		135	.059		4.68	1.65	1.04	7.37	9
0135	3500 psi		135	.059		4.88	1.65	1.04	7.57	9.20
0140	4000 psi		135	.059		5.10	1.65	1.04	7.79	9.50
0145	4500 psi		135	.059		5.40	1.65	1.04	8.09	9.80
0150	5000 psi		135	.059		5.80	1.65	1.04	8.49	10.20
0300	Using pre-bagged dry mix and wheelbarrow (80-lb. bag = 0.6 C.F.)									
0340	4000 psi	1 Cub	48	.167	C.F.	8.50	4.63		13.13	16.95

### 03 31 13.30 Concrete, Volumetric Site-Mixed

0010	CONCRETE, VOLUMETRIC SITE-MIXED									
0015	Mixed on-site in volumetric truck									
0020	Includes local aggregate, sand, Portland cement (Type I) and water									
0025	Excludes all additives and treatments									
0100	3000 psi, 1 C.Y. mixed and discharged				C.Y.	213			213	234
0110	2 C.Y.					164			164	180
0120	3 C.Y.					143			143	157
0130	4 C.Y.					125			125	138
0140	5 C.Y.					113			113	125
0200	For truck holding/waiting time past first 2 on-site hours, add				Hr.	91.50			91.50	101
0210	For trip charge beyond first 20 miles, each way, add				Mile	3.65			3.65	4.02
0220	For each additional increase of 500 psi, add				Ea.	4.64			4.64	5.10

### 03 31 13.35 Heavyweight Concrete, Ready Mix

0010	HEAVYWEIGHT CONCRETE, READY MIX, delivered									
0012	Includes local aggregate, sand, Portland cement (Type I) and water									
0015	Excludes all additives and treatments									
0020	2000 psi				C.Y.	107			107	117
0100	2500 psi					110			110	121
0150	3000 psi					129			129	142
0200	3500 psi					124			124	137
0300	4000 psi					127			127	140
0350	4500 psi					131			131	144
0400	5000 psi					135			135	149

# 03 31 Structural Concrete

## 03 31 13 – Heavyweight Structural Concrete

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				Crew			Labor	Equipment			
<b>03 31 13.35 Heavyweight Concrete, Ready Mix</b>											
0411	6000 psi					C.Y.	139			139	153
0412	8000 psi						146			146	161
0413	10,000 psi						154			154	169
0414	12,000 psi						161			161	177
1000	For high early strength (Portland cement Type III), add						10%				
1300	For winter concrete (hot water), add						5.35			5.35	5.90
1410	For mid-range water reducer, add						4.18			4.18	4.60
1420	For high-range water reducer/superplasticizer, add						6.40			6.40	7
1430	For retarder, add						3.45			3.45	3.80
1440	For non-Chloride accelerator, add						6.80			6.80	7.45
1450	For Chloride accelerator, per 1%, add						4.10			4.10	4.51
1460	For fiber reinforcing, synthetic (1 lb./C.Y.), add						8.10			8.10	8.90
1500	For Saturday delivery, add						9.20			9.20	10.10
1510	For truck holding/waiting time past 1st hour per load, add					Hr.	109			109	120
1520	For short load (less than 4 C.Y.), add per load					Ea.	85			85	93.50
2000	For all lightweight aggregate, add					C.Y.	45%				

## 03 31 13.70 Placing Concrete

<b>0010</b>	<b>PLACING CONCRETE</b>											
0020	Includes labor and equipment to place, level (strike off) and consolidate											
1200	Duct bank, direct chute			C-6	155	.310	C.Y.		9.15	.35	9.50	15.35
1900	Footings, continuous, shallow, direct chute			"	120	.400			11.80	.45	12.25	19.80
1950	Pumped			C-20	150	.427			12.95	3.09	16.04	24.50
2000	With crane and bucket			C-7	90	.800			24.50	12	36.50	53
2400	Footings, spread, under 1 C.Y., direct chute			C-6	55	.873			25.50	.98	26.48	43
2600	Over 5 C.Y., direct chute				120	.400			11.80	.45	12.25	19.80
2900	Foundation mats, over 20 C.Y., direct chute				350	.137			4.04	.15	4.19	6.75
4300	Slab on grade, up to 6" thick, direct chute				110	.436			12.85	.49	13.34	21.50
4350	Pumped			C-20	130	.492			14.95	3.57	18.52	28.50
4400	With crane and bucket			C-7	110	.655			20	9.80	29.80	44
4900	Walls, 8" thick, direct chute			C-6	90	.533			15.75	.60	16.35	26
4950	Pumped			C-20	100	.640			19.40	4.64	24.04	37
5000	With crane and bucket			C-7	80	.900			27.50	13.50	41	60
5050	12" thick, direct chute			C-6	100	.480			14.15	.54	14.69	23.50
5100	Pumped			C-20	110	.582			17.65	4.22	21.87	33.50
5200	With crane and bucket			C-7	90	.800	▼		24.50	12	36.50	53
5600	Wheeled concrete dumping, add to placing costs above											
5610	Walking cart, 50' haul, add			C-18	32	.281	C.Y.		7.90	4	11.90	17.35
5620	150' haul, add				24	.375			10.50	5.35	15.85	23
5700	250' haul, add				18	.500			14	7.10	21.10	31
5800	Riding cart, 50' haul, add			C-19	80	.113			3.15	1.92	5.07	7.30
5810	150' haul, add				60	.150			4.20	2.56	6.76	9.70
5900	250' haul, add				45	.200	▼		5.60	3.41	9.01	12.95

# 03 35 Concrete Finishing

## 03 35 13 – High-Tolerance Concrete Floor Finishing

03 35 13.30 Finishing Floors, High Tolerance		Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0010	<b>FINISHING FLOORS, HIGH TOLERANCE</b>								
0012	Finishing of fresh concrete flatwork requires that concrete								
0013	first be placed, struck off & consolidated								
0015	Basic finishing for various unspecified flatwork								
0100	Bull float only	C-10	4000	.006	S.F.		.20	.20	.32
0125	Bull float & manual float		2000	.012			.40	.40	.65
0150	Bull float, manual float & broom finish, w/edging & joints		1850	.013			.43	.43	.70
0200	Bull float, manual float & manual steel trowel		1265	.019			.63	.63	1.02
0210	For specified Random Access Floors in ACI Classes 1, 2, 3 and 4 to achieve								
0215	Composite Overall Floor Flatness and Levelness values up to FF35/FL25								
0250	Bull float, machine float & machine trowel (walk-behind)	C-10C	1715	.014	S.F.		.46	.05	.51
0300	Power screed, bull float, machine float & trowel (walk-behind)	C-10D	2400	.010			.33	.07	.40
0350	Power screed, bull float, machine float & trowel (ride-on)	C-10E	4000	.006			.20	.06	.26

## 03 35 23 – Exposed Aggregate Concrete Finishing

### 03 35 23.30 Finishing Floors, Exposed Aggregate

0010 FINISHING FLOORS, EXPOSED AGGREGATE									
1600	Exposed local aggregate finish, seeded on fresh concrete, 3 lb./S.F.	1 Cefi	625	.013	S.F.		.21	.46	.67
1650	4 lb./S.F.	"	465	.017	"		.36	.62	.98

## 03 35 29 – Tooled Concrete Finishing

### 03 35 29.30 Finishing Floors, Tooled

0010 FINISHING FLOORS, TOOLED									
4400	Stair finish, fresh concrete, float finish	1 Cefi	275	.029	S.F.		1.05	1.05	1.68
4500	Steel trowel finish	"	200	.040	"		1.44	1.44	2.32

## 03 35 29.60 Finishing Walls

0010 FINISHING WALLS									
0020	Break ties and patch voids	1 Cefi	540	.015	S.F.		.04	.53	.57
0050	Burlap rub with grout	"	450	.018			.04	.64	.68
0300	Bush hammer, green concrete	B-39	1000	.048			1.35	.36	1.71
0350	Cured concrete	"	650	.074			2.08	.55	2.63
0500	Acid etch	1 Cefi	575	.014			.14	.50	.64
0850	Grind form fins flush	1 Club	700	.011	L.F.		.32	.32	.52

## 03 35 33 – Stamped Concrete Finishing

### 03 35 33.50 Slab Texture Stamping

0010 SLAB TEXTURE STAMPING									
0050	Stamping requires that concrete first be placed, struck off, consolidated,								
0060	bull floated and free of bleed water. Decorative stamping tasks include:								
0100	Step 1 - first application of dry shake colored hardener	1 Cefi	6400	.001	S.F.		.43	.04	.47
0110	Step 2 - bull float		6400	.001			.04		.04
0130	Step 3 - second application of dry shake colored hardener		6400	.001			.21	.04	.25
0140	Step 4 - bull float, manual float & steel trowel	3 Cefi	1280	.019			.67		.67
0150	Step 5 - application of dry shake colored release agent	1 Cefi	6400	.001			.10	.04	.14
0160	Step 6 - place, tamp & remove mats	3 Cefi	2400	.010			.87	.36	1.23
0170	Step 7 - touch up edges, mat joints & simulated grout lines	1 Cefi	1280	.006			.22		.22
0300	Alternate stamping estimating method includes all tasks above	4 Cefi	800	.040			1.60	1.44	3.04
0400	Step 8 - pressure wash @ 3000 psi after 24 hours	1 Cefi	1600	.005			.18		.18
0500	Step 9 - roll 2 coats cure/seal compound when dry	"	800	.010			.69	.36	1.05

# 03 39 Concrete Curing

## 03 39 13 – Water Concrete Curing

03 39 13.50 Water Curing		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0011 WATER CURING											
0020 With burlap, 4 uses assumed, 7.5 oz.		2 Clab	5500	.003	S.F.	.16	.08			.24	.30
0101 10 oz.		"	5500	.003	"	.28	.08			.36	.44

## 03 39 23 – Membrane Concrete Curing

03 39 23.13 Chemical Compound Membrane Concrete Curing		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 CHEMICAL COMPOUND MEMBRANE CONCRETE CURING											
0301 Sprayed membrane curing compound		2 Clab	9500	.002	S.F.	.12	.05			.17	.22
03 39 23.23 Sheet Membrane Concrete Curing											
0010 SHEET MEMBRANE CONCRETE CURING											
0201 Curing blanket, burlap/poly, 2-ply		2 Clab	7000	.002	S.F.	.20	.06			.26	.32

# 03 41 Precast Structural Concrete

## 03 41 23 – Precast Concrete Stairs

03 41 23.50 Precast Stairs											
0010	PRECAST STAIRS										
0020	Precast concrete treads on steel stringers, 3' wide	C-12	75	.640	Riser	149	22.50	6.30	177.80	208	
0300	Front entrance, 5' wide with 48" platform, 2 risers		16	3	Flight	675	106	29.50	810.50	955	
0350	5 risers		12	4		1,125	142	39	1,306	1,500	
0500	6' wide, 2 risers		15	3.200		750	114	31.50	895.50	1,050	
0550	5 risers		11	4.364		1,250	155	43	1,448	1,650	
0700	7' wide, 2 risers	↓	14	3.429		1,050	122	33.50	1,205.50	1,400	
1200	Basement entrance stairwell, 6 steps, incl. steel bulkhead door	B-51	22	2.182		1,875	63.50	8.90	1,947.40	2,175	
1250	14 steps	"	11	4.364	↓	3,350	127	17.85	3,494.85	3,900	

# 03 48 Precast Concrete Specialties

## 03 48 43 – Precast Concrete Trim

03 48 43.40 Precast Lintels											
0010	PRECAST LINTELS, smooth gray, prestressed, stock units only										
0800	4" wide x 8" high x 4' long	D-10	28	1.143	Ea.	35.50	40.50	15.30	91.30	122	
0850	8' long		24	1.333		81	47	17.85	145.85	186	
1000	6" wide x 8" high x 4' long		26	1.231		58.50	43.50	16.45	118.45	154	
1050	10' long	↓	22	1.455	↓	149	51.50	19.45	219.95	271	

## 03 48 43.90 Precast Window Sills

03 48 43.90 Precast Window Sills											
0010	PRECAST WINDOW SILLS										
0600	Precast concrete, 4" tapers to 3", 9" wide	D-1	70	.229	L.F.	23	7.50		30.50	37.50	
0650	11" wide	"	60	.267	"	37	8.75		45.75	55.50	

# 03 54 Cast Underlayment

## 03 54 13 – Gypsum Cement Underlayment

03 54 13.50 Poured Gypsum Underlayment				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
0010	POURED GYPSUM UNDERLAYERMENT						Labor	Equipment			
0400	Underlayment, gypsum based, self-leveling 2500 psi, pumped, 1/2" thick	C-8	24000	.002	S.F.		.44	.07	.02	.53	.63
0500	3/4" thick		20000	.003			.66	.09	.02	.77	.90
0600	1" thick		16000	.004			.88	.11	.03	1.02	1.18
1400	Hand placed, 1/2" thick	C-18	450	.020			.44	.56	.28	1.28	1.72
1500	3/4" thick	"	300	.030			.66	.84	.43	1.93	2.58

# 03 63 Epoxy Grouting

## 03 63 05 – Grouting of Dowels and Fasteners

### 03 63 05.10 Epoxy Only

0010	EPOXY ONLY										
1500	Chemical anchoring, epoxy cartridge, excludes layout, drilling, fastener										
1530	For fastener 3/4" diam. x 6" embedment	2 Skwk	72	.222	Ea.		4.78	8.20		12.98	18.80
1535	1" diam. x 8" embedment		66	.242			7.15	8.95		16.10	22.50
1540	1-1/4" diam. x 10" embedment		60	.267			14.35	9.85		24.20	32
1545	1-3/4" diam. x 12" embedment		54	.296			24	10.95		34.95	44.50
1550	14" embedment		48	.333			28.50	12.30		40.80	52
1555	2" diam. x 12" embedment		42	.381			38	14.10		52.10	65.50
1560	18" embedment		32	.500			48	18.50		66.50	83

# 03 82 Concrete Boring

## 03 82 16 – Concrete Drilling

### 03 82 16.10 Concrete Impact Drilling

0010	CONCRETE IMPACT DRILLING										
0020	Includes bit cost, layout and set-up time, no anchors										
0050	Up to 4" deep in concrete/brick floors/walls										
0100	Holes, 1/4" diameter	1 Corp	75	.107	Ea.		.07	3.86		3.93	6.45
0150	For each additional inch of depth in same hole, add		430	.019			.02	.67		.69	1.12
0200	3/8" diameter		63	.127			.05	4.59		4.64	7.60
0250	For each additional inch of depth in same hole, add		340	.024			.01	.85		.86	1.41
0300	1/2" diameter		50	.160			.05	5.80		5.85	9.55
0350	For each additional inch of depth in same hole, add		250	.032			.01	1.16		1.17	1.91
0400	5/8" diameter		48	.167			.10	6.05		6.15	10
0450	For each additional inch of depth in same hole, add		240	.033			.02	1.20		1.22	2.01
0500	3/4" diameter		45	.178			.11	6.45		6.56	10.65
0550	For each additional inch of depth in same hole, add		220	.036			.03	1.31		1.34	2.19
0600	7/8" diameter		43	.186			.17	6.75		6.92	11.25
0650	For each additional inch of depth in same hole, add		210	.038			.04	1.38		1.42	2.31
0700	1" diameter		40	.200			.18	7.25		7.43	12.10
0750	For each additional inch of depth in same hole, add		190	.042			.04	1.52		1.56	2.55
0800	1-1/4" diameter		38	.211			.33	7.60		7.93	12.85
0850	For each additional inch of depth in same hole, add		180	.044			.08	1.61		1.69	2.73
0900	1-1/2" diameter		35	.229			.43	8.25		8.68	14.05
0950	For each additional inch of depth in same hole, add		165	.048			.11	1.75		1.86	3
1000	For ceiling installations, add							40%			

## 1 Division Notes

## Estimating Tips

### 04 05 00 Common Work Results for Masonry

- The terms mortar and grout are often used interchangeably—and incorrectly. Mortar is used to bed masonry units, seal the entry of air and moisture, provide architectural appearance, and allow for size variations in the units. Grout is used primarily in reinforced masonry construction and to bond the masonry to the reinforcing steel. Common mortar types are M (2500 psi), S (1800 psi), N (750 psi), and O (350 psi), and they conform to ASTM C270. Grout is either fine or coarse and conforms to ASTM C476, and in-place strengths generally exceed 2500 psi. Mortar and grout are different components of masonry construction and are placed by entirely different methods. An estimator should be aware of their unique uses and costs.
- Mortar is included in all assembled masonry line items. The mortar cost, part of the assembled masonry material cost, includes all ingredients, all labor, and all equipment required. Please see reference number RO40513-10.
- Waste, specifically the loss/droppings of mortar and the breakage of brick and block, is included in all unit cost lines that include mortar and masonry units in this division. A factor of 25% is added for mortar and 3% for brick and concrete masonry units.

- Scaffolding or staging is not included in any of the Division 4 costs. Refer to Subdivision 01 54 23 for scaffolding and staging costs.

### 04 20 00 Unit Masonry

- The most common types of unit masonry are brick and concrete masonry. The major classifications of brick are building brick (ASTM C62), facing brick (ASTM C216), glazed brick, fire brick, and pavers. Many varieties of texture and appearance can exist within these classifications, and the estimator would be wise to check local custom and availability within the project area. For repair and remodeling jobs, matching the existing brick may be the most important criteria.
- Brick and concrete block are priced by the piece and then converted into a price per square foot of wall. Openings less than two square feet are generally ignored by the estimator because any savings in units used are offset by the cutting and trimming required.
- It is often difficult and expensive to find and purchase small lots of historic brick. Costs can vary widely. Many design issues affect costs, selection of mortar mix, and repairs or replacement of masonry materials. Cleaning techniques must be reflected in the estimate.
- All masonry walls, whether interior or exterior, require bracing. The cost of bracing walls during construction

should be included by the estimator, and this bracing must remain in place until permanent bracing is complete. Permanent bracing of masonry walls is accomplished by masonry itself, in the form of pilasters or abutting wall corners, or by anchoring the walls to the structural frame. Accessories in the form of anchors, anchor slots, and ties are used, but their supply and installation can be by different trades. For instance, anchor slots on spandrel beams and columns are supplied and welded in place by the steel fabricator, but the ties from the slots into the masonry are installed by the bricklayer. Regardless of the installation method, the estimator must be certain that these accessories are accounted for in pricing.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 04 01 Maintenance of Masonry

## 04 01 20 – Maintenance of Unit Masonry

04 01 20.20 Pointing Masonry		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Ind O&P
						Labor	Equipment			
0010	POINTING MASONRY									
0300	Cut and repoint brick, hard mortar, running bond	1 Bric	80	.100	S.F.	.57	3.54		4.11	6.50
0320	Common bond		77	.104		.57	3.68		4.25	6.75
0360	Flemish bond		70	.114		.60	4.05		4.65	7.35
0400	English bond		65	.123		.60	4.36		4.96	7.85
0600	Soft old mortar, running bond		100	.080		.57	2.83		3.40	5.30
0620	Common bond		96	.083		.57	2.95		3.52	5.50
0640	Flemish bond		90	.089		.60	3.15		3.75	5.85
0680	English bond		82	.098		.60	3.45		4.05	6.35
0700	Stonework, hard mortar		140	.057	L.F.	.76	2.02		2.78	4.18
0720	Soft old mortar		160	.050	"	.76	1.77		2.53	3.76
1000	Repoint, mask and grout method, running bond		95	.084	S.F.	.76	2.98		3.74	5.75
1020	Common bond		90	.089		.76	3.15		3.91	6.05
1040	Flemish bond		86	.093		.80	3.29		4.09	6.35
1060	English bond		77	.104		.80	3.68		4.48	7
2000	Scrub coat, sand grout on walls, thin mix, brushed		120	.067		3.59	2.36		5.95	7.85
2020	Troweled		98	.082		4.99	2.89		7.88	10.30

## 04 01 20.30 Pointing CMU

0010 POINTING CMU										
0300	Cut and repoint block, hard mortar, running bond	1 Bric	190	.042	S.F.	.23	1.49		1.72	2.73
0310	Stacked bond		200	.040		.23	1.42		1.65	2.60
0600	Soft old mortar, running bond		230	.035		.23	1.23		1.46	2.30
0610	Stacked bond		245	.033		.23	1.16		1.39	2.17

## 04 01 20.70 Brick Washing

0010 BRICK WASHING		R040130-10								
0012	Acid cleanser, smooth brick surface	1 Bric	560	.014	S.F.	.05	.51		.56	.90
0050	Rough brick		400	.020		.07	.71		.78	1.25
0060	Stone, acid wash		600	.013		.08	.47		.55	.87
1000	Muriatic acid, price per gallon in 5 gallon lots				Gal.	10.55		10.55	11.60	

# 04 05 Common Work Results for Masonry

## 04 05 05 – Selective Demolition for Masonry

### 04 05 05.10 Selective Demolition

0010 SELECTIVE DEMOLITION		R024119-10								
0200	Bond beams, 8" block with #4 bar	2 Clab	32	.500	L.F.		13.90		13.90	.23
0300	Concrete block walls, unreinforced, 2" thick		1200	.013	S.F.		.37		.37	.61
0310	4" thick		1150	.014			.39		.39	.64
0320	6" thick		1100	.015			.40		.40	.66
0330	8" thick		1050	.015			.42		.42	.70
0340	10" thick		1000	.016			.44		.44	.73
0360	12" thick		950	.017			.47		.47	.77
0380	Reinforced alternate courses, 2" thick		1130	.014			.39		.39	.65
0390	4" thick		1080	.015			.41		.41	.68
0400	6" thick		1035	.015			.43		.43	.71
0410	8" thick		990	.016			.45		.45	.74
0420	10" thick		940	.017			.47		.47	.78
0430	12" thick		890	.018			.50		.50	.82
0440	Reinforced alternate courses & vertically 48" OC, 4" thick		900	.018			.49		.49	.81
0450	6" thick		850	.019			.52		.52	.86
0460	8" thick		800	.020			.56		.56	.91

# 04 05 Common Work Results for Masonry

## 04 05 05 – Selective Demolition for Masonry

04 05 05.10 Selective Demolition		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total Incl O&P
						Labor	Equipment	Total	
0480	10" thick	2 Clab	.750	.021	S.F.	.59		.59	.97
0490	12" thick		700	.023		.64		.64	1.04
1000	Chimney, 16" x 16", soft old mortar	1 Clab	.55	.145	C.F.	4.04		4.04	6.65
1020	Hard mortar		40	.200		5.55		5.55	9.15
1030	16" x 20", soft old mortar		55	.145		4.04		4.04	6.65
1040	Hard mortar		40	.200		5.55		5.55	9.15
1050	16" x 24", soft old mortar		55	.145		4.04		4.04	6.65
1060	Hard mortar		40	.200		5.55		5.55	9.15
1080	20" x 20", soft old mortar		55	.145		4.04		4.04	6.65
1100	Hard mortar		40	.200		5.55		5.55	9.15
1110	20" x 24", soft old mortar		55	.145		4.04		4.04	6.65
1120	Hard mortar		40	.200		5.55		5.55	9.15
1140	20" x 32", soft old mortar		55	.145		4.04		4.04	6.65
1160	Hard mortar		40	.200		5.55		5.55	9.15
1200	48" x 48", soft old mortar		55	.145		4.04		4.04	6.65
1220	Hard mortar		40	.200		5.55		5.55	9.15
1250	Metal, high temp steel jacket, 24" diameter	E-2	130	.369	V.L.F.	14.90	13.05	27.95	40
1260	60" diameter	"	60	.800		32.50	28.50	61	86
1280	Flue lining, up to 12" x 12"	1 Clab	200	.040		1.11		1.11	1.83
1282	Up to 24" x 24"		150	.053		1.48		1.48	2.43
2000	Columns, 8" x 8", soft old mortar		48	.167		4.63		4.63	7.60
2020	Hard mortar		40	.200		5.55		5.55	9.15
2060	16" x 16", soft old mortar		16	.500		13.90		13.90	23
2100	Hard mortar		14	.571		15.90		15.90	26
2140	24" x 24", soft old mortar		8	1		28		28	45.50
2160	Hard mortar		6	1.333		37		37	61
2200	36" x 36", soft old mortar		4	2		55.50		55.50	91.50
2220	Hard mortar		3	2.667		74		74	122
2230	Alternate pricing method, soft old mortar		30	.267	C.F.	7.40		7.40	12.15
2240	Hard mortar		23	.348	"	9.65		9.65	15.90
3000	Copings, precast or masonry, to 8" wide								
3020	Soft old mortar	1 Clab	180	.044	L.F.	1.24		1.24	2.03
3040	Hard mortar	"	160	.050	"	1.39		1.39	2.28
3100	To 12" wide								
3120	Soft old mortar	1 Clab	160	.050	L.F.	1.39		1.39	2.28
3140	Hard mortar	"	140	.057	"	1.59		1.59	2.61
4000	Fireplace, brick, 30" x 24" opening								
4020	Soft old mortar	1 Clab	2	4	Ea.	111		111	183
4040	Hard mortar		1.25	6.400		178		178	292
4100	Stone, soft old mortar		1.50	5.333		148		148	243
4120	Hard mortar		1	8		222		222	365
5000	Veneers, brick, soft old mortar		140	.057	S.F.	1.59		1.59	2.61
5020	Hard mortar		125	.064		1.78		1.78	2.92
5050	Glass block, up to 4" thick		500	.016		.44		.44	.73
5100	Granite and marble, 2" thick		180	.044		1.24		1.24	2.03
5120	4" thick		170	.047		1.31		1.31	2.15
5140	Stone, 4" thick		180	.044		1.24		1.24	2.03
5160	8" thick		175	.046		1.27		1.27	2.09
5400	Alternate pricing method, stone, 4" thick		60	.133	C.F.	3.71		3.71	6.10
5420	8" thick		85	.094	"	2.62		2.62	4.30

# 04 05 Common Work Results for Masonry

## 04 05 13 – Masonry Mortaring

04 05 13.10 Cement		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0010	CEMENT	R040513-10								
0100	Masonry, 70 lb. bag, T.L. lots				Bag	11.40			11.40	12.50
0150	L.T.L. lots					12.05			12.05	13.25
0200	White, 70 lb. bag, T.L. lots					18.65			18.65	20.50
0250	L.T.L. lots					22.50			22.50	24.50

## 04 05 16 – Masonry Grouting

### 04 05 16.30 Grouting

04 05 16.30 Grouting		D-4	1480	.022	L.F.	.80	.67	.13	1.60	2.12
0011	Bond beams & lintels, 8" deep, 6" thick, 0.15 C.F./L.F.		1400	.023		1.29	.70	.13	2.12	2.73
0020	8" thick, 0.2 C.F./L.F.		1200	.027		1.34	.82	.16	2.32	3
0060	10" thick, 0.25 C.F./L.F.	▼	1040	.031	▼	1.61	.95	.18	2.74	3.54
0200	12" thick, 0.3 C.F./L.F.	D-8	1100	.036	S.F.	.36	1.21		1.57	2.39
0210	Concrete block cores, solid, 4" thk., by hand, 0.067 C.F./S.F. of wall	D-4	720	.044		.94	1.37	.26	2.57	3.58
0250	6" thick, pumped, 0.175 C.F./S.F.		680	.047		1.38	1.45	.28	3.11	4.22
0300	8" thick, pumped, 0.258 C.F./S.F.		660	.048		1.82	1.49	.29	3.60	4.78
0350	10" thick, pumped, 0.340 C.F./S.F.		640	.050		2.26	1.54	.29	4.09	5.35
0350	12" thick, pumped, 0.422 C.F./S.F.									

## 04 05 19 – Masonry Anchorage and Reinforcing

### 04 05 19.05 Anchor Bolts

04 05 19.05 Anchor Bolts		1 Bric	132	.061	Ea.	1.62	2.15		3.77	5.35
0015	Installed in fresh grout in CMU bond beams or filled cores, no templates									
0020	Hooked, with nut and washer, 1/2" diameter, 8" long		131	.061		1.80	2.16		3.96	5.55
0030	12" long									
0040	5/8" diameter, 8" long		129	.062		3.39	2.20		5.59	7.35
0050	12" long		127	.063		4.18	2.23		6.41	8.30
0060	3/4" diameter, 8" long		127	.063		4.18	2.23		6.41	8.30
0070	12" long	▼	125	.064	▼	5.20	2.27		7.47	9.50

### 04 05 19.16 Masonry Anchors

04 05 19.16 Masonry Anchors		1 Bric	10.50	.762	C	16.70	27		43.70	63
0020	For brick veneer, galv., corrugated, 7/8" x 7", 22 ga.									
0100	24 ga.		10.50	.762		10.35	27		37.35	56
0150	16 ga.		10.50	.762		31.50	27		58.50	79.50
0200	Buck anchors, galv., corrugated, 16 ga., 2" bend, 8" x 2"		10.50	.762		65	27		92	116
0250	8" x 3"		10.50	.762		69.50	27		96.50	121
0660	Cavity wall, Z-type, galvanized, 6" long, 1/8" diam.		10.50	.762		25	27		52	72
0670	3/16" diameter		10.50	.762		31.50	27		58.50	79
0680	1/4" diameter		10.50	.762		40.50	27		67.50	89
0850	8" long, 3/16" diameter		10.50	.762		27	27		54	74.50
0855	1/4" diameter		10.50	.762		49	27		76	98.50
1000	Rectangular type, galvanized, 1/4" diameter, 2" x 6"		10.50	.762		80	27		107	133
1050	4" x 6"		10.50	.762		91.50	27		118.50	145
1100	3/16" diameter, 2" x 6"		10.50	.762		54.50	27		81.50	105
1150	4" x 6"		10.50	.762		55	27		82	105
1500	Rigid partition anchors, plain, 8" long, 1" x 1/8"		10.50	.762		241	27		268	310
1550	1" x 1/4"		10.50	.762		325	27		352	400
1580	1-1/2" x 1/8"		10.50	.762		261	27		288	330
1600	1-1/2" x 1/4"		10.50	.762		340	27		367	420
1650	2" x 1/8"		10.50	.762		330	27		357	410
1700	2" x 1/4"	▼	10.50	.762	▼	445	27		472	535

# 04 05 Common Work Results for Masonry

## 04 05 19 – Masonry Anchorage and Reinforcing

04 05 19.26 Masonry Reinforcing Bars			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
			Crew			Labor	Equipment		
0010	<b>MASONRY REINFORCING BARS</b>	R040519-50							
0015	Steel bars A615, placed horiz., #3 & #4 bars		1 Bric	.450	.018	Lb.	.56	.63	1.19
0050	Placed vertical, #3 & #4 bars			.350	.023		.56	.81	1.37
0060	#5 & #6 bars			.650	.012		.56	.44	1
0200	Joint reinforcing, regular truss, to 6" wide, mill std galvanized			.30	.267	C.L.F.	.23	.945	32.45
0250	12" wide			.20	.400		.2950	14.15	43.65
0400	Cavity truss with drip section, to 6" wide			.30	.267		.23	.945	32.45
0450	12" wide			.20	.400		.2650	14.15	40.65
									52.50

# 04 21 Clay Unit Masonry

## 04 21 13 – Brick Masonry

### 04 21 13.13 Brick Veneer Masonry

0010	<b>BRICK VENEER MASONRY, T.L. lots, excl. scaff., grout &amp; reinforcing</b>	R042110-10							
0015	Material costs incl. 3% brick and 25% mortar waste	R042110-20	D-8	.230	.174	S.F.	4.52	5.80	10.32
2000	Standard, sel. common, 4" x 2-2/3" x 8" (6.75/S.F.)	R042110-20		.220	.182		4.86	6.05	10.91
2020	Red, 4" x 2-2/3" x 8", running bond			.185	.216		5.65	7.20	12.85
2050	Full header every 6th course (7.88/S.F.)	R042110-50		.140	.286		7.25	9.50	16.75
2100	English, full header every 2nd course (10.13/S.F.)			.150	.267		6.45	8.85	15.30
2150	Flemish, alternate header every course (9.00/S.F.)			.205	.195		5.15	6.50	11.65
2200	Flemish, alt. header every 6th course (7.13/S.F.)			.105	.381		9.65	12.65	22.30
2250	Full headers throughout (13.50/S.F.)			.100	.400		9.65	13.30	22.95
2300	Rowlock course (13.50/S.F.)			.310	.129		3.27	4.29	7.56
2350	Rowlock stretcher (4.50/S.F.)			.200	.200		4.86	6.65	11.51
2400	Soldier course (6.75/S.F.)			.290	.138		3.27	4.59	7.86
2450	Sailor course (4.50/S.F.)			.220	.182		5.15	6.05	11.20
2600	Buff or gray face, running bond (6.75/S.F.)			.210	.190		14	6.35	20.35
2700	Glazed face brick, running bond			.170	.235		16.30	7.85	24.15
2750	Full header every 6th course (7.88/S.F.)			.435	.092		5.40	3.06	8.46
3000	Jumbo, 6" x 4" x 12" running bond (3.00/S.F.)			.320	.125		6.65	4.16	10.81
3050	Norman, 4" x 2-2/3" x 12" running bond (4.5/S.F.)			.375	.107		6.05	3.55	9.60
3100	Norwegian, 4" x 3-1/5" x 12" (3.75/S.F.)			.310	.129		4.63	4.29	8.92
3150	Economy, 4" x 4" x 8" (4.50/S.F.)			.260	.154		3.89	5.10	8.99
3200	Engineer, 4" x 3-1/5" x 8" (5.63/S.F.)			.250	.160		7.65	5.30	12.95
3250	Roman, 4" x 2" x 12" (6.00/S.F.)			.310	.129		6.30	4.29	10.59
3300	S.C.R., 6" x 2-2/3" x 12" (4.50/S.F.)			.360	.111		5.40	3.70	9.10
3350	Utility, 4" x 4" x 12" (3.00/S.F.)							10%	12.20
3360	For less than truck load lots, add							15%	
3400	For cavity wall construction, add							10%	
3450	For stacked bond, add							15%	
3500	For interior veneer construction, add							30%	
3550	For curved walls, add								

### 04 21 13.14 Thin Brick Veneer

0010	<b>THIN BRICK VENEER</b>								
0015	Material costs incl. 3% brick and 25% mortar waste		D-7	.92	.174	S.F.	9.70	5.40	15.10
0020	On & incl. metal panel support sys, modular, 2-2/3" x 5/8" x 8", red								19.30
0100	Closure, 4" x 5/8" x 8"			.110	.145		9.40	4.51	13.91
0110	Norman, 2-2/3" x 5/8" x 12"			.110	.145		9.65	4.51	14.16
0120	Utility, 4" x 5/8" x 12"			.125	.128		9.10	3.97	13.07
0130	Emperor, 4" x 3/4" x 16"			.175	.091		10.30	2.83	13.13
0140	Super emperor, 8" x 3/4" x 16"			.195	.082		11.15	2.54	13.69

# 04 21 Clay Unit Masonry

## 04 21 13 – Brick Masonry

04 21 13.14 Thin Brick Veneer		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
						Labor	Equipment		
0150	For L shaped corners with 4" return, add				L.F.	9.25		9.25	10.20
0200	On masonry/plaster back-up, modular, 2-2/3" x 5/8" x 8", red	D-7	137	.117	S.F.	4.66	3.62	8.28	10.95
0210	Closure, 4" x 5/8" x 8"		165	.097		4.37	3	7.37	9.65
0220	Norman, 2-2/3" x 5/8" x 12"		165	.097		4.61	3	7.61	9.90
0230	Utility, 4" x 5/8" x 12"		185	.086		4.09	2.68	6.77	8.80
0240	Emperor, 4" x 3/4" x 16"		260	.062		5.25	1.91	7.16	8.85
0250	Super emperor, 8" x 3/4" x 16"		285	.056		6.15	1.74	7.89	9.55
0260	For L shaped corners with 4" return, add				L.F.	10		10	11
0270	For embedment into pre-cast concrete panels, add				S.F.	14.40		14.40	15.85

## 04 21 13.15 Chimney

0010	CHIMNEY, excludes foundation, scaffolding, grout and reinforcing	D-1	18.20	.879	V.L.F.	26.50	29	55.50	76.50
0100	Brick, 16" x 16", 8" flue		16	1		42.50	32.50	75	101
0150	16" x 20" with one 8" x 12" flue		14	1.143		63	37.50	100.50	132
0200	16" x 24" with two 8" x 8" flues								
0250	20" x 20" with one 12" x 12" flue		13.70	1.168		49.50	38	87.50	118
0300	20" x 24" with two 8" x 12" flues		12	1.333		71	43.50	114.50	150
0350	20" x 32" with two 12" x 12" flues		10	1.600		87	52.50	139.50	182

## 04 21 13.18 Columns

0010	COLUMNS, solid, excludes scaffolding, grout and reinforcing	D-1	56	.286	V.L.F.	6.30	9.35	15.65	22.50
0050	Brick, 8" x 8", 9 brick/V.L.F.		37	.432		9.45	14.15	23.60	34
0100	12" x 8", 13.5 brick/V.L.F.		25	.640		14	21	35	50
0200	12" x 12", 20 brick/V.L.F.		19	.842		18.90	27.50	46.40	66.50
0300	16" x 12", 27 brick/V.L.F.		14	1.143		25	37.50	62.50	89.50
0400	16" x 16", 36 brick/V.L.F.		11	1.455		31.50	47.50	79	114
0500	20" x 16", 45 brick/V.L.F.		9	1.778		39	58	97	140
0600	20" x 20", 56 brick/V.L.F.		7	2.286		47.50	75	122.50	177
0700	24" x 20", 68 brick/V.L.F.		6	2.667		56.50	87.50	144	207
1000	36" x 36", 182 brick/V.L.F.		3	5.333		127	175	302	430

## 04 21 13.30 Oversized Brick

0010	OVERSIZED BRICK, excludes scaffolding, grout and reinforcing	D-8	387	.103	S.F.	5.05	3.44	8.49	11.25
0100	Veneer, 4" x 2.25" x 16"		265	.151		17.55	5	22.55	27.50
0102	8" x 2.25" x 16", multicell		412	.097		5.75	3.23	8.98	11.70
0105	4" x 2.75" x 16"		295	.136		17.50	4.51	22.01	26.50
0107	8" x 2.75" x 16", multicell		460	.087		3.80	2.89	6.69	8.95
0110	4" x 4" x 16"		533	.075		5.10	2.50	7.60	9.80
0120	4" x 8" x 16"		327	.122		15.70	4.07	19.77	24
0122	4" x 8" x 16" multicell		387	.103		11.60	3.44	15.04	18.45
0125	Loadbearing, 6" x 4" x 16", grouted and reinforced		327	.122		12.05	4.07	16.12	20
0130	8" x 4" x 16", grouted and reinforced		327	.122		27.50	4.07	31.57	37.50
0132	10" x 4" x 16", grouted and reinforced		440	.091		15.05	3.02	18.07	21.50
0135	6" x 8" x 16", grouted and reinforced		400	.100		16.05	3.33	19.38	23
0140	8" x 8" x 16", grouted and reinforced		387	.103		16.85	3.44	20.29	24.50
0145	Curtainwall/reinforced veneer, 6" x 4" x 16"		327	.122		19.95	4.07	24.02	29
0150	8" x 4" x 16"		327	.122		30.50	4.07	34.57	40.50
0152	10" x 4" x 16"		440	.091		21	3.02	24.02	28
0155	6" x 8" x 16"		400	.100		28.50	3.33	31.83	37
0200	For 1 to 3 slots in face, add					15%			
0210	For 4 to 7 slots in face, add					25%			
0220	For bond beams, add					20%			
0230	For bullnose shapes, add					20%			

# 04 21 Clay Unit Masonry

## 04 21 13 – Brick Masonry

04 21 13.30 Oversized Brick		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0240	For open end knockout, add				S.F.	10%				
0250	For white or gray color group, add					10%				
0260	For 135 degree corner, add					250%				

## 04 21 13.32 Brick Veneer Masonry

0010	BRICK VENEER MASONRY, for residential installations	D-14	337	.095	S.F.	3.06	3.23		6.29	8.70
0020	Residential brick veneer, queen size	"	270	.119	"	4.23	4.04		8.27	11.35
0030	Modular size	"								

## 04 21 13.35 Common Building Brick

0010	COMMON BUILDING BRICK, C62, T.L. lots, material only	R042110-20								
0020	Standard				M	590			590	650
0050	Select				"	555			555	615

## 04 21 13.45 Face Brick

0010	FACE BRICK Material Only, C216, T.L. lots	R042110-20								
0300	Standard modular, 4" x 2-2/3" x 8"				M	605			605	665

# 04 22 Concrete Unit Masonry

## 04 22 10 – Concrete Masonry Units

### 04 22 10.11 Autoclave Aerated Concrete Block

0010	AUTOCLAVE AERATED CONCRETE BLOCK, excl. scaffolding, grout & reinforcing										
0050	Solid, 4" x 8" x 24", incl. mortar	G	D-8	600	.067	S.F.	1.55	2.22		3.77	5.35
0060	6" x 8" x 24"	G	D-8	600	.067		2.50	2.22		4.72	6.40
0070	8" x 8" x 24"	G	D-8	575	.070		3.22	2.31		5.53	7.35
0080	10" x 8" x 24"	G	D-8	575	.070		4	2.31		6.31	8.25
0090	12" x 8" x 24"	G	D-8	550	.073		4.83	2.42		7.25	9.30

### 04 22 10.14 Concrete Block, Back-Up

0010	CONCRETE BLOCK, BACK-UP, C90, 2000 psi	R042210-20									
0020	Normal weight, 8" x 16" units, tooled joint 1 side										
0050	Not-reinforced, 2000 psi, 2" thick		D-8	475	.084	S.F.	1.68	2.80		4.48	6.50
0200	4" thick		D-8	460	.087		2.16	2.89		5.05	7.15
0300	6" thick		D-8	440	.091		2.72	3.02		5.74	8
0350	8" thick		D-8	400	.100		2.73	3.33		6.06	8.50
0400	10" thick		D-8	330	.121		3.25	4.03		7.28	10.20
0450	12" thick		D-9	310	.155		4.72	5.05		9.77	13.60
1000	Reinforced, alternate courses, 4" thick		D-8	450	.089		2.34	2.96		5.30	7.45
1100	6" thick		D-8	430	.093		2.91	3.09		6	8.30
1150	8" thick		D-8	395	.101		2.94	3.37		6.31	8.85
1200	10" thick		D-8	320	.125		3.43	4.16		7.59	10.65
1250	12" thick		D-9	300	.160		4.90	5.25		10.15	14.05

### 04 22 10.16 Concrete Block, Bond Beam

0010	CONCRETE BLOCK, BOND BEAM, C90, 2000 psi										
0020	Not including grout or reinforcing										
0125	Regular block, 6" thick		D-8	584	.068	L.F.	2.77	2.28		5.05	6.80
0130	8" high, 8" thick		D-8	565	.071		2.90	2.35		5.25	7.10
0150	12" thick		D-9	510	.094		4.09	3.08		7.17	9.60
0525	Lightweight, 6" thick		D-8	592	.068		2.90	2.25		5.15	6.90

# 04 22 Concrete Unit Masonry

## 04 22 10 – Concrete Masonry Units

04 22 10.19 Concrete Block, Insulation Inserts		Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010	<b>CONCRETE BLOCK, INSULATION INSERTS</b>									
0100	Styrofoam, plant installed, add to block prices									
0200	8" x 16" units, 6" thick			S.F.	1.25				1.25	1.38
0250	8" thick					1.57			1.57	1.73
0300	10" thick					1.47			1.47	1.62
0350	12" thick					1.85			1.85	2.04
0500	8" x 8" units, 8" thick					1.40			1.40	1.54
0550	12" thick					1.47			1.47	1.62
<b>04 22 10.23 Concrete Block, Decorative</b>										
0010	<b>CONCRETE BLOCK, DECORATIVE, C90, 2000 psi</b>									
5000	Split rib profile units, 1" deep ribs, 8 ribs									
5100	8" x 16" x 4" thick	D-8	345	.116	S.F.	4.61	3.86		8.47	11.50
5150	6" thick		325	.123		5.25	4.09		9.34	12.60
5200	8" thick		300	.133		6.55	4.43		10.98	14.60
5250	12" thick	D-9	275	.175		7.50	5.70		13.20	17.70
5400	For special deeper colors, 4" thick, add					1.32			1.32	1.45
5450	12" thick, add					1.41			1.41	1.55
5600	For white, 4" thick, add					1.32			1.32	1.45
5650	6" thick, add					1.39			1.39	1.53
5700	8" thick, add					1.48			1.48	1.63
5750	12" thick, add					1.47			1.47	1.62
<b>04 22 10.24 Concrete Block, Exterior</b>										
0010	<b>CONCRETE BLOCK, EXTERIOR, C90, 2000 psi</b>									
0020	Reinforced alt courses, tooled joints 2 sides									
0100	Normal weight, 8" x 16" x 6" thick	D-8	395	.101	S.F.	2.56	3.37		5.93	8.40
0200	8" thick		360	.111		4.16	3.70		7.86	10.70
0250	10" thick		290	.138		4.50	4.59		9.09	12.55
0300	12" thick	D-9	250	.192	▼	5.30	6.30		11.60	16.25
<b>04 22 10.26 Concrete Block Foundation Wall</b>										
0010	<b>CONCRETE BLOCK FOUNDATION WALL, C90/C145</b>									
0050	Normal-weight, cut joints, horiz joint reinf, no vert reinf.									
0200	Hollow, 8" x 16" x 6" thick	D-8	455	.088	S.F.	3.20	2.92		6.12	8.35
0250	8" thick		425	.094		3.23	3.13		6.36	8.75
0300	10" thick		350	.114		3.73	3.80		7.53	10.40
0350	12" thick	D-9	300	.160		5.20	5.25		10.45	14.40
0500	Solid, 8" x 16" block, 6" thick	D-8	440	.091		3.63	3.02		6.65	9
0550	8" thick	"	415	.096		4.38	3.21		7.59	10.10
0600	12" thick	D-9	350	.137	▼	6.45	4.49		10.94	14.55
<b>04 22 10.32 Concrete Block, Lintels</b>										
0010	<b>CONCRETE BLOCK, LINTELS, C90, normal weight</b>									
0100	Including grout and horizontal reinforcing									
0200	8" x 8" x 8", 1 #4 bar	D-4	300	.107	L.F.	4.54	3.29	.63	8.46	11.15
0250	2 #4 bars		295	.108		4.79	3.34	.64	8.77	11.50
0400	8" x 16" x 8", 1 #4 bar		275	.116		4.24	3.59	.69	8.52	11.35
0450	2 #4 bars		270	.119		4.49	3.65	.70	8.84	11.75
1000	12" x 8" x 8", 1 #4 bar		275	.116		6.05	3.59	.69	10.33	13.35
1100	2 #4 bars		270	.119		6.30	3.65	.70	10.65	13.70
1150	2 #5 bars		270	.119		6.55	3.65	.70	10.90	14.05
1200	2 #6 bars		265	.121		6.90	3.72	.71	11.33	14.55
1500	12" x 16" x 8", 1 #4 bar		250	.128		7.05	3.95	.75	11.75	15.10
1600	2 #3 bars		245	.131		7.10	4.03	.77	11.90	15.30

# 04 22 Concrete Unit Masonry

## 04 22 10 – Concrete Masonry Units

04 22 10.32 Concrete Block, Lintels			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total Labor	Equipment	Total	Total Incl O&P
1650	2 #4 bars		D-4	245	.131	L.F.	7.30	4.03	.77	12.10	15.55	
1700	2 #5 bars			↓ 240	.133	↓	7.60	4.11	.79	12.50	16	

## 04 22 10.33 Lintel Block

0010	LINTEL BLOCK	D-1	300	.053	Ea.		1.37	1.75			3.12	4.40
3481	Lintel block 6" x 8" x 8"		275	.058			2.05	1.90			3.95	5.40
3501	6" x 16" x 8"		275	.058			1.29	1.90			3.19	4.57
3521	8" x 8" x 8"		250	.064	↓		2.01	2.09			4.10	5.70

## 04 22 10.34 Concrete Block, Partitions

0010	CONCRETE BLOCK, PARTITIONS, excludes scaffolding	D-8	440	.091	S.F.		2	3.02			5.02	7.20
1000	Lightweight block, tooled joints, 2 sides, hollow		410	.098			2.77	3.24			6.01	8.40
1100	Not reinforced, 8" x 16" x 4" thick		385	.104			3.75	3.46			7.21	9.80
1150	6" thick		370	.108			4.18	3.60			7.78	10.55
1200	8" thick		350	.137	↓		4.28	4.49			8.77	12.15
1250	10" thick	D-9	430	.093	S.F.		2.06	3.09			5.15	7.35
1300	12" thick		400	.100			2.62	3.33			5.95	8.40
4000	Regular block, tooled joints, 2 sides, hollow		375	.107			2.63	3.55			6.18	8.75
4100	Not reinforced, 8" x 16" x 4" thick		360	.111			3.15	3.70			6.85	9.55
4150	6" thick	D-9	340	.141	↓		4.62	4.62			9.24	12.75
4200	8" thick											
4250	10" thick											
4300	12" thick											

# 04 23 Glass Unit Masonry

## 04 23 13 – Vertical Glass Unit Masonry

### 04 23 13.10 Glass Block

0010	GLASS BLOCK	D-8	115	.348	S.F.		23	11.55			34.55	44.50
0100	Plain, 4" thick, under 1,000 S.F., 6" x 6"		160	.250			14.25	8.30			22.55	29.50
0150	8" x 8"		160	.250			64.50	8.30			72.80	85
0160	end block		160	.250			65	8.30			73.30	85.50
0170	90 degree corner		160	.250			67.50	8.30			75.80	88
0180	45 degree corner		175	.229			24	7.60			31.60	39
0200	12" x 12"		160	.250			36.50	8.30			44.80	54
0210	4" x 8"		160	.250			23	8.30			31.30	39.50
0220	6" x 8"		160	.250	↓				100%			
0700	For solar reflective blocks, add											
1000	Thinline, plain, 3 1/8" thick, under 1,000 S.F., 6" x 6"	D-8	115	.348	S.F.		25	11.55			36.55	46
1050	8" x 8"		160	.250			15.35	8.30			23.65	30.50
1400	For cleaning block after installation (both sides), add		1000	.040	↓		.16	1.33			1.49	2.38

# 04 24 Adobe Unit Masonry

## 04 24 16 – Manufactured Adobe Unit Masonry

04 24 16.06 Adobe Brick			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P		
Code	Description		Crew			Labor	Equipment				
0010	ADOBE BRICK, Semi-stabilized, with cement mortar		[G]	D-8	560	.071	S.F.	5.05	2.38	7.43	9.50
0060	Brick, 10" x 4" x 14", 2.6/S.F.		[G]	D-8	580	.069		6.90	2.29	9.19	11.40
0080	12" x 4" x 16", 2.3/S.F.		[G]	D-8	590	.068		7.20	2.26	9.46	11.65
0100	10" x 4" x 16", 2.3/S.F.		[G]	D-8	560	.071		5.25	2.38	7.63	9.75
0120	8" x 4" x 16", 2.3/S.F.		[G]	D-8	540	.074		4.75	2.46	7.21	9.30
0140	4" x 4" x 16", 2.3/S.F.		[G]	D-8	540	.074		4.31	2.46	6.77	8.80
0160	6" x 4" x 16", 2.3/S.F.		[G]	D-8	520	.077		6.20	2.56	8.76	11.05
0180	4" x 4" x 12", 3.0/S.F.		[G]	D-8	520	.077		4.42	2.56	6.98	9.10
0200	8" x 4" x 12", 3.0/S.F.		[G]	D-8	520	.077					

# 04 27 Multiple-Wythe Unit Masonry

## 04 27 10 – Multiple-Wythe Masonry

### 04 27 10.10 Cornices

0010	CORNICES		D-1	30	.533	SF Face	5.75	17.45	23.20	35.50
0110	Face bricks, 12 brick/S.F.		"	23	.696	"	6.90	23	29.90	45
0150	15 brick/S.F.									

### 04 27 10.30 Brick Walls

0010	BRICK WALLS, including mortar, excludes scaffolding		D-8	215	.186	S.F.	4.78	6.20	10.98	15.50
0800	Face brick, 4" thick wall, 6.75 brick/S.F.		[G]	240	.167		4.67	5.55	10.22	14.35
0850	Common brick, 4" thick wall, 6.75 brick/S.F.		[G]	135	.296		9.60	9.85	19.45	27
0900	8" thick, 13.50 brick/S.F.		[G]	95	.421		14.45	14	28.45	39
1000	12" thick, 20.25 brick/S.F.		[G]	75	.533		19.50	17.75	37.25	51
1050	16" thick, 27.00 brick/S.F.		[G]	210	.190		4.96	6.35	11.31	15.95
1200	Reinforced, face brick, 4" thick wall, 6.75 brick/S.F.		[G]	235	.170		4.86	5.65	10.51	14.70
1220	Common brick, 4" thick wall, 6.75 brick/S.F.		[G]	130	.308		9.95	10.25	20.20	28
1250	8" thick, 13.50 brick/S.F.		[G]	130	.308		1.79	10.25	12.04	18.90
1260	8" thick, 2.25 brick/S.F.		[G]	90	.444		15	14.80	29.80	41
1300	12" thick, 20.25 brick/S.F.		[G]	70	.571		20	19	39	53.50
1350	16" thick, 27.00 brick/S.F.									

### 04 27 10.40 Steps

0010	STEPS		D-1	.30	53.333	M	555	1,750	2,305	3,525
0012	Entry steps, select common brick									

# 04 41 Dry-Placed Stone

## 04 41 10 – Dry Placed Stone

### 04 41 10.10 Rough Stone Wall

0011	ROUGH STONE WALL, Dry		[G]	D-1	60	.267	C.F.	14.15	8.75	22.90	30
0012	Dry laid (no mortar), under 18" thick		[G]	D-12	60	.533		14.15	17.45	31.60	44.50
0100	Random fieldstone, under 18" thick		[G]	"	63	.508		17	16.60	33.60	46
0150	Over 18" thick		[G]	D-8	120	.333	S.F.	12.95	11.10	24.05	32.50
0500	Field stone veneer		[G]	D-12	120	.333		12.95	11.10	24.05	32.50
0510	Valley stone veneer		[G]	D-11	120	.333		12.95	11.10	24.05	32.50
0520	River stone veneer		[G]	D-11	75	.320	C.F.	17.10	10.75	27.85	36.50
0600	Rubble stone walls, in mortar bed, up to 18" thick		[G]	D-11	75	.320	C.F.				

# 04 43 Stone Masonry

## 04 43 10 – Masonry with Natural and Processed Stone

04 43 10.45 Granite		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
0010	GRANITE, cut to size									
2500	Steps, copings, etc., finished on more than one surface									
2550	Low price, gray, light gray, etc.	D-10	50	.640	C.F.	92	22.50	8.55	123.05	148
2575	Medium price, pink, brown, etc.		50	.640		120	22.50	8.55	151.05	179
2600	High price, red, black, etc.	▼	50	.640	▼	147	22.50	8.55	178.05	209
2800	Pavers, 4" x 4" x 4" blocks, split face and joints									
2850	Low price, gray, light gray, etc.	D-11	80	.300	S.F.	13.30	10.10		23.40	31.50
2875	Medium price, pink, brown, etc.		80	.300		21.50	10.10		31.60	40
2900	High price, red, black, etc.	▼	80	.300	▼	29.50	10.10		39.60	49
5000	Reclaimed or antique									
5010	Treads, up to 12" wide	D-10	100	.320	L.F.	42	11.30	4.28	57.58	69.50
5020	Up to 18" wide		100	.320		45.50	11.30	4.28	61.08	73.50
5030	Capstone, size varies	▼	50	.640	▼	26.50	22.50	8.55	57.55	76
5040	Posts	▼	30	1.067	V.L.F.	31.50	37.50	14.25	83.25	113

## 04 43 10.55 Limestone

0010	LIMESTONE, cut to size									
0020	Veneer facing panels									
0500	Texture finish, light stick, 4-1/2" thick, 5' x 12'	D-4	300	.107	S.F.	22.50	3.29	.63	26.42	31
0750	5" thick, 5' x 14' panels	D-10	275	.116		24	4.11	1.56	29.67	35
1000	Sugarcube finish, 2" thick, 3' x 5' panels		275	.116		29.50	4.11	1.56	35.17	41
1050	3" thick, 4' x 9' panels		275	.116		29	4.11	1.56	34.67	40
1200	4" thick, 5' x 11' panels		275	.116		32.50	4.11	1.56	38.17	44
1400	Sugarcube, textured finish, 4-1/2" thick, 5' x 12'		275	.116		35.50	4.11	1.56	41.17	47.50
1450	5" thick, 5' x 14' panels		275	.116	▼	35.50	4.11	1.56	41.17	47.50
2000	Coping, sugarcube finish, top & 2 sides		30	1.067	C.F.	66.50	37.50	14.25	118.25	151
2100	Sills, lintels, jambs, trim, stops, sugarcube finish, simple		20	1.600		66.50	56.50	21.50	144.50	191
2150	Detailed		20	1.600	▼	66.50	56.50	21.50	144.50	191
2300	Steps, extra hard, 14" wide, 6" rise	▼	50	.640	L.F.	29	22.50	8.55	60.05	79
3000	Quoins, plain finish, 6" x 12" x 12"	D-12	25	1.280	Ea.	44.50	42		86.50	119
3050	6" x 16" x 24"	"	25	1.280	"	59.50	42		101.50	135

## 04 43 10.60 Marble

0011	MARBLE, ashlar, split face, +/- 4" thick, random									
0040	Lengths 1' to 4' & heights 2" to 7-1/2", average	D-8	175	.229	S.F.	17.60	7.60		25.20	32
0100	Base, polished, 3/4" or 7/8" thick, polished, 6" high	D-10	65	.492	L.F.	11.45	17.40	6.60	35.45	48.50
1000	Facing, polished finish, cut to size, 3/4" to 7/8" thick									
1050	Carrara or equal	D-10	130	.246	S.F.	20.50	8.70	3.29	32.49	41
1100	Arabescato or equal	"	130	.246	"	38	8.70	3.29	49.99	59.50
2200	Window sills, 6" x 3/4" thick	D-1	85	.188	L.F.	13.10	6.15		19.25	24.50
2500	Flooring, polished tiles, 12" x 12" x 3/8" thick									
2510	Thin set, Giallo Solare or equal	D-11	90	.267	S.F.	15.65	8.95		24.60	32
2600	Sky Blue or equal		90	.267		15.05	8.95		24	31.50
2700	Mortar bed, Giallo Solare or equal		65	.369		15.75	12.40		28.15	38
2740	Sky Blue or equal	▼	65	.369		15.05	12.40		27.45	37
2780	Travertine, 3/8" thick, Sierra or equal	D-10	130	.246		10.80	8.70	3.29	22.79	30
2790	Silver or equal	"	130	.246	▼	29	8.70	3.29	40.99	50
3500	Thresholds, 3' long, 7/8" thick, 4" to 5" wide, plain	D-12	24	1.333	Ea.	36	43.50		79.50	112
3550	Beveled		24	1.333	"	76	43.50		119.50	156
3700	Window stools, polished, 7/8" thick, 5" wide	▼	85	.376	L.F.	24.50	12.30		36.80	47.50

## 04 43 10.75 Sandstone or Brownstone

0011	SANDSTONE OR BROWNSTONE									
0100	Sawed face veneer, 2-1/2" thick, to 2' x 4' panels	D-10	130	.246	S.F.	22	8.70	3.29	33.99	42
0150	4" thick, to 3'-6" x 8' panels	"	100	.320		22	11.30	4.28	37.58	47.50

# 04 43 Stone Masonry

## 04 43 10 – Masonry with Natural and Processed Stone

### 04 43 10.75 Sandstone or Brownstone

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P	
		D-10	100	.320	S.F.	14.50	11.30	4.28	30.08	39.50
0300	Split face, random sizes									
0350	Cut stone trim (limestone)	D-8	120	.333	Ea.	162	11.10		173.10	196
0360	Ribbon stone, 4" thick, 5' pieces		105	.381		163	12.65		175.65	200
0370	Cove stone, 4" thick, 5' pieces		90	.444		201	14.80		215.80	246
0380	Cornice stone, 10" to 12" wide									
0390	Band stone, 4" thick, 5' pieces		145	.276		107	9.20		116.20	132
0410	Window and door trim, 3" to 4" wide		160	.250		90.50	8.30		98.80	113
0420	Key stone, 18" long		60	.667		93	22		115	139

### 04 43 10.80 Slate

#### 0010 SLATE

3100	Stair landings, 1" thick, black, clear	D-1	65	.246	S.F.	21	8.05		29.05	36.50
3200	Ribbon	"	65	.246	"	23	8.05		31.05	38.50
3500	Stair treads, sand finish, 1" thick x 12" wide									
3600	3 L.F. to 6 L.F.	D-10	120	.267	L.F.	25	9.40	3.57	37.97	46.50
3700	Ribbon, sand finish, 1" thick x 12" wide	D-10	120	.267	L.F.	21	9.40	3.57	33.97	42.50
3750	To 6 L.F.									

### 04 43 10.85 Window Sill

#### 0010 WINDOW SILL

0020	Bluestone, thermal top, 10" wide, 1-1/2" thick	D-1	85	.188	S.F.	10.30	6.15		16.45	21.50
0050	2" thick		75	.213	"	10.95	7		17.95	23.50
0100	Cut stone, 5" x 8" plain		48	.333	L.F.	12.95	10.90		23.85	32.50
0200	Face brick on edge, brick, 8" wide		80	.200		3.42	6.55		9.97	14.60
0400	Marble, 9" wide, 1" thick		85	.188		9.25	6.15		15.40	20.50
0900	Slate, colored, unfading, honed, 12" wide, 1" thick		85	.188		10.45	6.15		16.60	21.50
0950	2" thick		70	.229		10.05	7.50		17.55	23.50

# 04 51 Flue Liner Masonry

## 04 51 10 – Clay Flue Lining

### 04 51 10.10 Flue Lining

#### 0010 FLUE LINING, including mortar

0020	Clay, 8" x 8"	D-1	125	.128	V.L.F.	6.45	4.19		10.64	14.05
0100	8" x 12"		103	.155		9.60	5.10		14.70	18.95
0200	12" x 12"		93	.172		11.70	5.65		17.35	22
0300	12" x 18"		84	.190		26.50	6.25		32.75	39.50
0400	18" x 18"		75	.213		30	7		37	44.50
0500	20" x 20"		66	.242		48	7.95		55.95	65.50
0600	24" x 24"		56	.286		68.50	9.35		77.85	90.50
1000	Round, 18" diameter		66	.242		42.50	7.95		50.45	60
1100	24" diameter		47	.340		88.50	11.15		99.65	116

# 04 57 Masonry Fireplaces

## 04 57 10 – Brick or Stone Fireplaces

04 57 10.10 Fireplace		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	FIREPLACE									
0100	Brick fireplace, not incl. foundations or chimneys									
0110	30" x 29" opening, incl. chamber, plain brickwork	D-1	.40	40	Ea.	625	1,300		1,925	2,850
0200	Fireplace box only (110 brick)	"	2	8	"	172	262		434	625
0300	For elaborate brickwork and details, add					35%	35%			
0400	For hearth, brick & stone, add	D-1	2	8	Ea.	215	262		477	670
0410	For steel, damper, cleanouts, add		4	4		18.25	131		149.25	237
0600	Plain brickwork, incl. metal circulator		.50	32		995	1,050		2,045	2,825
0800	Face brick only, standard size, 8" x 2-2/3" x 4"	↓	.30	53.333	M	605	1,750		2,355	3,575
0900	Stone fireplace, fieldstone, add				SF Face	10			10	11
1000	Cut stone, add				"	8.50			8.50	9.35

# 04 72 Cast Stone Masonry

## 04 72 10 – Cast Stone Masonry Features

### 04 72 10.10 Coping

0010	COPING, stock units									
0050	Precast concrete, 10" wide, 4" tapers to 3-1/2", 8" wall	D-1	75	.213	L.F.	25.50	7		32.50	39.50
0100	12" wide, 3-1/2" tapers to 3", 10" wall		70	.229		27.50	7.50		35	42.50
0110	14" wide, 4" tapers to 3-1/2", 12" wall		65	.246		31.50	8.05		39.55	48
0150	16" wide, 4" tapers to 3-1/2", 14" wall		60	.267		34	8.75		42.75	51.50
0300	Limestone for 12" wall, 4" thick		90	.178		16.80	5.80		22.60	28
0350	6" thick		80	.200		24	6.55		30.55	37
0500	Marble, to 4" thick, no wash, 9" wide		90	.178		12.30	5.80		18.10	23
0550	12" wide		80	.200		19.90	6.55		26.45	33
0700	Terra cotta, 9" wide		90	.178		8.15	5.80		13.95	18.60
0750	12" wide		80	.200		8.60	6.55		15.15	20.50
0800	Aluminum, for 12" wall		80	.200		9.45	6.55		16	21.50

## 04 72 20 – Cultured Stone Veneer

### 04 72 20.10 Cultured Stone Veneer Components

0010	CULTURED STONE VENEER COMPONENTS									
0110	On wood frame and sheathing substrate, random sized cobbles, corner stones	D-8	70	.571	V.L.F.	10.55	19		29.55	43
0120	Field stones		140	.286	S.F.	7.45	9.50		16.95	24
0130	Random sized flats, corner stones		70	.571	V.L.F.	10.55	19		29.55	43
0140	Field stones		140	.286	S.F.	8.85	9.50		18.35	25.50
0150	Horizontal lined ledgerstones, corner stones		75	.533	V.L.F.	10.35	17.75		28.10	41
0160	Field stones		150	.267	S.F.	7.80	8.85		16.65	23.50
0170	Random shaped flats, corner stones		65	.615	V.L.F.	10.35	20.50		30.85	45.50
0180	Field stones		150	.267	S.F.	7.75	8.85		16.60	23.50
0190	Random shaped/textured face, corner stones		65	.615	V.L.F.	10.55	20.50		31.05	45.50
0200	Field stones		130	.308	S.F.	7.70	10.25		17.95	25.50
0210	Random shaped river rock, corner stones		65	.615	V.L.F.	10.55	20.50		31.05	45.50
0220	Field stones		130	.308	S.F.	7.70	10.25		17.95	25.50
0240	On concrete or CMU substrate, random sized cobbles, corner stones		70	.571	V.L.F.	9.70	19		28.70	42
0250	Field stones		140	.286	S.F.	7.05	9.50		16.55	23.50
0260	Random sized flats, corner stones		70	.571	V.L.F.	9.70	19		28.70	42
0270	Field stones		140	.286	S.F.	8.40	9.50		17.90	25
0280	Horizontal lined ledgerstones, corner stones		75	.533	V.L.F.	9.50	17.75		27.25	40
0290	Field stones		150	.267	S.F.	7.35	8.85		16.20	23
0300	Random shaped flats, corner stones		70	.571	V.L.F.	9.50	19		28.50	42
0310	Field stones	↓	140	.286	S.F.	7.35	9.50		16.85	24

# 04 72 Cast Stone Masonry

## 04 72 20 – Cultured Stone Veneer

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
04 72 20.10 Cultured Stone Veneer Components				Crew	Material	Labor	Equipment	Total	Incl O&P		
0320	Random shaped/textured face, corner stones	D-8	.65	.615	V.L.F.	9.70	20.50		30.20	44.50	
0330	Field stones		130	.308	S.F.	7.30	10.25		17.55	25	
0340	Random shaped river rock, corner stones		65	.615	V.L.F.	9.70	20.50		30.20	44.50	
0350	Field stones		130	.308	S.F.	7.30	10.25		17.55	25	
0360	Cultured stone veneer, #15 felt weather resistant barrier	1 Clab	3700	.002	Sq.	5.25	.06		5.31	5.90	
0390	Water table or window sill, 18" long	1 Bric	80	.100	Ea.	9.95	3.54		13.49	16.80	

## Estimating Tips

### 05 05 00 Common Work

#### Results for Metals

- Nuts, bolts, washers, connection angles, and plates can add a significant amount to both the tonnage of a structural steel job and the estimated cost. As a rule of thumb, add 10% to the total weight to account for these accessories.
- Type 2 steel construction, commonly referred to as "simple construction," consists generally of field-bolted connections with lateral bracing supplied by other elements of the building, such as masonry walls or x-bracing. The estimator should be aware, however, that shop connections may be accomplished by welding or bolting. The method may be particular to the fabrication shop and may have an impact on the estimated cost.

### 05 10 00 Structural Steel

- Steel items can be obtained from two sources: a fabrication shop or a metals service center. Fabrication shops can fabricate items under more controlled conditions than crews in the field can. They are also more efficient and can produce items more economically. Metal service centers serve as a source of long mill shapes to both fabrication shops and contractors.
- Most line items in this structural steel subdivision, and most items in 05 50 00 Metal Fabrications, are indicated as being shop fabricated. The bare material cost for these shop fabricated items is the "Invoice Cost" from the shop and includes the mill base price of steel plus mill extras, transportation to the shop, shop drawings and detailing where warranted, shop fabrication and handling, sandblasting and a shop coat of primer paint, all necessary structural bolts, and delivery to the job site. The bare labor cost and bare equipment

cost for these shop fabricated items are for field installation or erection.

- Line items in Subdivision 05 12 23.40 Lightweight Framing, and other items scattered in Division 5, are indicated as being field fabricated. The bare material cost for these field fabricated items is the "Invoice Cost" from the metals service center and includes the mill base price of steel plus mill extras, transportation to the metals service center, material handling, and delivery of long lengths of mill shapes to the job site. Material costs for structural bolts and welding rods should be added to the estimate. The bare labor cost and bare equipment cost for these items are for both field fabrication and field installation or erection, and include time for cutting, welding, and drilling in the fabricated metal items. Drilling into concrete and fasteners to fasten field fabricated items to other work is not included and should be added to the estimate.

### 05 20 00 Steel Joist Framing

- In any given project the total weight of open web steel joists is determined by the loads to be supported and the design. However, economies can be realized in minimizing the amount of labor used to place the joists. This is done by maximizing the joist spacing and therefore minimizing the number of joists required to be installed on the job. Certain spacings and locations may be required by the design, but in other cases maximizing the spacing and keeping it as uniform as possible will keep the costs down.

### 05 30 00 Steel Decking

- The takeoff and estimating of a metal deck involve more than the area of the floor or roof and the type of deck specified or shown on the drawings. Many different sizes and types of openings may exist. Small openings

for individual pipes or conduits may be drilled after the floor/roof is installed, but larger openings may require special deck lengths as well as reinforcing or structural support. The estimator should determine who will be supplying this reinforcing. Additionally, some deck terminations are part of the deck package, such as screed angles and pour stops, and others will be part of the steel contract, such as angles attached to structural members and cast-in-place angles and plates. The estimator must ensure that all pieces are accounted for in the complete estimate.

### 05 50 00 Metal Fabrications

- The most economical steel stairs are those that use common materials, standard details, and most importantly, a uniform and relatively simple method of field assembly. Commonly available A36/A992 channels and plates are very good choices for the main stringers of the stairs, as are angles and tees for the carrier members. Risers and treads are usually made by specialty shops, and it is most economical to use a typical detail in as many places as possible. The stairs should be pre-assembled and shipped directly to the site. The field connections should be simple and straightforward enough to be accomplished efficiently, and with minimum equipment and labor.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 05 05 Common Work Results for Metals

## 05 05 19 – Post-Installed Concrete Anchors

05 05 19.10 Chemical Anchors		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
<b>CHEMICAL ANCHORS</b>										
Includes layout & drilling										
1430 Chemical anchor, w/rod & epoxy cartridge, 3/4" diameter x 9-1/2" long		B-89A	27	.593	Ea.	10.15	19.20	4.23	33.58	47.50
1435 1" diameter x 11-3/4" long			24	.667		20.50	21.50	4.76	46.76	63.50
1440 1-1/4" diameter x 14" long			21	.762		39	24.50	5.45	68.95	89.50
1445 1-3/4" diameter x 15" long			20	.800		68.50	26	5.70	100.20	124
1450 18" long			17	.941		82.50	30.50	6.70	119.70	148
1455 2" diameter x 18" long			16	1		113	32.50	7.15	152.65	186
1460 24" long			15	1.067		148	34.50	7.60	190.10	228
<b>05 05 19.20 Expansion Anchors</b>										
<b>EXPANSION ANCHORS</b>										
0100 Anchors for concrete, brick or stone, no layout and drilling										
0200 Expansion shields, zinc, 1/4" diameter, 1-5/16" long, single		G	1 Corp	.90	.089	Ea.	.46	3.21	3.67	5.80
0300 1-3/8" long, double		G		85	.094		.66	3.40	4.06	6.35
0400 3/8" diameter, 1-1/2" long, single		G		85	.094		.71	3.40	4.11	6.40
0500 2" long, double		G		80	.100		1.20	3.62	4.82	7.25
0600 1/2" diameter, 2-1/16" long, single		G		80	.100		1.28	3.62	4.90	7.35
0700 2-1/2" long, double		G		75	.107		2.17	3.86	6.03	8.75
0800 5/8" diameter, 2-5/8" long, single		G		75	.107		2.22	3.86	6.08	8.80
0900 2-3/4" long, double		G		70	.114		3.64	4.13	7.77	10.80
1000 3/4" diameter, 2-3/4" long, single		G		70	.114		3.66	4.13	7.79	10.85
1100 3-15/16" long, double		G		65	.123		5.65	4.45	10.10	13.55
2100 Hollow wall anchors for gypsum wall board, plaster or tile										
2500 3/16" diameter, short		G	1 Corp	150	.053	Ea.	.58	1.93	2.51	3.81
3000 Toggle bolts, bright steel, 1/8" diameter, 2" long		G		85	.094		.21	3.40	3.61	5.85
3100 4" long		G		80	.100		.26	3.62	3.88	6.25
3200 3/16" diameter, 3" long		G		80	.100		.30	3.62	3.92	6.30
3300 6" long		G		75	.107		.49	3.86	4.35	6.90
3400 1/4" diameter, 3" long		G		75	.107		.44	3.86	4.30	6.85
3500 6" long		G		70	.114		.57	4.13	4.70	7.45
3600 3/8" diameter, 3" long		G		70	.114		.88	4.13	5.01	7.75
3700 6" long		G		60	.133		1.58	4.82	6.40	9.65
3800 1/2" diameter, 4" long		G		60	.133		1.86	4.82	6.68	9.95
3900 6" long		G		50	.160		2.37	5.80	8.17	12.10
<b>Nailing anchors</b>										
4100 Nylon nailing anchor, 1/4" diameter, 1" long			1 Corp	3.20	2.500	C	19.75	90.50	110.25	171
4200 1-1/2" long				2.80	2.857		22	103	125	194
4300 2" long				2.40	3.333		24	121	145	225
4400 Metal nailing anchor, 1/4" diameter, 1" long		G		3.20	2.500		20	90.50	110.50	171
4500 1-1/2" long		G		2.80	2.857		25	103	128	198
4600 2" long		G		2.40	3.333		43	121	164	245
5000 Screw anchors for concrete, masonry, stone & tile, no layout or drilling included										
5700 Lag screw shields, 1/4" diameter, short		G	1 Corp	.90	.089	Ea.	.47	3.21	3.68	5.80
5800 Long		G		85	.094		.56	3.40	3.96	6.20
5900 3/8" diameter, short		G		85	.094		.74	3.40	4.14	6.40
6000 Long		G		80	.100		1.05	3.62	4.67	7.10
6100 1/2" diameter, short		G		80	.100		.98	3.62	4.60	7.05
6200 Long		G		75	.107		1.52	3.86	5.38	8
6300 5/8" diameter, short		G		70	.114		1.54	4.13	5.67	8.50
6400 Long		G		65	.123		2.21	4.45	6.66	9.75
6600 Lead, #6 & #8, 3/4" long		G		260	.031		.18	1.11	1.29	2.03

# 05 05 Common Work Results for Metals

## 05 05 19 – Post-Installed Concrete Anchors

05 05 19.20 Expansion Anchors		Crew	Daily	Labor-	Unit	2020 Bare Costs			Total	Total
			Output	Hours		Material	Labor	Equipment		Incl O&P
6700	#10 - #14, 1-1/2" long	[G]	1 Carp	200	.040	Ea.	.48	1.45	1.93	2.91
6800	#16 & #18, 1-1/2" long	[G]		160	.050		.42	1.81	2.23	3.43
6900	Plastic, #6 & #8, 3/4" long			260	.031		.05	1.11	1.16	1.89
7000	#8 & #10, 7/8" long			240	.033		.05	1.20	1.25	2.04
7100	#10 & #12, 1" long			220	.036		.07	1.31	1.38	2.24
7200	#14 & #16, 1-1/2" long			160	.050		.07	1.81	1.88	3.05
8950	Self-drilling concrete screw, hex washer head, 3/16" diam. x 1-3/4" long	[G]		300	.027		.18	.96	1.14	1.78
8960	2-1/4" long	[G]		250	.032		.24	1.16	1.40	2.16
8970	Phillips flat head, 3/16" diam. x 1-3/4" long	[G]		300	.027		.19	.96	1.15	1.79
8980	2-1/4" long	[G]		250	.032		.23	1.16	1.39	2.15

## 05 05 21 – Fastening Methods for Metal

### 05 05 21.15 Drilling Steel

0010	DRILLING STEEL									
1910	Drilling & layout for steel, up to 1/4" deep, no anchor									
1920	Holes, 1/4" diameter		1 Sswk	112	.071	Ea.	.10	2.88	2.98	5.05
1925	For each additional 1/4" depth, add			336	.024		.10	.96	1.06	1.75
1930	3/8" diameter			104	.077		.08	3.10	3.18	5.40
1935	For each additional 1/4" depth, add			312	.026		.08	1.03	1.11	1.86
1940	1/2" diameter			96	.083		.08	3.36	3.44	5.85
1945	For each additional 1/4" depth, add			288	.028		.08	1.12	1.20	2.01
1950	5/8" diameter			88	.091		.16	3.67	3.83	6.40
1955	For each additional 1/4" depth, add			264	.030		.16	1.22	1.38	2.26
1960	3/4" diameter			80	.100		.17	4.04	4.21	7.10
1965	For each additional 1/4" depth, add			240	.033		.17	1.34	1.51	2.48
1970	7/8" diameter			72	.111		.24	4.48	4.72	7.90
1975	For each additional 1/4" depth, add			216	.037		.24	1.49	1.73	2.82
1980	1" diameter			64	.125		.26	5.05	5.31	8.90
1985	For each additional 1/4" depth, add			192	.042		.26	1.68	1.94	3.15
1990	For drilling up, add							40%		

## 05 05 23 – Metal Fastenings

### 05 05 23.10 Bolts and Hex Nuts

0010	BOLTS & HEX NUTS, Steel, A307									
0100	1/4" diameter, 1/2" long	[G]	1 Sswk	140	.057	Ea.	.06	2.31	2.37	4.01
0200	1" long	[G]		140	.057		.07	2.31	2.38	4.02
0300	2" long	[G]		130	.062		.10	2.48	2.58	4.35
0400	3" long	[G]		130	.062		.15	2.48	2.63	4.41
0500	4" long	[G]		120	.067		.17	2.69	2.86	4.78
0600	3/8" diameter, 1" long	[G]		130	.062		.14	2.48	2.62	4.39
0700	2" long	[G]		130	.062		.17	2.48	2.65	4.43
0800	3" long	[G]		120	.067		.23	2.69	2.92	4.85
0900	4" long	[G]		120	.067		.29	2.69	2.98	4.92
1000	5" long	[G]		115	.070		.36	2.81	3.17	5.20
1100	1/2" diameter, 1-1/2" long	[G]		120	.067		.41	2.69	3.10	5.05
1200	2" long	[G]		120	.067		.48	2.69	3.17	5.10
1300	4" long	[G]		115	.070		.77	2.81	3.58	5.65
1400	6" long	[G]		110	.073		1.08	2.93	4.01	6.20
1500	8" long	[G]		105	.076		1.42	3.07	4.49	6.80
1600	5/8" diameter, 1-1/2" long	[G]		120	.067		.88	2.69	3.57	5.55
1700	2" long	[G]		120	.067		.96	2.69	3.65	5.65
1800	4" long	[G]		115	.070		1.37	2.81	4.18	6.30
1900	6" long	[G]		110	.073		1.74	2.93	4.67	6.90
2000	8" long	[G]		105	.076		2.56	3.07	5.63	8.05

# 05 05 Common Work Results for Metals

## 05 05 23 – Metal Fastenings

05 05 23.10 Bolts and Hex Nuts		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P	
						Material	Labor	Equipment		
2100	10" long	G	1 Sswk	.100	.080	Ea.	3.21	3.23	6.44	9.05
2200	3/4" diameter, 2" long	G		120	.067		1.22	2.69	3.91	5.95
2300	4" long	G		110	.073		1.78	2.93	4.71	6.95
2400	6" long	G		105	.076		2.30	3.07	5.37	7.80
2500	8" long	G		95	.084		3.51	3.40	6.91	9.65
2600	10" long	G		85	.094		4.62	3.80	8.42	11.60
2700	12" long	G		80	.100		5.45	4.04	9.49	12.85
2800	1" diameter, 3" long	G		105	.076		3.02	3.07	6.09	8.55
2900	6" long	G		90	.089		4.49	3.59	8.08	11.10
3000	12" long	G	↓	75	.107		8.20	4.30	12.50	16.40
3100	For galvanized, add					75%				
3200	For stainless, add					350%				

## 05 05 23.30 Lag Screws

0010 LAG SCREWS		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P	
						Material	Labor	Equipment		
0020	Steel, 1/4" diameter, 2" long	G	1 Carp	.200	.040	Ea.	.10	1.45	1.55	2.49
0100	3/8" diameter, 3" long	G		150	.053		.31	1.93	2.24	3.51
0200	1/2" diameter, 3" long	G		130	.062		.72	2.22	2.94	4.45
0300	5/8" diameter, 3" long	G	↓	120	.067	↓	1.26	2.41	3.67	5.35

## 05 05 23.50 Powder Actuated Tools and Fasteners

0010 POWDER ACTUATED TOOLS & FASTENERS		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P	
						Material	Labor	Equipment		
0020	Stud driver, .22 caliber, single shot				Ea.	159			159	175
0100	.27 caliber, semi automatic, strip				"	460			460	505
0300	Powder load, single shot, .22 cal, power level 2, brown				C	6.25			6.25	6.85
0400	Strip, .27 cal, power level 4, red					10.30			10.30	11.35
0600	Drive pin, .300 x 3/4" long	G	1 Carp	4.80	1.667		4.48	60.50	64.98	104
0700	.300 x 3" long with washer	G	"	4	2	↓	11.95	72.50	84.45	132

## 05 05 23.55 Rivets

0010 RIVETS		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P	
						Material	Labor	Equipment		
0100	Aluminum rivet & mandrel, 1/2" grip length x 1/8" diameter	G	1 Carp	4.80	1.667	C	8.15	60.50	68.65	108
0200	3/16" diameter	G		4	2		11.65	72.50	84.15	132
0300	Aluminum rivet, steel mandrel, 1/8" diameter	G		4.80	1.667		10.30	60.50	70.80	110
0400	3/16" diameter	G		4	2		18.35	72.50	90.85	139
0500	Copper rivet, steel mandrel, 1/8" diameter	G		4.80	1.667		10.30	60.50	70.80	110
0800	Stainless rivet & mandrel, 1/8" diameter	G		4.80	1.667		25	60.50	85.50	127
0900	3/16" diameter	G		4	2		41	72.50	113.50	164
1000	Stainless rivet, steel mandrel, 1/8" diameter	G		4.80	1.667		16.70	60.50	77.20	117
1100	3/16" diameter	G		4	2		26	72.50	98.50	148
1200	Steel rivet and mandrel, 1/8" diameter	G		4.80	1.667		8.15	60.50	68.65	108
1300	3/16" diameter	G	↓	4	2	↓	11	72.50	83.50	131
1400	Hand riveting tool, standard				Ea.	78			78	86
1500	Deluxe					415			415	460
1600	Power riveting tool, standard					545			545	600
1700	Deluxe					1,575			1,575	1,725

# 05 12 Structural Steel Framing

## 05 12 23 – Structural Steel for Buildings

05 12 23.10 Ceiling Supports			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	
							Labor	Equipment	Total	Total Incl O&P
0010	CEILING SUPPORTS									
1000	Entrance door/folding partition supports, shop fabricated	(G)	E-4	60	.533	L.F.	29	22	2.45	53.45
1100	Linear accelerator door supports	(G)		14	2.286		131	93.50	10.50	235
1200	Lintels or shelf angles, hung, exterior hot dipped galv.	(G)		267	.120		19.60	4.90	.55	25.05
1250	Two coats primer paint instead of galv.	(G)		267	.120	↓	17	4.90	.55	22.45
1400	Monitor support, ceiling hung, expansion bolted	(G)		4	8	Ea.	455	325	36.50	816.50
1450	Hung from pre-set inserts	(G)		6	5.333		490	218	24.50	732.50
1600	Motor supports for overhead doors	(G)		4	8	↓	232	325	36.50	593.50
1700	Partition support for heavy folding partitions, without pocket	(G)		24	1.333	L.F.	65.50	54.50	6.10	126.10
1750	Supports at pocket only	(G)		12	2.667		131	109	12.25	252.25
2000	Rolling grilles & fire door supports	(G)		34	.941	↓	56	38.50	4.32	98.82
2100	Spider-leg light supports, expansion bolted to ceiling slab	(G)		8	4	Ea.	187	163	18.35	368.35
2150	Hung from pre-set inserts	(G)		12	2.667	"	201	109	12.25	322.25
2400	Toilet partition support	(G)		36	.889	L.F.	65.50	36.50	4.08	106.08
2500	X-ray travel gantry support	(G)	↓	12	2.667	"	224	109	12.25	345.25
										445

## 05 12 23.15 Columns, Lightweight

0010	COLUMNS, LIGHTWEIGHT									
8000	Lally columns, to 8', 3-1/2" diameter		2 Corp	24	.667	Ea.	50.50	24		74.50
8080	4" diameter		"	20	.800	"	75	29		104
										130

## 05 12 23.17 Columns, Structural

0010	COLUMNS, STRUCTURAL									
0015	Made from recycled materials									
0020	Shop fab'd for 100-ton, 1-2 story project, bolted connections									
0800	Steel, concrete filled, extra strong pipe, 3-1/2" diameter		E-2	660	.073	L.F.	47.50	2.94	2.57	53.01
0830	4" diameter			780	.062		53	2.48	2.17	57.65
0890	5" diameter			1020	.047		63	1.90	1.66	66.56
0930	6" diameter			1200	.040		83.50	1.61	1.41	86.52
0940	8" diameter		↓	1100	.044	↓	83.50	1.76	1.54	86.80
1100	For galvanizing, add					Lb.	.29		.29	.31
1300	For web ties, angles, etc., add per added lb.		1 Swk	945	.008		1.44	.34		1.78
1500	Steel pipe, extra strong, no concrete, 3" to 5" diameter		(G)	E-2	16000	.003	1.44	.12	.11	1.67
1600	6" to 12" diameter		(G)		14000	.003	1.44	.14	.12	1.70
5100	Structural tubing, rect., 5" to 6" wide, light section		(G)		8000	.006	1.44	.24	.21	1.89
5200	Heavy section		(G)	↓	12000	.004	1.44	.16	.14	1.74
8090	For projects 75 to 99 tons, add					%	10%			
8092	50 to 74 tons, add						20%			
8094	25 to 49 tons, add						30%	10%		
8096	10 to 24 tons, add						50%	25%		
8098	2 to 9 tons, add						75%	50%		
8099	Less than 2 tons, add						100%	100%		

## 05 12 23.45 Lintels

0010	LINTELS									
0015	Made from recycled materials									
0020	Plain steel angles, shop fabricated, under 500 lb.		(G)	1 Bric	550	.015	lb.	1.11	.52	1.63
0100	500 to 1,000 lb.		(G)		640	.013	"	1.08	.44	1.52
2000	Steel angles, 3-1/2" x 3", 1/4" thick, 2'-6" long		(G)		47	.170	Ea.	15.50	6.05	21.55
2100	4'-6" long		(G)		26	.308		28	10.90	38.90
2600	4" x 3-1/2", 1/4" thick, 5'-0" long		(G)		21	.381		35.50	13.50	49
2700	9'-0" long		(G)	↓	12	.667	↓	64	23.50	87.50
										110

# 05 12 Structural Steel Framing

## 05 12 23 – Structural Steel for Buildings

05 12 23.65 Plates		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	PLATES								
0015	Made from recycled materials								
0020	For connections & stiffener plates, shop fabricated								
0050	1/8" thick (5.1 lb./S.F.)	G			S.F.	7.35		7.35	8.05
0100	1/4" thick (10.2 lb./S.F.)	G				14.65		14.65	16.10
0300	3/8" thick (15.3 lb./S.F.)	G				22		22	24
0400	1/2" thick (20.4 lb./S.F.)	G				29.50		29.50	32
0450	3/4" thick (30.6 lb./S.F.)	G				44		44	48.50
0500	1" thick (40.8 lb./S.F.)	G				58.50		58.50	64.50
2000	Steel plate, warehouse prices, no shop fabrication								
2100	1/4" thick (10.2 lb./S.F.)	G			S.F.	7.20		7.20	7.90

## 05 12 23.79 Structural Steel

0010 STRUCTURAL STEEL									
0020	Shop fab'd for 100-ton, 1-2 story project, bolted conn's.								
0050	Beams, W 6 x 9	G	E-2	720	.067	L.F.	15.50	2.69	2.36
0100	W 8 x 10	G		720	.067		17.25	2.69	2.36
0200	Columns, W 6 x 15	G		540	.089		28	3.59	3.14
0250	W 8 x 31	G		540	.089		58	3.59	3.14
7990	For projects 75 to 99 tons, add					All	10%		
7992	50 to 75 tons, add						20%		
7994	25 to 49 tons, add						30%	10%	
7996	10 to 24 tons, add						50%	25%	
7998	2 to 9 tons, add						75%	50%	
7999	Less than 2 tons, add						100%	100%	

# 05 31 Steel Decking

## 05 31 23 – Steel Roof Decking

05 31 23.50 Roof Decking									
0010	ROOF DECKING								
0015	Made from recycled materials								
2100	Open type, 1-1/2" deep, Type B, wide rib, galv., 22 ga., under 50 sq.	G	E-4	4500	.007	S.F.	2.68	.29	.03
2600	20 ga., under 50 squares	G		3865	.008		2.99	.34	.04
2900	18 ga., under 50 squares	G		3800	.008		3.84	.34	.04
3050	16 ga., under 50 squares	G		3700	.009		5.20	.35	.04

## 05 31 33 – Steel Form Decking

05 31 33.50 Form Decking									
0010	FORM DECKING								
0015	Made from recycled materials								
6100	Slab form, steel, 28 ga., 9/16" deep, Type UFS, uncoated	G	E-4	4000	.008	S.F.	1.90	.33	.04
6200	Galvanized	G		4000	.008		1.68	.33	.04
6220	24 ga., 1" deep, Type UF1X, uncoated	G		3900	.008		1.84	.34	.04
6240	Galvanized	G		3900	.008		2.17	.34	.04
6300	24 ga., 1-5/16" deep, Type UFX, uncoated	G		3800	.008		1.96	.34	.04
6400	Galvanized	G		3800	.008		2.31	.34	.04
6500	22 ga., 1-5/16" deep, uncoated	G		3700	.009		2.48	.35	.04
6600	Galvanized	G		3700	.009		2.53	.35	.04
6700	22 ga., 2" deep, uncoated	G		3600	.009		3.23	.36	.04
6800	Galvanized	G		3600	.009		3.17	.36	.04

# 05 41 Structural Metal Stud Framing

## 05 41 13 – Load-Bearing Metal Stud Framing

### 05 41 13.05 Bracing

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	BRACING, shear wall X-bracing, per 10' x 10' bay, one face								
0015	Made of recycled materials								
0120	Metal strap, 20 ga. x 4" wide	[G]	2 Corp	18	.889 Ea.	19.35	32	51.35	74.50
0130	6" wide	[G]		18	.889	32	32	64	88
0160	18 ga. x 4" wide	[G]		16	1	32	36	68	94.50
0170	6" wide	[G]	↓	16	1	47	36	83	111
0410	Continuous strap bracing, per horizontal row on both faces								
0420	Metal strap, 20 ga. x 2" wide, studs 12" OC	[G]	1 Corp	7	1.143 CLF.	57	41.50	98.50	131
0430	16" OC	[G]		8	1	57	36	93	123
0440	24" OC	[G]		10	.800	57	29	86	111
0450	18 ga. x 2" wide, studs 12" OC	[G]		6	1.333	77	48	125	164
0460	16" OC	[G]	↓	7	1.143	77	41.50	118.50	153
0470	24" OC	[G]	↓	8	1	77	36	113	144

### 05 41 13.10 Bridging

0010	BRIDGING, solid between studs w/1-1/4" leg track, per stud bay								
0015	Made from recycled materials								
0200	Studs 12" OC, 18 ga. x 2-1/2" wide	[G]	1 Corp	125	.064 Ea.	.93	2.31	3.24	4.82
0210	3-5/8" wide	[G]		120	.067	1.11	2.41	3.52	5.20
0220	4" wide	[G]		120	.067	1.11	2.41	3.52	5.20
0230	6" wide	[G]		115	.070	1.53	2.52	4.05	5.80
0240	8" wide	[G]		110	.073	1.88	2.63	4.51	6.40
0300	16 ga. x 2-1/2" wide	[G]		115	.070	1.15	2.52	3.67	5.40
0310	3-5/8" wide	[G]		110	.073	1.39	2.63	4.02	5.85
0320	4" wide	[G]		110	.073	1.54	2.63	4.17	6
0330	6" wide	[G]		105	.076	1.94	2.75	4.69	6.65
0340	8" wide	[G]		100	.080	2.39	2.89	5.28	7.40
1200	Studs 16" OC, 18 ga. x 2-1/2" wide	[G]		125	.064	1.19	2.31	3.50	5.10
1210	3-5/8" wide	[G]		120	.067	1.42	2.41	3.83	5.50
1220	4" wide	[G]		120	.067	1.42	2.41	3.83	5.50
1230	6" wide	[G]		115	.070	1.96	2.52	4.48	6.30
1240	8" wide	[G]		110	.073	2.41	2.63	5.04	6.95
1300	16 ga. x 2-1/2" wide	[G]		115	.070	1.47	2.52	3.99	5.75
1310	3-5/8" wide	[G]		110	.073	1.78	2.63	4.41	6.30
1320	4" wide	[G]		110	.073	1.98	2.63	4.61	6.50
1330	6" wide	[G]		105	.076	2.49	2.75	5.24	7.25
1340	8" wide	[G]		100	.080	3.07	2.89	5.96	8.15
2200	Studs 24" OC, 18 ga. x 2-1/2" wide	[G]		125	.064	1.72	2.31	4.03	5.70
2210	3-5/8" wide	[G]		120	.067	2.05	2.41	4.46	6.20
2220	4" wide	[G]		120	.067	2.05	2.41	4.46	6.20
2230	6" wide	[G]		115	.070	2.84	2.52	5.36	7.25
2240	8" wide	[G]		110	.073	3.49	2.63	6.12	8.15
2300	16 ga. x 2-1/2" wide	[G]		115	.070	2.12	2.52	4.64	6.45
2310	3-5/8" wide	[G]		110	.073	2.58	2.63	5.21	7.15
2320	4" wide	[G]		110	.073	2.86	2.63	5.49	7.45
2330	6" wide	[G]	↓	105	.076	3.60	2.75	6.35	8.50
2340	8" wide	[G]	↓	100	.080	4.44	2.89	7.33	9.65
3000	Continuous bridging, per row								
3100	16 ga. x 1-1/2" channel thru studs 12" OC	[G]	1 Corp	6	1.333 CLF.	51.50	48	99.50	136
3110	16" OC	[G]		7	1.143	51.50	41.50	93	125
3120	24" OC	[G]		8.80	.909	51.50	33	84.50	111
4100	2" x 2" angle x 18 ga., studs 12" OC	[G]	↓	7	1.143	78	41.50	119.50	154
4110	16" OC	[G]	↓	9	.889	78	32	110	139

# 05 41 Structural Metal Stud Framing

## 05 41 13 – Load-Bearing Metal Stud Framing

05 41 13.10 Bridging			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
4120 24" OC			[G]	1 Carp	.12	.667	C.L.F.	78	24		102
4200 16 ga., studs 12" OC			[G]		5	1.600		98	58		156
4210 16" OC			[G]		7	1.143		98	41.50		139.50
4220 24" OC			[G]		10	.800		98	29		127
											156

## 05 41 13.25 Framing, Boxed Headers/Beams

0010 FRAMING, BOXED HEADERS/BEAMS			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0015 Made from recycled materials											
0200 Double, 18 ga. x 6" deep			[G]	2 Carp	220	.073	L.F.	5.55	2.63	8.18	10.40
0210 8" deep			[G]		210	.076		5.80	2.75	8.55	10.90
0220 10" deep			[G]		200	.080		7.30	2.89	10.19	12.80
0230 12" deep			[G]		190	.084		7.95	3.04	10.99	13.75
0300 16 ga. x 8" deep			[G]		180	.089		6.70	3.21	9.91	12.65
0310 10" deep			[G]		170	.094		8.30	3.40	11.70	14.75
0320 12" deep			[G]		160	.100		9	3.62	12.62	15.85
0400 14 ga. x 10" deep			[G]		140	.114		9.60	4.13	13.73	17.35
0410 12" deep			[G]		130	.123		10.50	4.45	14.95	18.85
1210 Triple, 18 ga. x 8" deep			[G]		170	.094		8.55	3.40	11.95	15
1220 10" deep			[G]		165	.097		10.40	3.51	13.91	17.20
1230 12" deep			[G]		160	.100		11.40	3.62	15.02	18.50
1300 16 ga. x 8" deep			[G]		145	.110		9.95	3.99	13.94	17.50
1310 10" deep			[G]		140	.114		11.90	4.13	16.03	19.90
1320 12" deep			[G]		135	.119		13	4.28	17.28	21.50
1400 14 ga. x 10" deep			[G]		115	.139		13.10	5.05	18.15	22.50
1410 12" deep			[G]		110	.145		14.45	5.25	19.70	24.50

## 05 41 13.30 Framing, Stud Walls

0010 FRAMING, STUD WALLS w/top & bottom track, no openings,			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0020 Headers, beams, bridging or bracing											
0025 Made from recycled materials											
4100 8' high walls, 18 ga. x 2-1/2" wide, studs 12" OC			[G]	2 Carp	54	.296	L.F.	8.40	10.70	19.10	27
4110 16" OC			[G]		77	.208		6.75	7.50	14.25	19.75
4120 24" OC			[G]		107	.150		5.10	5.40	10.50	14.50
4130 3-5/8" wide, studs 12" OC			[G]		53	.302		9.95	10.90	20.85	29
4140 16" OC			[G]		76	.211		8	7.60	15.60	21.50
4150 24" OC			[G]		105	.152		6.05	5.50	11.55	15.70
4160 4" wide, studs 12" OC			[G]		52	.308		10.25	11.10	21.35	29.50
4170 16" OC			[G]		74	.216		8.25	7.80	16.05	22
4180 24" OC			[G]		103	.155		6.20	5.60	11.80	16.05
4190 6" wide, studs 12" OC			[G]		51	.314		13.25	11.35	24.60	33
4200 16" OC			[G]		73	.219		10.65	7.90	18.55	24.50
4210 24" OC			[G]		101	.158		8.10	5.75	13.85	18.30
4220 8" wide, studs 12" OC			[G]		50	.320		16.95	11.55	28.50	37.50
4230 16" OC			[G]		72	.222		13.60	8.05	21.65	28
4240 24" OC			[G]		100	.160		10.25	5.80	16.05	21
4300 16 ga. x 2-1/2" wide, studs 12" OC			[G]		47	.340		10.50	12.30	22.80	31.50
4310 16" OC			[G]		68	.235		8.30	8.50	16.80	23
4320 24" OC			[G]		94	.170		6.10	6.15	12.25	16.85
4330 3-5/8" wide, studs 12" OC			[G]		46	.348		12.35	12.55	24.90	34
4340 16" OC			[G]		66	.242		9.80	8.75	18.55	25
4350 24" OC			[G]		92	.174		7.25	6.30	13.55	18.30
4360 4" wide, studs 12" OC			[G]		45	.356		13.05	12.85	25.90	35.50
4370 16" OC			[G]		65	.246		10.35	8.90	19.25	26
4380 24" OC			[G]		90	.178		7.60	6.45	14.05	18.90

# 05 41 Structural Metal Stud Framing

## 05 41 13 – Load-Bearing Metal Stud Framing

05 41 13.30 Framing, Stud Walls			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		G	Crew	.364	LF.	16.30	Labor	Equipment	
4390	6" wide, studs 12" OC	G	2 Corp	.44	.364	16.30	13.15		29.45 39.50
4400	16" OC	G		.64	.250	12.95	9.05		22 29
4410	24" OC	G		.88	.182	9.60	6.55		16.15 21.50
4420	8" wide, studs 12" OC	G		.43	.372	20	13.45		33.45 44
4430	16" OC	G		.63	.254	16	9.20		25.20 32.50
4440	24" OC	G		.86	.186	11.85	6.75		18.60 24
5100	10' high walls, 18 ga. x 2-1/2" wide, studs 12" OC	G		.54	.296	10.05	10.70		20.75 28.50
5110	16" OC	G		.77	.208	8	7.50		15.50 21
5120	24" OC	G		.107	.150	5.90	5.40		11.30 15.40
5130	3-5/8" wide, studs 12" OC	G		.53	.302	11.90	10.90		22.80 31
5140	16" OC	G		.76	.211	9.45	7.60		17.05 23
5150	24" OC	G		.105	.152	7	5.50		12.50 16.75
5160	4" wide, studs 12" OC	G		.52	.308	12.30	11.10		23.40 32
5170	16" OC	G		.74	.216	9.75	7.80		17.55 23.50
5180	24" OC	G		.103	.155	7.20	5.60		12.80 17.20
5190	6" wide, studs 12" OC	G		.51	.314	15.80	11.35		27.15 36
5200	16" OC	G		.73	.219	12.60	7.90		20.50 27
5210	24" OC	G		.101	.158	9.35	5.75		15.10 19.70
5220	8" wide, studs 12" OC	G		.50	.320	20.50	11.55		32.05 41.50
5230	16" OC	G		.72	.222	16.10	8.05		24.15 31
5240	24" OC	G		.100	.160	11.95	5.80		17.75 22.50
5300	16 ga. x 2-1/2" wide, studs 12" OC	G		.47	.340	12.65	12.30		24.95 34
5310	16" OC	G		.68	.235	9.95	8.50		18.45 25
5320	24" OC	G		.94	.170	7.20	6.15		13.35 18.05
5330	3-5/8" wide, studs 12" OC	G		.46	.348	14.90	12.55		27.45 37
5340	16" OC	G		.66	.242	11.70	8.75		20.45 27.50
5350	24" OC	G		.92	.174	8.50	6.30		14.80 19.70
5360	4" wide, studs 12" OC	G		.45	.356	15.80	12.85		28.65 38.50
5370	16" OC	G		.65	.246	12.40	8.90		21.30 28
5380	24" OC	G		.90	.178	8.95	6.45		15.40 20.50
5390	6" wide, studs 12" OC	G		.44	.364	19.60	13.15		32.75 43
5400	16" OC	G		.64	.250	15.45	9.05		24.50 32
5410	24" OC	G		.88	.182	11.25	6.55		17.80 23
5420	8" wide, studs 12" OC	G		.43	.372	24.50	13.45		37.95 48.50
5430	16" OC	G		.63	.254	19.10	9.20		28.30 36
5440	24" OC	G		.86	.186	13.95	6.75		20.70 26.50
6190	12' high walls, 18 ga. x 6" wide, studs 12" OC	G		.41	.390	18.40	14.10		32.50 43
6200	16" OC	G		.58	.276	14.55	9.95		24.50 32.50
6210	24" OC	G		.81	.198	10.65	7.15		17.80 23.50
6220	8" wide, studs 12" OC	G		.40	.400	23.50	14.45		37.95 50
6230	16" OC	G		.57	.281	18.60	10.15		28.75 37
6240	24" OC	G		.80	.200	13.60	7.25		20.85 27
6390	16 ga. x 6" wide, studs 12" OC	G		.35	.457	23	16.55		39.55 52.50
6400	16" OC	G		.51	.314	17.95	11.35		29.30 38.50
6410	24" OC	G		.70	.229	12.95	8.25		21.20 28
6420	8" wide, studs 12" OC	G		.34	.471	28.50	17		45.50 59.50
6430	16" OC	G		.50	.320	22	11.55		33.55 43.50
6440	24" OC	G		.69	.232	16	8.40		24.40 31.50
6530	14 ga. x 3-5/8" wide, studs 12" OC	G		.34	.471	22	17		39 52.50
6540	16" OC	G		.48	.333	17.30	12.05		29.35 39
6550	24" OC	G		.65	.246	12.45	8.90		21.35 28.50
6560	4" wide, studs 12" OC	G		.33	.485	23.50	17.55		41.05 55
6570	16" OC	G		.47	.340	18.35	12.30		30.65 40

# 05 41 Structural Metal Stud Framing

## 05 41 13 – Load-Bearing Metal Stud Framing

05 41 13.30 Framing, Stud Walls		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
6580	24" OC	[G]	2 Carp	64	.250	L.F.	13.20	9.05		22.25	29.50
6730	12 ga. x 3-5/8" wide, studs 12" OC	[G]		31	.516		30.50	18.65		49.15	64.50
6740	16" OC	[G]		43	.372		23.50	13.45		36.95	48
6750	24" OC	[G]		59	.271		16.70	9.80		26.50	34.50
6760	4" wide, studs 12" OC	[G]		30	.533		33	19.30		52.30	68
6770	16" OC	[G]		42	.381		25.50	13.75		39.25	50.50
6780	24" OC	[G]		58	.276		18	9.95		27.95	36
7390	16' high walls, 16 ga. x 6" wide, studs 12" OC	[G]		33	.485		29.50	17.55		47.05	61.50
7400	16" OC	[G]		48	.333		23	12.05		35.05	45.50
7410	24" OC	[G]		67	.239		16.30	8.65		24.95	32
7420	8" wide, studs 12" OC	[G]		32	.500		36.50	18.10		54.60	70
7430	16" OC	[G]		47	.340		28.50	12.30		40.80	51.50
7440	24" OC	[G]		66	.242		20	8.75		28.75	36.50
7560	14 ga. x 4" wide, studs 12" OC	[G]		31	.516		30.50	18.65		49.15	64
7570	16" OC	[G]		45	.356		23.50	12.85		36.35	47
7580	24" OC	[G]		61	.262		16.60	9.50		26.10	34
7590	6" wide, studs 12" OC	[G]		30	.533		38.50	19.30		57.80	73.50
7600	16" OC	[G]		44	.364		29.50	13.15		42.65	54
7610	24" OC	[G]		60	.267		21	9.65		30.65	39
7760	12 ga. x 4" wide, studs 12" OC	[G]		29	.552		43	19.95		62.95	80.50
7770	16" OC	[G]		40	.400		33	14.45		47.45	60.50
7780	24" OC	[G]		55	.291		23	10.50		33.50	43
7790	6" wide, studs 12" OC	[G]		28	.571		54	20.50		74.50	93.50
7800	16" OC	[G]		39	.410		41.50	14.85		56.35	70
7810	24" OC	[G]		54	.296		29	10.70		39.70	49.50
8590	20' high walls, 14 ga. x 6" wide, studs 12" OC	[G]		29	.552		47	19.95		66.95	84.50
8600	16" OC	[G]		42	.381		36	13.75		49.75	62
8610	24" OC	[G]		57	.281		25.50	10.15		35.65	44.50
8620	8" wide, studs 12" OC	[G]		28	.571		53	20.50		73.50	92
8630	16" OC	[G]		41	.390		40.50	14.10		54.60	68
8640	24" OC	[G]		56	.286		28.50	10.35		38.85	48.50
8790	12 ga. x 6" wide, studs 12" OC	[G]		27	.593		66.50	21.50		88	109
8800	16" OC	[G]		37	.432		51	15.65		66.65	81.50
8810	24" OC	[G]		51	.314		35	11.35		46.35	57
8820	8" wide, studs 12" OC	[G]		26	.615		81	22.50		103.50	126
8830	16" OC	[G]		36	.444		62	16.05		78.05	94.50
8840	24" OC	[G]		50	.320		43	11.55		54.55	66

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 13 – Cold-Formed Metal Floor Joist Framing

### 05 42 13.05 Bracing

0010 BRACING, continuous, per row, top & bottom

0015 Made from recycled materials

0120	Flat strap, 20 ga. x 2" wide, joists at 12" OC	[G]	1 Carp	4.67	1.713	C.L.F.	60	62		122	168
0130	16" OC	[G]		5.33	1.501		57.50	54.50		112	153
0140	24" OC	[G]		6.66	1.201		55.50	43.50		99	133
0150	18 ga. x 2" wide, joists at 12" OC	[G]		4	2		76.50	72.50		149	203
0160	16" OC	[G]		4.67	1.713		75	62		137	185
0170	24" OC	[G]		5.33	1.501		73.50	54.50		128	170

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 13 – Cold-Formed Metal Floor Joist Framing

### 05 42 13.10 Bridging

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total
						Labor	Equipment	Incl O&P
0010	<b>BRIDGING</b> , solid between joists w/1-1/4" leg track, per joist bay							
0015	Made from recycled materials							
0230	Joists 12" OC, 18 ga. track x 6" wide	[G]	1 Corp	.80	.100	Ea.	1.53	3.62
0240	8" wide	[G]		.75	.107		1.88	3.86
0250	10" wide	[G]		.70	.114		2.39	4.13
0260	12" wide	[G]		.65	.123		2.74	4.45
0330	16 ga. track x 6" wide	[G]		.70	.114		1.94	4.13
0340	8" wide	[G]		.65	.123		2.39	4.45
0350	10" wide	[G]		.60	.133		3.06	4.82
0360	12" wide	[G]		.55	.145		3.53	5.25
0440	14 ga. track x 8" wide	[G]		.60	.133		3.05	4.82
0450	10" wide	[G]		.55	.145		3.78	5.25
0460	12" wide	[G]		.50	.160		4.38	5.80
0550	12 ga. track x 10" wide	[G]		.45	.178		5.55	6.45
0560	12" wide	[G]		.40	.200		5.90	7.25
1230	16" OC, 18 ga. track x 6" wide	[G]		.80	.100		1.96	3.62
1240	8" wide	[G]		.75	.107		2.41	3.86
1250	10" wide	[G]		.70	.114		3.07	4.13
1260	12" wide	[G]		.65	.123		3.51	4.45
1330	16 ga. track x 6" wide	[G]		.70	.114		2.49	4.13
1340	8" wide	[G]		.65	.123		3.07	4.45
1350	10" wide	[G]		.60	.133		3.93	4.82
1360	12" wide	[G]		.55	.145		4.52	5.25
1440	14 ga. track x 8" wide	[G]		.60	.133		3.91	4.82
1450	10" wide	[G]		.55	.145		4.85	5.25
1460	12" wide	[G]		.50	.160		5.60	5.80
1550	12 ga. track x 10" wide	[G]		.45	.178		7.10	6.45
1560	12" wide	[G]		.40	.200		7.55	7.25
2230	24" OC, 18 ga. track x 6" wide	[G]		.80	.100		2.84	3.62
2240	8" wide	[G]		.75	.107		3.49	3.86
2250	10" wide	[G]		.70	.114		4.44	4.13
2260	12" wide	[G]		.65	.123		5.10	4.45
2330	16 ga. track x 6" wide	[G]		.70	.114		3.60	4.13
2340	8" wide	[G]		.65	.123		4.44	4.45
2350	10" wide	[G]		.60	.133		5.70	4.82
2360	12" wide	[G]		.55	.145		6.55	5.25
2440	14 ga. track x 8" wide	[G]		.60	.133		5.65	4.82
2450	10" wide	[G]		.55	.145		7	5.25
2460	12" wide	[G]		.50	.160		8.10	5.80
2550	12 ga. track x 10" wide	[G]		.45	.178		10.30	6.45
2560	12" wide	[G]		.40	.200		10.95	7.25

### 05 42 13.25 Framing, Band Joist

0010	<b>FRAMING, BAND JOIST</b> (track) fastened to bearing wall							
0015	Made from recycled materials							
0220	18 ga. track x 6" deep	[G]	2 Corp	1000	.016	L.F.	1.25	.58
0230	8" deep	[G]		920	.017		1.53	.63
0240	10" deep	[G]		860	.019		1.95	.67
0320	16 ga. track x 6" deep	[G]		900	.018		1.59	.64
0330	8" deep	[G]		840	.019		1.95	.69
0340	10" deep	[G]		780	.021		2.50	.74
0350	12" deep	[G]		740	.022		2.88	.78
0430	14 ga. track x 8" deep	[G]		750	.021		2.49	.77

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 13 – Cold-Formed Metal Floor Joist Framing

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
05 42 13.25 Framing, Band Joist			Crew			Labor	Equipment		
0440	10" deep	[G]	2 Corp	.720	.022	L.F.	3.09	.80	3.89
0450	12" deep	[G]		.700	.023		3.57	.83	4.40
0540	12 ga. track x 10" deep	[G]		.670	.024		4.53	.86	5.39
0550	12" deep	[G]		.650	.025		4.81	.89	5.70
<b>05 42 13.30 Framing, Boxed Headers/Beams</b>									
0010	<b>FRAMING, BOXED HEADERS/BEAMS</b>								
0015	Made from recycled materials								
0200	Double, 18 ga. x 6" deep	[G]	2 Corp	.220	.073	L.F.	5.55	2.63	8.18
0210	8" deep	[G]		.210	.076		5.80	2.75	8.55
0220	10" deep	[G]		.200	.080		7.30	2.89	10.19
0230	12" deep	[G]		.190	.084		7.95	3.04	10.99
0300	16 ga. x 8" deep	[G]		.180	.089		6.70	3.21	9.91
0310	10" deep	[G]		.170	.094		8.30	3.40	11.70
0320	12" deep	[G]		.160	.100		9	3.62	12.62
0400	14 ga. x 10" deep	[G]		.140	.114		9.60	4.13	13.73
0410	12" deep	[G]		.130	.123		10.50	4.45	14.95
0500	12 ga. x 10" deep	[G]		.110	.145		12.65	5.25	17.90
0510	12" deep	[G]		.100	.160		14	5.80	19.80
1210	Triple, 18 ga. x 8" deep	[G]		.170	.094		8.55	3.40	11.95
1220	10" deep	[G]		.165	.097		10.40	3.51	13.91
1230	12" deep	[G]		.160	.100		11.40	3.62	15.02
1300	16 ga. x 8" deep	[G]		.145	.110		9.95	3.99	13.94
1310	10" deep	[G]		.140	.114		11.90	4.13	16.03
1320	12" deep	[G]		.135	.119		13	4.28	17.28
1400	14 ga. x 10" deep	[G]		.115	.139		13.85	5.05	18.90
1410	12" deep	[G]		.110	.145		15.25	5.25	20.50
1500	12 ga. x 10" deep	[G]		.090	.178		18.45	6.45	24.90
1510	12" deep	[G]		.085	.188		20.50	6.80	27.30
<b>05 42 13.40 Framing, Joists</b>									
0010	<b>FRAMING, JOISTS</b> , no band joists (track), web stiffeners, headers,								
0020	Beams, bridging or bracing								
0025	Made from recycled materials								
0030	Joists (2" flange) and fasteners, materials only								
0220	18 ga. x 6" deep	[G]				L.F.	1.84		1.84
0230	8" deep	[G]					1.95		1.95
0240	10" deep	[G]					2.32		2.32
0320	16 ga. x 6" deep	[G]					2.04		2.04
0330	8" deep	[G]					2.44		2.44
0340	10" deep	[G]					2.85		2.85
0350	12" deep	[G]					3.22		3.22
0430	14 ga. x 8" deep	[G]					3.07		3.07
0440	10" deep	[G]					3.53		3.53
0450	12" deep	[G]					4.01		4.01
0540	12 ga. x 10" deep	[G]					5.15		5.15
0550	12" deep	[G]					5.85		5.85
1010	Installation of joists to band joists, beams & headers, labor only								
1220	18 ga. x 6" deep		2 Corp	.110	.145	Ea.		5.25	5.25
1230	8" deep			.90	.178			6.45	6.45
1240	10" deep			.80	.200			7.25	7.25
1320	16 ga. x 6" deep			.95	.168			6.10	6.10
1330	8" deep			.70	.229			8.25	8.25
1340	10" deep			.60	.267			9.65	9.65

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 13 – Cold-Formed Metal Floor Joist Framing

05 42 13.40 Framing, Joists			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
1350	12" deep		2 Carp	55	.291	Ea.		10.50	10.50	17.30
1430	14 ga. x 8" deep			65	.246			8.90	8.90	14.60
1440	10" deep			45	.356			12.85	12.85	21
1450	12" deep			35	.457			16.55	16.55	27
1540	12 ga. x 10" deep			40	.400			14.45	14.45	24
1550	12" deep			30	.533			19.30	19.30	31.50

## 05 42 13.45 Framing, Web Stiffeners

0010 **FRAMING, WEB STIFFENERS** at joist bearing, fabricated from

0020 Stud piece (1-5/8" flange) to stiffen joist (2" flange)

0025 Made from recycled materials

2120	For 6" deep joist, with 18 ga. x 2-1/2" stud	[G]	1 Carp	120	.067	Ea.	.83	2.41	3.24	4.87
2130	3-5/8" stud	[G]		110	.073		.98	2.63	3.61	5.40
2140	4" stud	[G]		105	.076		1.02	2.75	3.77	5.65
2150	6" stud	[G]		100	.080		1.29	2.89	4.18	6.15
2160	8" stud	[G]		95	.084		1.67	3.04	4.71	6.85
2220	8" deep joist, with 2-1/2" stud	[G]		120	.067		1.11	2.41	3.52	5.20
2230	3-5/8" stud	[G]		110	.073		1.31	2.63	3.94	5.75
2240	4" stud	[G]		105	.076		1.37	2.75	4.12	6.05
2250	6" stud	[G]		100	.080		1.73	2.89	4.62	6.65
2260	8" stud	[G]		95	.084		2.24	3.04	5.28	7.45
2320	10" deep joist, with 2-1/2" stud	[G]		110	.073		1.38	2.63	4.01	5.85
2330	3-5/8" stud	[G]		100	.080		1.63	2.89	4.52	6.55
2340	4" stud	[G]		95	.084		1.69	3.04	4.73	6.85
2350	6" stud	[G]		90	.089		2.14	3.21	5.35	7.65
2360	8" stud	[G]		85	.094		2.77	3.40	6.17	8.65
2420	12" deep joist, with 2-1/2" stud	[G]		110	.073		1.66	2.63	4.29	6.15
2430	3-5/8" stud	[G]		100	.080		1.96	2.89	4.85	6.90
2440	4" stud	[G]		95	.084		2.04	3.04	5.08	7.25
2450	6" stud	[G]		90	.089		2.58	3.21	5.79	8.15
2460	8" stud	[G]		85	.094		3.34	3.40	6.74	9.25
3130	For 6" deep joist, with 16 ga. x 3-5/8" stud	[G]		100	.080		1.28	2.89	4.17	6.15
3140	4" stud	[G]		95	.084		1.37	3.04	4.41	6.50
3150	6" stud	[G]		90	.089		1.67	3.21	4.88	7.15
3160	8" stud	[G]		85	.094		2.07	3.40	5.47	7.90
3230	8" deep joist, with 3-5/8" stud	[G]		100	.080		1.72	2.89	4.61	6.65
3240	4" stud	[G]		95	.084		1.84	3.04	4.88	7
3250	6" stud	[G]		90	.089		2.24	3.21	5.45	7.75
3260	8" stud	[G]		85	.094		2.77	3.40	6.17	8.65
3330	10" deep joist, with 3-5/8" stud	[G]		85	.094		2.12	3.40	5.52	7.95
3340	4" stud	[G]		80	.100		2.27	3.62	5.89	8.45
3350	6" stud	[G]		75	.107		2.77	3.86	6.63	9.40
3360	8" stud	[G]		70	.114		3.44	4.13	7.57	10.60
3430	12" deep joist, with 3-5/8" stud	[G]		85	.094		2.56	3.40	5.96	8.40
3440	4" stud	[G]		80	.100		2.74	3.62	6.36	8.95
3450	6" stud	[G]		75	.107		3.34	3.86	7.20	10
3460	8" stud	[G]		70	.114		4.14	4.13	8.27	11.35
4230	For 8" deep joist, with 14 ga. x 3-5/8" stud	[G]		90	.089		2.18	3.21	5.39	7.70
4240	4" stud	[G]		85	.094		2.29	3.40	5.69	8.10
4250	6" stud	[G]		80	.100		2.89	3.62	6.51	9.15
4260	8" stud	[G]		75	.107		3.23	3.86	7.09	9.90
4330	10" deep joist, with 3-5/8" stud	[G]		75	.107		2.71	3.86	6.57	9.35
4340	4" stud	[G]		70	.114		2.84	4.13	6.97	9.90

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 13 – Cold-Formed Metal Floor Joist Framing

05 42 13.45 Framing, Web Stiffeners			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
		Crew				Labor	Equipment	Total		
4350	6" stud	[G]	1 Corp	.65	.123	Ea.	3.59	4.45		8.04
4360	8" stud	[G]		.60	.133		4	4.82		8.82
4430	12" deep joist, with 3-5/8" stud	[G]		.75	.107		3.26	3.86		7.12
4440	4" stud	[G]		.70	.114		3.42	4.13		7.55
4450	6" stud	[G]		.65	.123		4.32	4.45		8.77
4460	8" stud	[G]		.60	.133		4.82	4.82		9.64
5330	For 10" deep joist, with 12 ga. x 3-5/8" stud	[G]		.65	.123		3.88	4.45		8.33
5340	4" stud	[G]		.60	.133		4.17	4.82		8.99
5350	6" stud	[G]		.55	.145		5.25	5.25		10.50
5360	8" stud	[G]		.50	.160		6.35	5.80		12.15
5430	12" deep joist, with 3-5/8" stud	[G]		.65	.123		4.68	4.45		9.13
5440	4" stud	[G]		.60	.133		5	4.82		9.82
5450	6" stud	[G]		.55	.145		6.30	5.25		11.55
5460	8" stud	[G]		.50	.160		7.65	5.80		13.45
										17.90

## 05 42 23 – Cold-Formed Metal Roof Joist Framing

### 05 42 23.05 Framing, Bracing

0010	FRAMING, BRACING									
0015	Made from recycled materials									
0020	Continuous bracing, per row									
0100	16 ga. x 1-1/2" channel thru rafters/trusses @ 16" OC	[G]	1 Corp	4.50	1.778	C.L.F.	51.50	64.50		116
0120	24" OC	[G]		6	1.333		51.50	48		99.50
0300	2" x 2" angle x 18 ga., rafters/trusses @ 16" OC	[G]		6	1.333		78	48		126
0320	24" OC	[G]		8	1		78	36		114
0400	16 ga., rafters/trusses @ 16" OC	[G]		4.50	1.778		98	64.50		162.50
0420	24" OC	[G]		6.50	1.231		98	44.50		142.50
										181

### 05 42 23.10 Framing, Bridging

0010	FRAMING, BRIDGING									
0015	Made from recycled materials									
0020	Solid, between rafters w/1-1/4" leg track, per rafter bay									
1200	Rafters 16" OC, 18 ga. x 4" deep	[G]	1 Corp	60	.133	Ea.	1.42	4.82		6.24
1210	6" deep	[G]		57	.140		1.96	5.05		7.01
1220	8" deep	[G]		55	.145		2.41	5.25		7.66
1230	10" deep	[G]		52	.154		3.07	5.55		8.62
1240	12" deep	[G]		50	.160		3.51	5.80		9.31
2200	24" OC, 18 ga. x 4" deep	[G]		60	.133		2.05	4.82		6.87
2210	6" deep	[G]		57	.140		2.84	5.05		7.89
2220	8" deep	[G]		55	.145		3.49	5.25		8.74
2230	10" deep	[G]		52	.154		4.44	5.55		9.99
2240	12" deep	[G]		50	.160		5.10	5.80		10.90
										15.10

### 05 42 23.50 Framing, Parapets

0010	FRAMING, PARAPETS									
0015	Made from recycled materials									
0100	3' high installed on 1st story, 18 ga. x 4" wide studs, 12" OC	[G]	2 Corp	100	.160	L.F.	5.15	5.80		10.95
0110	16" OC	[G]		150	.107		4.40	3.86		8.26
0120	24" OC	[G]		200	.080		3.64	2.89		6.53
0200	6" wide studs, 12" OC	[G]		100	.160		6.80	5.80		12.60
0210	16" OC	[G]		150	.107		5.80	3.86		9.66
0220	24" OC	[G]		200	.080		4.86	2.89		7.74
1100	Installed on 2nd story, 18 ga. x 4" wide studs, 12" OC	[G]		95	.168		5.15	6.10		11.25
1110	16" OC	[G]		145	.110		4.40	3.99		8.39
1120	24" OC	[G]		190	.084		3.64	3.04		6.68
1200	6" wide studs, 12" OC	[G]		95	.168		6.80	6.10		12.90
										17.45

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 23 – Cold-Formed Metal Roof Joist Framing

### 05 42 23.50 Framing, Parapets

			Daily Crew	Output	Labor- Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
1210	16" OC		[G]	2 Corp	.145	.110	L.F.	.5.80	.3.99	.9.79	.12.95
1220	24" OC		[G]		.190	.084		.4.85	.3.04	.7.89	.10.35
2100	Installed on gable, 18 ga. x 4" wide studs, 12" OC		[G]		.85	.188		.5.15	.6.80	.11.95	.16.90
2110	16" OC		[G]		.130	.123		.4.40	.4.45	.8.85	.12.15
2120	24" OC		[G]		.170	.094		.3.64	.3.40	.7.04	.9.60
2200	6" wide studs, 12" OC		[G]		.85	.188		.6.80	.6.80	.13.60	.18.65
2210	16" OC		[G]		.130	.123		.5.80	.4.45	.10.25	.13.70
2220	24" OC		[G]		.170	.094		.4.85	.3.40	.8.25	.10.95

### 05 42 23.60 Framing, Roof Rafters

#### 0010 FRAMING, ROOF RAFTERS

0015	Made from recycled materials										
0100	Boxed ridge beam, double, 18 ga. x 6" deep		[G]	2 Corp	.160	.100	L.F.	.5.55	.3.62	.9.17	.12.05
0110	8" deep		[G]		.150	.107		.5.80	.3.86	.9.66	.12.70
0120	10" deep		[G]		.140	.114		.7.30	.4.13	.11.43	.14.85
0130	12" deep		[G]		.130	.123		.7.95	.4.45	.12.40	.16.05
0200	16 ga. x 6" deep		[G]		.150	.107		.5.95	.3.86	.9.81	.12.90
0210	8" deep		[G]		.140	.114		.6.70	.4.13	.10.83	.14.15
0220	10" deep		[G]		.130	.123		.8.30	.4.45	.12.75	.16.45
0230	12" deep		[G]		.120	.133		.9	.4.82	.13.82	.17.80
1100	Rafters, 2" flange, material only, 18 ga. x 6" deep		[G]					.1.84		.1.84	.2.02
1110	8" deep		[G]					.1.95		.1.95	.2.15
1120	10" deep		[G]					.2.32		.2.32	.2.55
1130	12" deep		[G]					.2.67		.2.67	.2.93
1200	16 ga. x 6" deep		[G]					.2.04		.2.04	.2.24
1210	8" deep		[G]					.2.44		.2.44	.2.68
1220	10" deep		[G]					.2.85		.2.85	.3.13
1230	12" deep		[G]					.3.22		.3.22	.3.55
2100	Installation only, ordinary rafter to 4:12 pitch, 18 ga. x 6" deep		2 Corp	.35	.457	Ea.		.16.55		.16.55	.27
2110	8" deep			.30	.533			.19.30		.19.30	.31.50
2120	10" deep				.25	.640		.23		.23	.38
2130	12" deep				.20	.800		.29		.29	.47.50
2200	16 ga. x 6" deep				.30	.533		.19.30		.19.30	.31.50
2210	8" deep				.25	.640		.23		.23	.38
2220	10" deep				.20	.800		.29		.29	.47.50
2230	12" deep				.15	1.067		.38.50		.38.50	.63.50
8100	Add to labor, ordinary rafters on steep roofs							.25%			
8110	Dormers & complex roofs							.50%			
8200	Hip & valley rafters to 4:12 pitch							.25%			
8210	Steep roofs							.50%			
8220	Dormers & complex roofs							.75%			
8300	Hip & valley jack rafters to 4:12 pitch							.50%			
8310	Steep roofs							.75%			
8320	Dormers & complex roofs							.100%			

### 05 42 23.70 Framing, Soffits and Canopies

#### 0010 FRAMING, SOFFITS & CANOPIES

0015	Made from recycled materials										
0130	Continuous ledger track @ wall, studs @ 16" OC, 18 ga. x 4" wide		[G]	2 Corp	.535	.030	L.F.	.95	.1.08	.2.03	.2.82
0140	6" wide		[G]		.500	.032		.1.31	.1.16	.2.47	.3.34
0150	8" wide		[G]		.465	.034		.1.61	.1.24	.2.85	.3.81
0160	10" wide		[G]		.430	.037		.2.05	.1.35	.3.40	.4.46
0230	Studs @ 24" OC, 18 ga. x 4" wide		[G]		.800	.020		.90	.72	.1.62	.2.18
0240	6" wide		[G]		.750	.021		.1.25	.77	.2.02	.2.64

# 05 42 Cold-Formed Metal Joist Framing

## 05 42 23 – Cold-Formed Metal Roof Joist Framing

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
		Crew				Labor	Equipment	Total		
<b>05 42 23.70</b>	<b>Framing, Soffits and Canopies</b>									
0250	8" wide	[G]	2 Carp	700	.023	L.F.	1.53	.83	2.36	3.05
0260	10" wide	[G]		650	.025	↓	1.95	.89	2.84	3.61
1000	Horizontal soffit and canopy members, material only									
1030	1-5/8" flange studs, 18 ga. x 4" deep	[G]				L.F.	1.22		1.22	1.35
1040	6" deep	[G]					1.55		1.55	1.70
1050	8" deep	[G]					2		2	2.20
1140	2" flange joists, 18 ga. x 6" deep	[G]					2.10		2.10	2.31
1150	8" deep	[G]					2.23		2.23	2.46
1160	10" deep	[G]				↓	2.65		2.65	2.92
4030	Installation only, 18 ga., 1-5/8" flange x 4" deep		2 Carp	130	.123	Ea.		4.45	4.45	7.30
4040	6" deep			110	.145			5.25	5.25	8.65
4050	8" deep			90	.178			6.45	6.45	10.55
4140	2" flange, 18 ga. x 6" deep			110	.145			5.25	5.25	8.65
4150	8" deep			90	.178			6.45	6.45	10.55
4160	10" deep		↓	80	.200			7.25	7.25	11.90
6010	Clips to attach fascia to rafter tails, 2" x 2" x 18 ga. angle	[G]	1 Carp	120	.067		.92	2.41	3.33	4.98
6020	16 ga. angle	[G]	"	100	.080	↓	1.16	2.89	4.05	6

# 05 44 Cold-Formed Metal Trusses

## 05 44 13 – Cold-Formed Metal Roof Trusses

### 05 44 13.60 Framing, Roof Trusses

<b>0010</b>	<b>FRAMING, ROOF TRUSSES</b>									
0015	Made from recycled materials									
0020	Fabrication of trusses on ground, Fink (W) or King Post, to 4:12 pitch									
0120	18 ga. x 4" chords, 16' span	[G]	2 Carp	12	1.333	Ea.	57	48	105	142
0130	20' span	[G]		11	1.455		71.50	52.50	124	165
0140	24' span	[G]		11	1.455		85.50	52.50	138	181
0150	28' span	[G]		10	1.600		100	58	158	205
0160	32' span	[G]		10	1.600		114	58	172	221
0250	6" chords, 28' span	[G]		9	1.778		126	64.50	190.50	245
0260	32' span	[G]		9	1.778		144	64.50	208.50	265
0270	36' span	[G]		8	2		163	72.50	235.50	298
0280	40' span	[G]		8	2		181	72.50	253.50	320
1120	5:12 to 8:12 pitch, 18 ga. x 4" chords, 16' span	[G]		10	1.600		65.50	58	123.50	167
1130	20' span	[G]		9	1.778		81.50	64.50	146	196
1140	24' span	[G]		9	1.778		98	64.50	162.50	214
1150	28' span	[G]		8	2		114	72.50	186.50	245
1160	32' span	[G]		8	2		131	72.50	203.50	263
1250	6" chords, 28' span	[G]		7	2.286		144	82.50	226.50	295
1260	32' span	[G]		7	2.286		165	82.50	247.50	320
1270	36' span	[G]		6	2.667		186	96.50	282.50	360
1280	40' span	[G]		6	2.667		206	96.50	302.50	385
2120	9:12 to 12:12 pitch, 18 ga. x 4" chords, 16' span	[G]		8	2		81.50	72.50	154	209
2130	20' span	[G]		7	2.286		102	82.50	184.50	248
2140	24' span	[G]		7	2.286		122	82.50	204.50	271
2150	28' span	[G]		6	2.667		143	96.50	239.50	315
2160	32' span	[G]		6	2.667		163	96.50	259.50	340
2250	6" chords, 28' span	[G]		5	3.200		181	116	297	390
2260	32' span	[G]		5	3.200		206	116	322	415
2270	36' span	[G]		4	4		232	145	377	495
2280	40' span	[G]	↓	4	4	↓	258	145	403	520

# 05 44 Cold-Formed Metal Trusses

## 05 44 13 – Cold-Formed Metal Roof Trusses

05 44 13.60 Framing, Roof Trusses		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
5120	Erection only of roof trusses, to 4:12 pitch, 16' span	F-6	48	.833	Ea.	27.50	9.80	37.30	56.50
5130	20' span		46	.870		29	10.25	39.25	59
5140	24' span		44	.909		30.50	10.70	41.20	61.50
5150	28' span		42	.952		31.50	11.20	42.70	64.50
5160	32' span		40	1		33.50	11.80	45.30	67.50
5170	36' span		38	1.053		35	12.40	47.40	71
5180	40' span		36	1.111		37	13.10	50.10	75
5220	5:12 to 8:12 pitch, 16' span		42	.952		31.50	11.20	42.70	64.50
5230	20' span		40	1		33.50	11.80	45.30	67.50
5240	24' span		38	1.053		35	12.40	47.40	71
5250	28' span		36	1.111		37	13.10	50.10	75
5260	32' span		34	1.176		39	13.85	52.85	79.50
5270	36' span		32	1.250		41.50	14.75	56.25	84
5280	40' span		30	1.333		44.50	15.70	60.20	90.50
5320	9:12 to 12:12 pitch, 16' span		36	1.111		37	13.10	50.10	75
5330	20' span		34	1.176		39	13.85	52.85	79.50
5340	24' span		32	1.250		41.50	14.75	56.25	84
5350	28' span		30	1.333		44.50	15.70	60.20	90.50
5360	32' span		28	1.429		47.50	16.85	64.35	96.50
5370	36' span		26	1.538		51	18.10	69.10	104
5380	40' span		24	1.667		55.50	19.65	75.15	113

# 05 51 Metal Stairs

## 05 51 13 – Metal Pan Stairs

### 05 51 13.50 Pan Stairs

0010	PAN STAIRS, shop fabricated, steel stringers								
0015	Made from recycled materials								
1700	Pre-erected, steel pan tread, 3'-6" wide, 2 line pipe rail	[G]	E-2	.87	.552	Riser	585	22.50	19.50
1800	With flat bar picket rail	[G]	"	.87	.552	"	650	22.50	19.50

## 05 51 23 – Metal Fire Escapes

### 05 51 23.50 Fire Escape Stairs

0010	FIRE ESCAPE STAIRS, portable								
0100	Portable ladder					Ea.	125		125

# 05 52 Metal Railings

## 05 52 13 – Pipe and Tube Railings

### 05 52 13.50 Railings, Pipe

0010	RAILINGS, PIPE, shop fab'd, 3'-6" high, posts @ 5' OC								
0015	Made from recycled materials								
0020	Aluminum, 2 rail, satin finish, 1-1/4" diameter	[G]	E-4	160	.200	L.F.	51.50	8.15	.92
0030	Clear anodized	[G]		160	.200		61.50	8.15	.92
0040	Dark anodized	[G]		160	.200		68	8.15	.92
0080	1-1/2" diameter, satin finish	[G]		160	.200		58.50	8.15	.92
0090	Clear anodized	[G]		160	.200		66	8.15	.92
0100	Dark anodized	[G]		160	.200		72.50	8.15	.92
0140	Aluminum, 3 rail, 1-1/4" diam., satin finish	[G]		137	.234		67	9.55	1.07
0150	Clear anodized	[G]		137	.234		83.50	9.55	1.07
0160	Dark anodized	[G]		137	.234		92	9.55	1.07
0200	1-1/2" diameter, satin finish	[G]		137	.234		79.50	9.55	1.07

# 05 52 Metal Railings

## 05 52 13 – Pipe and Tube Railings

05 52 13.50 Railings, Pipe		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P	
						Material	Labor	Equipment			
0210	Clear anodized	G	E-4	.137	.234	L.F.	90.50	9.55	1.07	101.12	117
0220	Dark anodized	G		.137	.234		99.50	9.55	1.07	110.12	126
0500	Steel, 2 rail, on stairs, primed, 1-1/4" diameter	G		.160	.200		32	8.15	.92	41.07	50.50
0520	1-1/2" diameter	G		.160	.200		31	8.15	.92	40.07	49
0540	Galvanized, 1-1/4" diameter	G		.160	.200		41.50	8.15	.92	50.57	61
0560	1-1/2" diameter	G		.160	.200		49	8.15	.92	58.07	69
0580	Steel, 3 rail, primed, 1-1/4" diameter	G		.137	.234		46	9.55	1.07	56.62	68
0600	1-1/2" diameter	G		.137	.234		50.50	9.55	1.07	61.12	73
0620	Galvanized, 1-1/4" diameter	G		.137	.234		64.50	9.55	1.07	75.12	88.50
0640	1-1/2" diameter	G		.137	.234		77.50	9.55	1.07	88.12	103
0700	Stainless steel, 2 rail, 1-1/4" diam., #4 finish	G		.137	.234		141	9.55	1.07	151.62	172
0720	High polish	G		.137	.234		228	9.55	1.07	238.62	268
0740	Mirror polish	G		.137	.234		285	9.55	1.07	295.62	330
0760	Stainless steel, 3 rail, 1-1/2" diam., #4 finish	G		.120	.267		212	10.90	1.22	224.12	253
0770	High polish	G		.120	.267		350	10.90	1.22	362.12	405
0780	Mirror finish	G		.120	.267		430	10.90	1.22	442.12	490
0900	Wall rail, alum. pipe, 1-1/4" diam., satin finish	G		.213	.150		25	6.15	.69	31.84	39
0905	Clear anodized	G		.213	.150		31	6.15	.69	37.84	45.50
0910	Dark anodized	G		.213	.150		36.50	6.15	.69	43.34	52
0915	1-1/2" diameter, satin finish	G		.213	.150		27.50	6.15	.69	34.34	42
0920	Clear anodized	G		.213	.150		34.50	6.15	.69	41.34	49.50
0925	Dark anodized	G		.213	.150		43.50	6.15	.69	50.34	59.50
0930	Steel pipe, 1-1/4" diameter, primed	G		.213	.150		18.50	6.15	.69	25.34	32
0935	Galvanized	G		.213	.150		27	6.15	.69	33.84	41
0940	1-1/2" diameter	G		.176	.182		17.75	7.45	.83	26.03	33
0945	Galvanized	G		.213	.150		27	6.15	.69	33.84	41
0955	Stainless steel pipe, 1-1/2" diam., #4 finish	G		.107	.299		113	12.20	1.37	126.57	147
0960	High polish	G		.107	.299		229	12.20	1.37	242.57	275
0965	Mirror polish	G		.107	.299		271	12.20	1.37	284.57	320
2000	2-line pipe rail (1-1/2" T&B) with 1/2" pickets @ 4-1/2" OC, attached handrail on brackets										
2005											
2010	42" high aluminum, satin finish, straight & level	G	E-4	.120	.267	L.F.	355	10.90	1.22	367.12	410
2050	42" high steel, primed, straight & level	G	"	.120	.267		149	10.90	1.22	161.12	184
4000	For curved and level rails, add						10%	10%			
4100	For sloped rails for stairs, add						30%	30%			

# 05 58 Formed Metal Fabrications

## 05 58 25 – Formed Lamp Posts

### 05 58 25.40 Lamp Posts

#### 0010 LAMP POSTS

0020	Aluminum, 7' high, stock units, post only	G	1 Carp	16	.500	Ea.	84	18.10	102.10	122
0100	Mild steel, plain	G	"	16	.500	"	86	18.10	104.10	124

# 05 71 Decorative Metal Stairs

## 05 71 13 – Fabricated Metal Spiral Stairs

### 05 71 13.50 Spiral Stairs

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Equipment	Total	Total Incl O&P
0010	SPIRAL STAIRS										
1805	Shop fabricated, custom ordered										
1810	Aluminum, 5'-0" diameter, plain units	G	E-4	45	.711	Riser	720	29	3.26	752.26	845
1820	Fancy units	G		45	.711		1,200	29	3.26	1,232.26	1,375
1900	Cast iron, 4'-0" diameter, plain units	G		45	.711		715	29	3.26	747.26	840
1920	Fancy units	G		25	1.280		1,400	52.50	5.90	1,458.40	1,650
3100	Spiral stair kits, 12 stacking risers to fit exact floor height										
3110	Steel, flat metal treads, primed, 3'-6" diameter	G	2 Corp	1.60	10	Flight	1,300	360		1,660	2,025
3120	4'-0" diameter	G		1.45	11.034		1,500	400		1,900	2,300
3130	4'-6" diameter	G		1.35	11.852		1,650	430		2,080	2,525
3140	5'-0" diameter	G		1.25	12.800		1,850	465		2,315	2,775
3310	Checkered plate tread, primed, 3'-6" diameter	G		1.45	11.034		1,575	400		1,975	2,400
3320	4'-0" diameter	G		1.35	11.852		1,725	430		2,155	2,600
3330	4'-6" diameter	G		1.25	12.800		1,875	465		2,340	2,800
3340	5'-0" diameter	G		1.15	13.913		1,950	505		2,455	2,975
3510	Red oak covers on flat metal treads, 3'-6" diameter			1.35	11.852		2,375	430		2,805	3,325
3520	4'-0" diameter			1.25	12.800		2,850	465		3,315	3,900
3530	4'-6" diameter			1.15	13.913		3,075	505		3,580	4,225
3540	5'-0" diameter			1.05	15.238		3,300	550		3,850	4,525

# 05 75 Decorative Formed Metal

## 05 75 13 – Columns

### 05 75 13.10 Aluminum Columns

0010	ALUMINUM COLUMNS										
0015	Made from recycled materials										
0020	Aluminum, extruded, stock units, no cap or base, 6" diameter	G	E-4	240	.133	L.F.	16.85	5.45	.61	22.91	28.50
0100	8" diameter	G	"	170	.188	"	18.60	7.70	.86	27.16	34.50
0410	Caps and bases, plain, 6" diameter	G				Set	25.50			25.50	28
0420	8" diameter	G				"	31.50			31.50	34.50
0500	For square columns, add to column prices above					L.F.	50%				
0700	Residential, flat, 8' high, plain	G	E-4	20	1.600	Ea.	103	65.50	7.35	175.85	233
0720	Fancy	G		20	1.600		200	65.50	7.35	272.85	340
0740	Corner type, plain	G		20	1.600		188	65.50	7.35	260.85	325
0760	Fancy	G		20	1.600		310	65.50	7.35	382.85	460

### 05 75 13.20 Columns, Ornamental

0010	COLUMNS, ORNAMENTAL, shop fabricated										
6400	Mild steel, flat, 9" wide, stock units, painted, plain	G	E-4	160	.200	V.L.F.	9.65	8.15	.92	18.72	25.50
6450	Fancy	G		160	.200		18.70	8.15	.92	27.77	35.50
6500	Corner columns, painted, plain	G		160	.200		17.65	8.15	.92	26.72	34.50
6550	Fancy	G		160	.200		29	8.15	.92	38.07	47

## Division Notes

## Estimating Tips

### 06 05 00 Common Work Results for Wood, Plastics, and Composites

- Common to any wood-framed structure are the accessory connector items such as screws, nails, adhesives, hangers, connector plates, straps, angles, and hold-downs. For typical wood-framed buildings, such as residential projects, the aggregate total for these items can be significant, especially in areas where seismic loading is a concern. For floor and wall framing, the material cost is based on 10 to 25 lbs. of accessory connectors per MBF. Hold-downs, hangers, and other connectors should be taken off by the piece.

Included with material costs are fasteners for a normal installation. Gordian's RSMeans engineers use manufacturers' recommendations, written specifications, and/or standard construction practice for the sizing and spacing of fasteners. Prices for various fasteners are shown for informational purposes only. Adjustments should be made if unusual fastening conditions exist.

### 06 10 00 Carpentry

- Lumber is a traded commodity and therefore sensitive to supply and demand in the marketplace. Even with

"budgetary" estimating of wood-framed projects, it is advisable to call local suppliers for the latest market pricing.

- The common quantity unit for wood-framed projects is "thousand board feet" (MBF). A board foot is a volume of wood—1" x 1" x 1" or 144 cubic inches. Board-foot quantities are generally calculated using nominal material dimensions—dressed sizes are ignored. Board foot per lineal foot of any stick of lumber can be calculated by dividing the nominal cross-sectional area by 12. As an example, 2,000 lineal feet of 2 x 12 equates to 4 MBF by dividing the nominal area, 2 x 12, by 12, which equals 2, and multiplying that by 2,000 to give 4,000 board feet. This simple rule applies to all nominal dimensioned lumber.
- Waste is an issue of concern at the quantity takeoff for any area of construction. Framing lumber is sold in even foot lengths, i.e., 8', 10', 12', 14', 16', and depending on spans, wall heights, and the grade of lumber, waste is inevitable. A rule of thumb for lumber waste is 5–10% depending on material quality and the complexity of the framing.
- Wood in various forms and shapes is used in many projects, even where the main structural framing is steel, concrete, or masonry. Plywood as a back-up partition material and 2x

boards used as blocking and cant strips around roof edges are two common examples. The estimator should ensure that the costs of all wood materials are included in the final estimate.

### 06 20 00 Finish Carpentry

- It is necessary to consider the grade of workmanship when estimating labor costs for erecting millwork and an interior finish. In practice, there are three grades: premium, custom, and economy. The RSMeans daily output for base and case moldings is in the range of 200 to 250 L.F. per carpenter per day. This is appropriate for most average custom-grade projects. For premium projects, an adjustment to productivity of 25–50% should be made, depending on the complexity of the job.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 05 – Selective Demolition for Wood, Plastics, and Composites

06 05 05.10 Selective Demolition Wood Framing			R024119-10	Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs Labor Equipment	Total	Total Incl O&P
0010	SELECTIVE DEMOLITION WOOD FRAMING								
0100	Timber connector, nailed, small			1 Clab	.96 .083 Ea.		2.32	2.32	3.80
0110	Medium				.60 .133		3.71	3.71	6.10
0120	Large				.48 .167		4.63	4.63	7.60
0130	Bolted, small				.48 .167		4.63	4.63	7.60
0140	Medium				.32 .250		6.95	6.95	11.40
0150	Large				.24 .333		9.25	9.25	15.20
2958	Beams, 2" x 6"			2 Clab	1100 .015 L.F.		.40	.40	.66
2960	2" x 8"				825 .019		.54	.54	.89
2965	2" x 10"				665 .024		.67	.67	1.10
2970	2" x 12"				550 .029		.81	.81	1.33
2972	2" x 14"				470 .034		.95	.95	1.55
2975	4" x 8"			B-1	413 .058		1.65	1.65	2.72
2980	4" x 10"				330 .073		2.07	2.07	3.40
2985	4" x 12"				275 .087		2.48	2.48	4.08
3000	6" x 8"				275 .087		2.48	2.48	4.08
3040	6" x 10"				220 .109		3.11	3.11	5.10
3080	6" x 12"				185 .130		3.69	3.69	6.05
3120	8" x 12"				140 .171		4.88	4.88	8
3160	10" x 12"				110 .218		6.20	6.20	10.20
3162	Alternate pricing method				1.10 21.818 M.B.F.		620	620	1,025
3170	Blocking, in 16" OC wall framing, 2" x 4"			1 Clab	600 .013 L.F.		.37	.37	.61
3172	2" x 6"				400 .020		.56	.56	.91
3174	In 24" OC wall framing, 2" x 4"				600 .013		.37	.37	.61
3176	2" x 6"				400 .020		.56	.56	.91
3178	Alt method, wood blocking removal from wood framing				.40 20 M.B.F.		555	555	915
3179	Wood blocking removal from steel framing				.36 22.222 "		620	620	1,025
3180	Bracing, let in, 1" x 3", studs 16" OC				1050 .008 L.F.		.21	.21	.35
3181	Studs 24" OC				1080 .007		.21	.21	.34
3182	1" x 4", studs 16" OC				1050 .008		.21	.21	.35
3183	Studs 24" OC				1080 .007		.21	.21	.34
3184	1" x 6", studs 16" OC				1050 .008		.21	.21	.35
3185	Studs 24" OC				1080 .007		.21	.21	.34
3186	2" x 3", studs 16" OC				800 .010		.28	.28	.46
3187	Studs 24" OC				830 .010		.27	.27	.44
3188	2" x 4", studs 16" OC				800 .010		.28	.28	.46
3189	Studs 24" OC				830 .010		.27	.27	.44
3190	2" x 6", studs 16" OC				800 .010		.28	.28	.46
3191	Studs 24" OC				830 .010		.27	.27	.44
3192	2" x 8", studs 16" OC				800 .010		.28	.28	.46
3193	Studs 24" OC				830 .010		.27	.27	.44
3194	"T" shaped metal bracing, studs at 16" OC				1060 .008		.21	.21	.34
3195	Studs at 24" OC				1200 .007		.19	.19	.30
3196	Metal straps, studs at 16" OC				1200 .007		.19	.19	.30
3197	Studs at 24" OC				1240 .006		.18	.18	.29
3200	Columns, round, 8" to 14' tall				40 .200 Ea.		5.55	5.55	9.15
3202	Dimensional lumber sizes			2 Clab	1.10 14.545 M.B.F.		405	405	665
3250	Blocking, between joists			1 Clab	320 .025 Ea.		.70	.70	1.14
3252	Bridging, metal strap, between joists				320 .025 Pr.		.70	.70	1.14
3254	Wood, between joists				320 .025 "		.70	.70	1.14
3260	Door buck, studs, header & access., 8' high 2" x 4" wall, 3' wide				32 .250 Ea.		6.95	6.95	11.40
3261	4' wide				32 .250		6.95	6.95	11.40
3262	5' wide				32 .250		6.95	6.95	11.40

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 05 – Selective Demolition for Wood, Plastics, and Composites

06 05.10 Selective Demolition Wood Framing			Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs			Total	
							Labor	Equipment	Total	Incl O&P	
3263	6' wide		1 Clab	.32	.250	Ea.		6.95		6.95	11.40
3264	8' wide			.30	.267			7.40		7.40	12.15
3265	10' wide			.30	.267			7.40		7.40	12.15
3266	12' wide			.30	.267			7.40		7.40	12.15
3267	2" x 6" wall, 3' wide			.32	.250			6.95		6.95	11.40
3268	4' wide			.32	.250			6.95		6.95	11.40
3269	5' wide			.32	.250			6.95		6.95	11.40
3270	6' wide			.32	.250			6.95		6.95	11.40
3271	8' wide			.30	.267			7.40		7.40	12.15
3272	10' wide			.30	.267			7.40		7.40	12.15
3273	12' wide			.30	.267			7.40		7.40	12.15
3274	Window buck, studs, header & access., 8' high 2" x 4" wall, 2' wide			.24	.333			9.25		9.25	15.20
3275	3' wide			.24	.333			9.25		9.25	15.20
3276	4' wide			.24	.333			9.25		9.25	15.20
3277	5' wide			.24	.333			9.25		9.25	15.20
3278	6' wide			.24	.333			9.25		9.25	15.20
3279	7' wide			.24	.333			9.25		9.25	15.20
3280	8' wide			.22	.364			10.10		10.10	16.60
3281	10' wide			.22	.364			10.10		10.10	16.60
3282	12' wide			.22	.364			10.10		10.10	16.60
3283	2" x 6" wall, 2' wide			.24	.333			9.25		9.25	15.20
3284	3' wide			.24	.333			9.25		9.25	15.20
3285	4' wide			.24	.333			9.25		9.25	15.20
3286	5' wide			.24	.333			9.25		9.25	15.20
3287	6' wide			.24	.333			9.25		9.25	15.20
3288	7' wide			.24	.333			9.25		9.25	15.20
3289	8' wide			.22	.364			10.10		10.10	16.60
3290	10' wide			.22	.364			10.10		10.10	16.60
3291	12' wide			.22	.364			10.10		10.10	16.60
3360	Deck or porch decking			825	.010	L.F.		.27		.27	.44
3400	Fascia boards, 1" x 6"			500	.016			.44		.44	.73
3440	1" x 8"			450	.018			.49		.49	.81
3480	1" x 10"			400	.020			.56		.56	.91
3490	2" x 6"			450	.018			.49		.49	.81
3500	2" x 8"			400	.020			.56		.56	.91
3510	2" x 10"			350	.023			.64		.64	1.04
3610	Furring, on wood walls or ceiling			4000	.002	S.F.		.06		.06	.09
3620	On masonry or concrete walls or ceiling			1200	.007	"		.19		.19	.30
3800	Headers over openings, 2 @ 2" x 6"			110	.073	L.F.		2.02		2.02	3.32
3840	2 @ 2" x 8"			100	.080			2.22		2.22	3.65
3880	2 @ 2" x 10"			90	.089			2.47		2.47	4.06
3885	Alternate pricing method			.26	30.651	M.B.F.		850		850	1,400
3920	Joists, 1" x 4"			1250	.006	L.F.		.18		.18	.29
3930	1" x 6"			1135	.007			.20		.20	.32
3940	1" x 8"			1000	.008			.22		.22	.37
3950	1" x 10"			895	.009			.25		.25	.41
3960	1" x 12"			765	.010			.29		.29	.48
4200	2" x 4"		2 Clab	1000	.016			.44		.44	.73
4230	2" x 6"			970	.016			.46		.46	.75
4240	2" x 8"			940	.017			.47		.47	.78
4250	2" x 10"			910	.018			.49		.49	.80
4280	2" x 12"			880	.018			.51		.51	.83
4281	2" x 14"			850	.019			.52		.52	.86

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 05 – Selective Demolition for Wood, Plastics, and Composites

06 05 05.10 Selective Demolition Wood Framing	Description	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
4282	Composite joists, 9-1/2"	2 Clab	960	.017	L.F.		.46		.46	.76	
4283	11-7/8"		930	.017			.48		.48	.79	
4284	14"		897	.018			.50		.50	.81	
4285	16"		865	.019			.51		.51	.84	
4290	Wood joists, alternate pricing method		1.50	10.667	M.B.F.		297		297	485	
4500	Open web joist, 12" deep		500	.032	L.F.		.89		.89	1.46	
4505	14" deep		475	.034			.94		.94	1.54	
4510	16" deep		450	.036			.99		.99	1.62	
4520	18" deep		425	.038			1.05		1.05	1.72	
4530	24" deep		400	.040			1.11		1.11	1.83	
4550	Ledger strips, 1" x 2"	1 Clab	1200	.007			.19		.19	.30	
4560	1" x 3"		1200	.007			.19		.19	.30	
4570	1" x 4"		1200	.007			.19		.19	.30	
4580	2" x 2"		1100	.007			.20		.20	.33	
4590	2" x 4"		1000	.008			.22		.22	.37	
4600	2" x 6"		1000	.008			.22		.22	.37	
4601	2" x 8 or 2" x 10"		800	.010			.28		.28	.46	
4602	4" x 6"		600	.013			.37		.37	.61	
4604	4" x 8"		450	.018			.49		.49	.81	
5400	Posts, 4" x 4"	2 Clab	800	.020			.56		.56	.91	
5405	4" x 6"		550	.029			.81		.81	1.33	
5410	4" x 8"		440	.036			1.01		1.01	1.66	
5425	4" x 10"		390	.041			1.14		1.14	1.87	
5430	4" x 12"		350	.046			1.27		1.27	2.09	
5440	6" x 6"		400	.040			1.11		1.11	1.83	
5445	6" x 8"		350	.046			1.27		1.27	2.09	
5450	6" x 10"		320	.050			1.39		1.39	2.28	
5455	6" x 12"		290	.055			1.53		1.53	2.52	
5480	8" x 8"		300	.053			1.48		1.48	2.43	
5500	10" x 10"		240	.067			1.85		1.85	3.04	
5660	T&G floor planks		2	8	M.B.F.		222		222	365	
5682	Rafters, ordinary, 16" OC, 2" x 4"		880	.018	S.F.		.51		.51	.83	
5683	2" x 6"		840	.019			.53		.53	.87	
5684	2" x 8"		820	.020			.54		.54	.89	
5685	2" x 10"		820	.020			.54		.54	.89	
5686	2" x 12"		810	.020			.55		.55	.90	
5687	24" OC, 2" x 4"		1170	.014			.38		.38	.62	
5688	2" x 6"		1117	.014			.40		.40	.65	
5689	2" x 8"		1091	.015			.41		.41	.67	
5690	2" x 10"		1091	.015			.41		.41	.67	
5691	2" x 12"		1077	.015			.41		.41	.68	
5795	Rafters, ordinary, 2" x 4" (alternate method)		862	.019	L.F.		.52		.52	.85	
5800	2" x 6" (alternate method)		850	.019			.52		.52	.86	
5840	2" x 8" (alternate method)		837	.019			.53		.53	.87	
5855	2" x 10" (alternate method)		825	.019			.54		.54	.89	
5865	2" x 12" (alternate method)		812	.020			.55		.55	.90	
5870	Sill plate, 2" x 4"	1 Clab	1170	.007			.19		.19	.31	
5871	2" x 6"		780	.010			.29		.29	.47	
5872	2" x 8"		586	.014			.38		.38	.62	
5873	Alternate pricing method		.78	10.256	M.B.F.		285		285	470	
5885	Ridge board, 1" x 4"	2 Clab	900	.018	L.F.		.49		.49	.81	
5886	1" x 6"		875	.018			.51		.51	.83	
5887	1" x 8"		850	.019			.52		.52	.86	

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 05 – Selective Demolition for Wood, Plastics, and Composites

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total
		Crew			Labor	Equipment	Total	Incl O&P
06 05 05.10	Selective Demolition Wood Framing							
5888	1" x 10"	2 Clab	825	.019	L.F.	.54	.54	.89
5889	1" x 12"		800	.020		.56	.56	.91
5890	2" x 4"		900	.018		.49	.49	.81
5892	2" x 6"		875	.018		.51	.51	.83
5894	2" x 8"		850	.019		.52	.52	.86
5896	2" x 10"		825	.019		.54	.54	.89
5898	2" x 12"		800	.020		.56	.56	.91
6050	Rafter tie, 1" x 4"		1250	.013		.36	.36	.58
6052	1" x 6"		1135	.014		.39	.39	.64
6054	2" x 4"		1000	.016		.44	.44	.73
6056	2" x 6"		970	.016		.46	.46	.75
6070	Sleepers, on concrete, 1" x 2"	1 Clab	4700	.002		.05	.05	.08
6075	1" x 3"		4000	.002		.06	.06	.09
6080	2" x 4"		3000	.003		.07	.07	.12
6085	2" x 6"		2600	.003		.09	.09	.14
6086	Sheathing from roof, 5/16"	2 Clab	1600	.010	S.F.	.28	.28	.46
6088	3/8"		1525	.010		.29	.29	.48
6090	1/2"		1400	.011		.32	.32	.52
6092	5/8"		1300	.012		.34	.34	.56
6094	3/4"		1200	.013		.37	.37	.61
6096	Board sheathing from roof		1400	.011		.32	.32	.52
6100	Sheathing, from walls, 1/4"		1200	.013		.37	.37	.61
6110	5/16"		1175	.014		.38	.38	.62
6120	3/8"		1150	.014		.39	.39	.64
6130	1/2"		1125	.014		.40	.40	.65
6140	5/8"		1100	.015		.40	.40	.66
6150	3/4"		1075	.015		.41	.41	.68
6152	Board sheathing from walls		1500	.011		.30	.30	.49
6158	Subfloor/roof deck, with boards		2200	.007		.20	.20	.33
6159	Subfloor/roof deck, with tongue & groove boards		2000	.008		.22	.22	.37
6160	Plywood, 1/2" thick		768	.021		.58	.58	.95
6162	5/8" thick		760	.021		.59	.59	.96
6164	3/4" thick		750	.021		.59	.59	.97
6165	1-1/8" thick		720	.022		.62	.62	1.01
6166	Underlayment, particle board, 3/8" thick	1 Clab	780	.010		.29	.29	.47
6168	1/2" thick		768	.010		.29	.29	.48
6170	5/8" thick		760	.011		.29	.29	.48
6172	3/4" thick		750	.011		.30	.30	.49
6200	Stairs and stringers, straight run	2 Clab	40	.400	Riser	11.10	11.10	18.25
6240	With platforms, winders or curves	"	26	.615	"	17.10	17.10	28
6300	Components, tread	1 Clab	110	.073	Ea.	2.02	2.02	3.32
6320	Riser		80	.100	"	2.78	2.78	4.57
6390	Stringer, 2" x 10"		260	.031	L.F.	.86	.86	1.40
6400	2" x 12"		260	.031		.86	.86	1.40
6410	3" x 10"		250	.032		.89	.89	1.46
6420	3" x 12"		250	.032		.89	.89	1.46
6590	Wood studs, 2" x 3"	2 Clab	3076	.005		.14	.14	.24
6600	2" x 4"		2000	.008		.22	.22	.37
6640	2" x 6"		1600	.010		.28	.28	.46
6720	Wall framing, including studs, plates and blocking, 2" x 4"	1 Clab	600	.013	S.F.	.37	.37	.61
6740	2" x 6"		480	.017	"	.46	.46	.76
6750	Headers, 2" x 4"		1125	.007	L.F.	.20	.20	.32
6755	2" x 6"		1125	.007		.20	.20	.32

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 05 – Selective Demolition for Wood, Plastics, and Composites

06 05 05.10 Selective Demolition Wood Framing			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
6760	2" x 8"		1 Clab	1050	.008	L.F.		.21	.21	.35
6765	2" x 10"			1050	.008			.21	.21	.35
6770	2" x 12"			1000	.008			.22	.22	.37
6780	4" x 10"			525	.015			.42	.42	.70
6785	4" x 12"			500	.016			.44	.44	.73
6790	6" x 8"			560	.014			.40	.40	.65
6795	6" x 10"			525	.015			.42	.42	.70
6797	6" x 12"			500	.016			.44	.44	.73
7000	Trusses									
7050	12' span		2 Clab	74	.216	Ea.		6	6	9.85
7150	24' span		F-3	66	.606			20	7.15	27.15
7200	26' span			64	.625			21	7.35	28.35
7250	28' span			62	.645			21.50	7.60	29.10
7300	30' span			58	.690			23	8.10	31.10
7350	32' span			56	.714			23.50	8.40	31.90
7400	34' span			54	.741			24.50	8.75	33.25
7450	36' span			52	.769			25.50	9.05	34.55
8000	Soffit, T&G wood		1 Clab	520	.015	S.F.		.43	.43	.70
8010	Hardboard, vinyl or aluminum		"	640	.013			.35	.35	.57
8030	Plywood		2 Corp	315	.051			1.84	1.84	3.02
9500	See Section 02 41 19.19 for rubbish handling									

## 06 05 05.20 Selective Demolition Millwork and Trim

06 05 05.20 Selective Demolition Millwork and Trim			R024119-10							
1000	Cabinets, wood, base cabinets, per L.F.		2 Clab	80	.200	L.F.		5.55	5.55	9.15
1020	Wall cabinets, per L.F.		"	80	.200	"		5.55	5.55	9.15
1060	Remove and reset, base cabinets		2 Corp	18	.889	Ea.		32	32	53
1070	Wall cabinets			20	.800			29	29	47.50
1072	Oven cabinet, 7' high			11	1.455			52.50	52.50	86.50
1074	Cabinet door, up to 2' high		1 Clab	66	.121			3.37	3.37	5.55
1076	2' - 4' high		"	46	.174			4.83	4.83	7.95
1100	Steel, painted, base cabinets		2 Clab	60	.267	L.F.		7.40	7.40	12.15
1120	Wall cabinets			60	.267	"		7.40	7.40	12.15
1200	Casework, large area			320	.050	S.F.		1.39	1.39	2.28
1220	Selective			200	.080	"		2.22	2.22	3.65
1500	Counter top, straight runs			200	.080	L.F.		2.22	2.22	3.65
1510	L, U or C shapes			120	.133	"		3.71	3.71	6.10
2000	Paneling, 4' x 8' sheets			2000	.008	S.F.		.22	.22	.37
2100	Boards, 1" x 4"			700	.023			.64	.64	1.04
2120	1" x 6"			750	.021			.59	.59	.97
2140	1" x 8"			800	.020			.56	.56	.91
3000	Trim, baseboard, to 6" wide			1200	.013	L.F.		.37	.37	.61
3040	Greater than 6" and up to 12" wide			1000	.016			.44	.44	.73
3080	Remove and reset, minimum		2 Corp	400	.040			1.45	1.45	2.38
3090	Maximum		"	300	.053			1.93	1.93	3.17
3100	Ceiling trim		2 Clab	1000	.016			.44	.44	.73
3120	Chair rail			1200	.013			.37	.37	.61
3140	Railings with balusters			240	.067			1.85	1.85	3.04
3160	Wainscoting			700	.023	S.F.		.64	.64	1.04
4000	Curtain rod		1 Clab	80	.100	L.F.		2.78	2.78	4.57

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.10 Nails		Daily Crew	Output	Labor Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
0010	NAILS, material only, based upon 50# box purchase										
0020	Copper nails, plain				Lb.	11.65			11.65		12.85
0400	Stainless steel, plain					10.10			10.10		11.10
0500	Box, 3d to 20d, bright					1.52			1.52		1.67
0520	Galvanized					2.55			2.55		2.81
0600	Common, 3d to 60d, plain					1.13			1.13		1.24
0700	Galvanized					2.48			2.48		2.73
0800	Aluminum					11.05			11.05		12.15
1000	Annular or spiral thread, 4d to 60d, plain					2.85			2.85		3.14
1200	Galvanized					3.49			3.49		3.84
1400	Drywall nails, plain					2.01			2.01		2.21
1600	Galvanized					1.89			1.89		2.08
1800	Finish nails, 4d to 10d, plain					1.57			1.57		1.73
2000	Galvanized					1.93			1.93		2.12
2100	Aluminum					8.75			8.75		9.65
2300	Flooring nails, hardened steel, 2d to 10d, plain					3.88			3.88		4.27
2400	Galvanized					4.09			4.09		4.50
2500	Gypsum lath nails, 1-1/8", 13 ga. flathead, blued					3.64			3.64		4
2600	Masonry nails, hardened steel, 3/4" to 3" long, plain					2.34			2.34		2.57
2700	Galvanized					4.14			4.14		4.55
2900	Roofing nails, threaded, galvanized					2.93			2.93		3.22
3100	Aluminum					7.60			7.60		8.40
3300	Compressed lead head, threaded, galvanized					3.06			3.06		3.37
3600	Siding nails, plain shank, galvanized					2.59			2.59		2.85
3800	Aluminum					5.95			5.95		6.55
5000	Add to prices above for cement coating					.16			.16		.18
5200	Zinc or tin plating					.27			.27		.30
5500	Vinyl coated sinkers, 8d to 16d					2.51			2.51		2.76

## 06 05 23.50 Wood Screws

0010	WOOD SCREWS					C	4.03		4.03	4.43
0020	#8, 1" long, steel						12.30		12.30	13.50
0100	Brass						6.90		6.90	7.60
0200	#8, 2" long, steel						27.50		27.50	30
0300	Brass						3.55		3.55	3.91
0400	#10, 1" long, steel						15.65		15.65	17.25
0500	Brass						5.15		5.15	5.65
0600	#10, 2" long, steel						26		26	28.50
0700	Brass						9.20		9.20	10.15
0800	#10, 3" long, steel						7.70		7.70	8.45
1000	#12, 2" long, steel						36.50		36.50	40
1100	Brass						11.55		11.55	12.70
1500	#12, 3" long, steel						26.50		26.50	29
2000	#12, 4" long, steel						27		27	30
2050	Composite trim screws						30.50		30.50	33.50
2100	Stainless steel, trim head, #7 x 1-5/8" long					C	35.50		35.50	39
2200	#7 x 2" long						76.50		76.50	84.50
2300	#7 x 2-1/2" long						90		90	99
2400	#7 x 3" long						25.50		25.50	28
2500	#9 x 3-1/2" long						18.05		18.05	19.85
2600	#9 x 4" long									
3000	Stainless steel, flat head, #6 x 1-5/8" long									
3100	#8 x 2" long									

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.50 Wood Screws				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				C			Labor	Equipment		
3200	#8 x 2-1/2" long					C	21.50		21.50	23.50
3300	#8 x 3" long						25		25	27.50
3400	#10 x 2" long						20.50		20.50	22.50
3500	#10 x 3-1/2" long						41		41	45.50
3600	#12 x 3" long						47.50		47.50	52
3700	#12 x 4" long						72.50		72.50	80
3800	#12 x 6" long						124		124	137

## 06 05 23.60 Timber Connectors

0010 TIMBER CONNECTORS										
0020	Add up cost of each part for total cost of connection									
0100	Connector plates, steel, with bolts, straight	2 Corp	.75	.213	Ea.	27.50	7.70		35.20	43
0110	Tee, 7 ga.		50	.320		41.50	11.55		53.05	64.50
0120	T-Strap, 14 ga., 12" x 8" x 2"		50	.320		41.50	11.55		53.05	64.50
0150	Anchor plates, 7 ga., 9" x 7"		75	.213		27.50	7.70		35.20	43
0200	Bolts, machine, sq. hd. with nut & washer, 1/2" diameter, 4" long	1 Corp	140	.057		.77	2.07		2.84	4.24
0300	7-1/2" long		130	.062		1.41	2.22		3.63	5.20
0500	3/4" diameter, 7-1/2" long		130	.062		3.51	2.22		5.73	7.50
0610	Machine bolts, w/nut, washer, 3/4" diameter, 15" L, HD's & beam hangers		95	.084		6.60	3.04		9.64	12.25
0720	Machine bolts, sq. hd. w/nut & wash		150	.053	Lb.	3.88	1.93		5.81	7.45
0800	Drilling bolt holes in timber, 1/2" diameter		450	.018	Inch		.64		.64	1.06
0900	1" diameter		350	.023	"		.83		.83	1.36
1100	Framing anchor, angle, 3" x 3" x 1-1/2", 12 ga.		175	.046	Ea.	2.53	1.65		4.18	5.50
1150	Framing anchors, 18 ga., 4-1/2" x 2-3/4"		175	.046		2.53	1.65		4.18	5.50
1160	Framing anchors, 18 ga., 4-1/2" x 3"		175	.046		2.53	1.65		4.18	5.50
1170	Clip anchors plates, 18 ga., 12" x 1-1/8"		175	.046		2.53	1.65		4.18	5.50
1250	Holdowns, 3 ga. base, 10 ga. body		8	1		46.50	36		82.50	111
1260	Holdowns, 7 ga. 11-1/16" x 3-1/4"		8	1		46.50	36		82.50	111
1270	Holdowns, 7 ga. 14-3/8" x 3-1/8"		8	1		46.50	36		82.50	111
1275	Holdowns, 12 ga. 8" x 2-1/2"		8	1		46.50	36		82.50	111
1300	Joist and beam hangers, 18 ga. galv., for 2" x 4" joist		175	.046		.85	1.65		2.50	3.66
1400	2" x 6" to 2" x 10" joist		165	.048		1.56	1.75		3.31	4.60
1600	16 ga. galv., 3" x 6" to 3" x 10" joist		160	.050		3.03	1.81		4.84	6.30
1700	3" x 10" to 3" x 14" joist		160	.050		4.64	1.81		6.45	8.05
1800	4" x 6" to 4" x 10" joist		155	.052		3.59	1.87		5.46	7
1900	4" x 10" to 4" x 14" joist		155	.052		5	1.87		6.87	8.55
2000	Two-2" x 6" to two-2" x 10" joists		150	.053		3.98	1.93		5.91	7.55
2100	Two-2" x 10" to two-2" x 14" joists		150	.053		4.55	1.93		6.48	8.15
2300	3/16" thick, 6" x 8" joist		145	.055		75	1.99		76.99	86
2400	6" x 10" joist		140	.057		77.50	2.07		79.57	89
2500	6" x 12" joist		135	.059		79.50	2.14		81.64	91
2700	1/4" thick, 6" x 14" joist		130	.062		82	2.22		84.22	93.50
2900	Plywood clips, extruded aluminum H clip, for 3/4" panels					.24			.24	.26
3000	Galvanized 18 ga. back-up clip					.19			.19	.21
3200	Post framing, 16 ga. galv. for 4" x 4" base, 2 piece	1 Corp	130	.062		15.25	2.22		17.47	20.50
3300	Cap		130	.062		25	2.22		27.22	31
3500	Rafter anchors, 18 ga. galv., 1-1/2" wide, 5-1/4" long		145	.055		.41	1.99		2.40	3.73
3600	10-3/4" long		145	.055		1.15	1.99		3.14	4.55
3800	Shear plates, 2-5/8" diameter		120	.067		3.20	2.41		5.61	7.50
3900	4" diameter		115	.070		2.69	2.52		5.21	7.10
4000	Sill anchors, embedded in concrete or block, 25-1/2" long		115	.070		16.10	2.52		18.62	22
4100	Spike grids, 3" x 6"		120	.067		1.34	2.41		3.75	5.45
4400	Split rings, 2-1/2" diameter		120	.067		3.31	2.41		5.72	7.60

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

		Daily	Labor-Hours	Unit	2020 Bare Costs			Total	
06 05 23.60	Timber Connectors	Crew	Output		Material	Labor	Equipment	Ind O&P	
4500	4" diameter	1 Carp	110	.073	Ea.	3.51	2.63	6.14	8.20
4550	Tie plate, 20 ga., 7" x 3-1/8"		110	.073		3.51	2.63	6.14	8.20
4560	5" x 4-1/8"		110	.073		3.51	2.63	6.14	8.20
4575	Twist straps, 18 ga., 12" x 1-1/4"		110	.073		3.51	2.63	6.14	8.20
4580	16" x 1-1/4"		110	.073		3.51	2.63	6.14	8.20
4600	Strap ties, 20 ga., 2-1/16" wide, 12-13/16" long		180	.044		1.01	1.61	2.62	3.75
4700	16 ga., 1-3/8" wide, 12" long		180	.044		1.01	1.61	2.62	3.75
4800	1-1/4" wide, 21-5/8" long		160	.050		2.81	1.81	4.62	6.05
5000	Toothed rings, 2-5/8" or 4" diameter		90	.089		2.33	3.21	5.54	7.85
5200	Truss plates, nailed, 20 ga., up to 32' span	↓	17	.471	Truss	15.15	17	32.15	44.50
5400	Washers, 2" x 2" x 1/8"				Ea.	.48		.48	.53
5500	3" x 3" x 3/16"				"	1.26		1.26	1.39
6000	Angles and gussets, painted								
6012	7 ga., 3-1/4" x 3-1/4" x 2-1/2" long	1 Carp	1.90	4.211	C	1,225	152	1,377	1,600
6014	3-1/4" x 3-1/4" x 5" long		1.90	4.211		2,150	152	2,302	2,625
6016	3-1/4" x 3-1/4" x 7-1/2" long		1.85	4.324		4,100	156	4,256	4,750
6018	5-3/4" x 5-3/4" x 2-1/2" long		1.85	4.324		2,650	156	2,806	3,150
6020	5-3/4" x 5-3/4" x 5" long		1.85	4.324		4,200	156	4,356	4,875
6022	5-3/4" x 5-3/4" x 7-1/2" long		1.80	4.444		5,925	161	6,086	6,800
6024	3 ga., 4-1/4" x 4-1/4" x 3" long		1.85	4.324		2,875	156	3,031	3,425
6026	4-1/4" x 4-1/4" x 6" long		1.85	4.324		5,750	156	5,906	6,575
6028	4-1/4" x 4-1/4" x 9" long		1.80	4.444		6,975	161	7,136	7,950
6030	7-1/4" x 7-1/4" x 3" long		1.80	4.444		5,000	161	5,161	5,775
6032	7-1/4" x 7-1/4" x 6" long		1.80	4.444		6,750	161	6,911	7,700
6034	7-1/4" x 7-1/4" x 9" long	▼	1.75	4.571	▼	14,000	165	14,165	15,700
6036	Gussets								
6038	7 ga., 8-1/8" x 8-1/8" x 2-3/4" long	1 Carp	1.80	4.444	C	5,700	161	5,861	6,550
6040	3 ga., 9-3/4" x 9-3/4" x 3-1/4" long	"	1.80	4.444	"	8,425	161	8,586	9,550
6101	Beam hangers, polymer painted								
6102	Bolted, 3 ga. (W x H x L)								
6104	3-1/4" x 9" x 12" top flange	1 Carp	1	8	C	19,700	289	19,989	22,200
6106	5-1/4" x 9" x 12" top flange		1	8		20,700	289	20,989	23,300
6108	5-1/4" x 11" x 11-3/4" top flange		1	8		21,400	289	21,689	24,000
6110	6-7/8" x 9" x 12" top flange		1	8		21,300	289	21,589	23,900
6112	6-7/8" x 11" x 13-1/2" top flange		1	8		29,700	289	29,989	33,100
6114	8-7/8" x 11" x 15-1/2" top flange	▼	1	8	▼	24,400	289	24,689	27,300
6116	Nailed, 3 ga. (W x H x L)								
6118	3-1/4" x 10-1/2" x 10" top flange	1 Carp	1.80	4.444	C	20,700	161	20,861	23,100
6120	3-1/4" x 10-1/2" x 12" top flange		1.80	4.444		25,200	161	25,361	28,000
6122	5-1/4" x 9-1/2" x 10" top flange		1.80	4.444		20,600	161	20,761	23,000
6124	5-1/4" x 9-1/2" x 12" top flange		1.80	4.444		29,400	161	29,561	32,600
6128	6-7/8" x 8-1/2" x 12" top flange	▼	1.80	4.444	▼	21,300	161	21,461	23,700
6134	Saddle hangers, glu-lam (W x H x L)								
6136	3-1/4" x 10-1/2" x 5-1/4" x 6" saddle	1 Carp	.50	16	C	15,500	580	16,080	18,000
6138	3-1/4" x 10-1/2" x 6-7/8" x 6" saddle		.50	16		16,300	580	16,880	18,900
6140	3-1/4" x 10-1/2" x 8-7/8" x 6" saddle		.50	16		18,000	580	18,580	20,800
6142	3-1/4" x 19-1/2" x 5-1/4" x 10-1/8" saddle		.40	20		17,500	725	18,225	20,400
6144	3-1/4" x 19-1/2" x 6-7/8" x 10-1/8" saddle		.40	20		18,600	725	19,325	21,700
6146	3-1/4" x 19-1/2" x 8-7/8" x 10-1/8" saddle		.40	20		16,700	725	17,425	19,600
6148	5-1/4" x 9-1/2" x 5-1/4" x 12" saddle		.50	16		19,600	580	20,180	22,600
6150	5-1/4" x 9-1/2" x 6-7/8" x 9" saddle		.50	16		19,500	580	20,080	22,500
6152	5-1/4" x 10-1/2" x spec x 12" saddle		.50	16		23,400	580	23,980	26,700
6154	5-1/4" x 18" x 5-1/4" x 12-1/8" saddle		.40	20		18,000	725	18,725	21,000

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
<b>06 05 23.60 Timber Connectors</b>									
6156	5-1/4" x 18" x 6-7/8" x 12-1/8" saddle	1 Carp	.40	20	C	19,700	725	20,425	22,800
6158	5-1/4" x 18" x spec x 12-1/8" saddle		.40	20		21,300	725	22,025	24,700
6160	6-7/8" x 8-1/2" x 6-7/8" x 12" saddle		.50	16		22,200	580	22,780	25,400
6162	6-7/8" x 8-1/2" x 8-7/8" x 12" saddle		.50	16		23,000	580	23,580	26,200
6164	6-7/8" x 10-1/2" x spec x 12" saddle		.50	16		22,200	580	22,780	25,400
6166	6-7/8" x 18" x 6-7/8" x 13-3/4" saddle		.40	20		25,400	725	26,125	29,200
6168	6-7/8" x 18" x 8-7/8" x 13-3/4" saddle		.40	20		26,000	725	26,725	29,700
6170	6-7/8" x 18" x spec x 13-3/4" saddle		.40	20		28,400	725	29,125	32,400
6172	8-7/8" x 18" x spec x 15-3/4" saddle		.40	20		38,600	725	39,325	43,600
6201	Beam and purlin hangers, galvanized, 12 ga.								
6202	Purlin or joist size, 3" x 8"	1 Carp	1.70	4,706	C	2,300	170	2,470	2,800
6204	3" x 10"		1.70	4,706		1,875	170	2,045	2,325
6206	3" x 12"		1.65	4,848		2,575	175	2,750	3,125
6208	3" x 14"		1.65	4,848		3,000	175	3,175	3,600
6210	3" x 16"		1.65	4,848		3,175	175	3,350	3,800
6212	4" x 8"		1.65	4,848		2,325	175	2,500	2,850
6214	4" x 10"		1.65	4,848		2,225	175	2,400	2,750
6216	4" x 12"		1.60	5		2,525	181	2,706	3,075
6218	4" x 14"		1.60	5		2,775	181	2,956	3,375
6220	4" x 16"		1.60	5		2,950	181	3,131	3,550
6222	6" x 8"		1.60	5		2,050	181	2,231	2,550
6224	6" x 10"		1.55	5,161		2,300	187	2,487	2,825
6226	6" x 12"		1.55	5,161		4,650	187	4,837	5,400
6228	6" x 14"		1.50	5,333		4,925	193	5,118	5,725
6230	6" x 16"		1.50	5,333		4,525	193	4,718	5,300
6250	Beam seats								
6252	Beam size, 5-1/4" wide								
6254	5" x 7" x 1/4"	1 Carp	1.80	4,444	C	7,475	161	7,636	8,500
6256	6" x 7" x 3/8"		1.80	4,444		9,325	161	9,486	10,500
6258	7" x 7" x 3/8"		1.80	4,444		9,000	161	9,161	10,200
6260	8" x 7" x 3/8"		1.80	4,444		10,600	161	10,761	12,000
6262	Beam size, 6-7/8" wide								
6264	5" x 9" x 1/4"	1 Carp	1.80	4,444	C	8,975	161	9,136	10,100
6266	6" x 9" x 3/8"		1.80	4,444		11,700	161	11,861	13,100
6268	7" x 9" x 3/8"		1.80	4,444		13,100	161	13,261	14,700
6270	8" x 9" x 3/8"		1.80	4,444		15,500	161	15,661	17,300
6272	Special beams, over 6-7/8" wide								
6274	5" x 10" x 3/8"	1 Carp	1.80	4,444	C	15,100	161	15,261	16,900
6276	6" x 10" x 3/8"		1.80	4,444		15,700	161	15,861	17,500
6278	7" x 10" x 3/8"		1.80	4,444		14,800	161	14,961	16,600
6280	8" x 10" x 3/8"		1.75	4,571		15,600	165	15,765	17,500
6282	5-1/4" x 12" x 5/16"		1.75	4,571		12,100	165	12,265	13,600
6284	6-1/2" x 12" x 3/8"		1.75	4,571		20,100	165	20,265	22,400
6286	5-1/4" x 16" x 5/16"		1.70	4,706		17,700	170	17,870	19,700
6288	6-1/2" x 16" x 3/8"		1.70	4,706		30,000	170	30,170	33,300
6290	5-1/4" x 20" x 5/16"		1.70	4,706		23,500	170	23,670	26,100
6292	6-1/2" x 20" x 3/8"		1.65	4,848		35,300	175	35,475	39,100
6300	Column bases								
6302	4" x 4", 16 ga.	1 Carp	1.80	4,444	C	910	161	1,071	1,275
6306	7 ga.		1.80	4,444		3,200	161	3,361	3,775
6308	4" x 6", 16 ga.		1.80	4,444		1,625	161	1,786	2,075
6312	7 ga.		1.80	4,444		2,800	161	2,961	3,350
6314	6" x 6", 16 ga.		1.75	4,571		2,050	165	2,215	2,525

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.60 Timber Connectors	Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Ind O&P
					Material	Labor	Equipment		
6318 7 ga.	1 Carp	1.75	4.571	C	3,625	165		3,790	4,275
6320 6" x 8", 7 ga.		1.70	4.706		3,700	170		3,870	4,350
6322 6" x 10", 7 ga.		1.70	4.706		4,200	170		4,370	4,900
6324 6" x 12", 7 ga.		1.70	4.706		4,525	170		4,695	5,250
6326 8" x 8", 7 ga.		1.65	4.848		7,275	175		7,450	8,300
6330 8" x 10", 7 ga		1.65	4.848		7,125	175		7,300	8,125
6332 8" x 12", 7 ga.		1.60	5		7,725	181		7,906	8,800
6334 10" x 10", 3 ga.		1.60	5		7,875	181		8,056	8,975
6336 10" x 12", 3 ga.		1.60	5		9,050	181		9,231	10,300
6338 12" x 12", 3 ga.		1.55	5.161		9,825	187		10,012	11,100
6350 Column caps, painted, 3 ga.									
6352 3-1/4" x 3-5/8"	1 Carp	1.80	4.444	C	12,200	161		12,361	13,700
6354 3-1/4" x 5-1/2"		1.80	4.444		12,200	161		12,361	13,700
6356 3-5/8" x 3-5/8"		1.80	4.444		8,400	161		8,561	9,525
6358 3-5/8" x 5-1/2"		1.80	4.444		8,400	161		8,561	9,525
6360 5-1/4" x 5-1/2"		1.75	4.571		10,200	165		10,365	11,600
6362 5-1/4" x 7-1/2"		1.75	4.571		10,700	165		10,865	12,100
6364 5-1/2" x 3-5/8"		1.75	4.571		10,200	165		10,365	11,500
6366 5-1/2" x 5-1/2"		1.75	4.571		10,200	165		10,365	11,500
6368 5-1/2" x 7-1/2"		1.70	4.706		11,500	170		11,670	13,000
6370 6-7/8" x 5-1/2"		1.70	4.706		12,000	170		12,170	13,500
6372 6-7/8" x 6-7/8"		1.70	4.706		12,000	170		12,170	13,500
6374 6-7/8" x 7-1/2"		1.70	4.706		12,000	170		12,170	13,500
6376 7-1/2" x 5-1/2"		1.65	4.848		12,600	175		12,775	14,100
6378 7-1/2" x 7-1/2"		1.65	4.848		12,600	175		12,775	14,100
6380 8-7/8" x 5-1/2"		1.60	5		13,300	181		13,481	14,900
6382 8-7/8" x 7-1/2"		1.60	5		13,300	181		13,481	14,900
6384 9-1/2" x 5-1/2"		1.60	5		18,000	181		18,181	20,100
6400 Floor tie anchors, polymer paint									
6402 10 ga., 3" x 37-1/2"	1 Carp	1.80	4.444	C	4,800	161		4,961	5,550
6404 3-1/2" x 45-1/2"		1.75	4.571		5,000	165		5,165	5,775
6406 3 ga., 3-1/2" x 56"		1.70	4.706		8,825	170		8,995	9,975
6410 Girder hangers									
6412 6" wall thickness, 4" x 6"	1 Carp	1.80	4.444	C	2,700	161		2,861	3,250
6414 4" x 8"		1.80	4.444		2,950	161		3,111	3,500
6416 8" wall thickness, 4" x 6"		1.80	4.444		3,000	161		3,161	3,550
6418 4" x 8"		1.80	4.444		3,400	161		3,561	4,025
6420 Hinge connections, polymer painted									
6422 3/4" thick top plate									
6424 5-1/4" x 12" w/5" x 5" top	1 Carp	1	8	C	41,900	289		42,189	46,600
6426 5-1/4" x 15" w/6" x 6" top		.80	10		44,500	360		44,860	49,600
6428 5-1/4" x 18" w/7" x 7" top		.70	11.429		46,800	415		47,215	52,000
6430 5-1/4" x 26" w/9" x 9" top		.60	13.333		49,800	480		50,280	56,000
6432 1" thick top plate									
6434 6-7/8" x 14" w/5" x 5" top	1 Carp	.80	10	C	51,000	360		51,360	56,500
6436 6-7/8" x 17" w/6" x 6" top		.80	10		56,500	360		56,860	63,000
6438 6-7/8" x 21" w/7" x 7" top		.70	11.429		62,000	415		62,415	68,500
6440 6-7/8" x 31" w/9" x 9" top		.60	13.333		67,500	480		67,980	75,500
6442 1-1/4" thick top plate									
6444 8-7/8" x 16" w/5" x 5" top	1 Carp	.60	13.333	C	63,500	480		63,980	71,000
6446 8-7/8" x 21" w/6" x 6" top		.50	16		70,000	580		70,580	78,000
6448 8-7/8" x 26" w/7" x 7" top		.40	20		79,500	725		80,225	88,500
6450 8-7/8" x 39" w/9" x 9" top		.30	26.667		99,000	965		99,965	110,000

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
Category	Item Description	Crew				Labor	Equipment		
06 05 23.60 Timber Connectors									
6460	Heldowns								
6462	Embedded along edge								
6464	26" long, 12 ga.	1 Corp	.90	8.889	C	1,225	320	1,545	1,875
6466	35" long, 12 ga.		.85	9.412		1,675	340	2,015	2,400
6468	35" long, 10 ga.		.85	9.412		1,750	340	2,090	2,475
6470	Embedded away from edge								
6472	Medium duty, 12 ga.								
6474	18-1/2" long	1 Corp	.95	8.421	C	890	305	1,195	1,475
6476	23-3/4" long		.90	8.889		1,125	320	1,445	1,750
6478	28" long		.85	9.412		1,150	340	1,490	1,800
6480	35" long		.85	9.412		1,575	340	1,915	2,275
6482	Heavy duty, 10 ga.								
6484	28" long	1 Corp	.85	9.412	C	2,175	340	2,515	2,950
6486	35" long	"	.85	9.412	"	2,375	340	2,715	3,175
6490	Surface mounted (W x H)								
6492	2-1/2" x 5-3/4", 7 ga.	1 Corp	1	8	C	2,350	289	2,639	3,050
6494	2-1/2" x 8", 12 ga.		1	8		1,375	289	1,664	2,000
6496	2-7/8" x 6-3/8", 7 ga.		1	8		4,825	289	5,114	5,775
6498	2-7/8" x 12-1/2", 3 ga.		1	8		4,400	289	4,689	5,300
6500	3-3/16" x 9-3/8", 10 ga.		1	8		4,800	289	5,089	5,750
6502	3-1/2" x 11-5/8", 3 ga.		1	8		6,250	289	6,539	7,350
6504	3-1/2" x 14-3/4", 3 ga.		1	8		13,100	289	13,389	14,900
6506	3-1/2" x 16-1/2", 3 ga.		1	8		17,600	289	17,889	19,900
6508	3-1/2" x 20-1/2", 3 ga.		.90	8.889		17,200	320	17,520	19,400
6510	3-1/2" x 24-1/2", 3 ga.		.90	8.889		24,000	320	24,320	26,900
6512	4-1/4" x 20-3/4", 3 ga.		.90	8.889		23,100	320	23,420	25,900
6520	Joist hangers								
6522	Sloped, field adjustable, 18 ga.								
6524	2" x 6"	1 Corp	1.65	4.848	C	580	175	755	930
6526	2" x 8"		1.65	4.848		990	175	1,165	1,400
6528	2" x 10" and up		1.65	4.848		1,025	175	1,200	1,425
6530	3" x 10" and up		1.60	5		1,300	181	1,481	1,725
6532	4" x 10" and up		1.55	5.161		1,375	187	1,562	1,825
6536	Skewed 45°, 16 ga.								
6538	2" x 4"	1 Corp	1.75	4.571	C	935	165	1,100	1,300
6540	2" x 6" or 2" x 8"		1.65	4.848		1,025	175	1,200	1,425
6542	2" x 10" or 2" x 12"		1.65	4.848		1,175	175	1,350	1,575
6544	2" x 14" or 2" x 16"		1.60	5		2,125	181	2,306	2,625
6546	(2) 2" x 6" or (2) 2" x 8"		1.60	5		1,775	181	1,956	2,250
6548	(2) 2" x 10" or (2) 2" x 12"		1.55	5.161		2,275	187	2,462	2,800
6550	(2) 2" x 14" or (2) 2" x 16"		1.50	5.333		3,150	193	3,343	3,800
6552	4" x 6" or 4" x 8"		1.60	5		1,700	181	1,881	2,175
6554	4" x 10" or 4" x 12"		1.55	5.161		1,850	187	2,037	2,350
6556	4" x 14" or 4" x 16"		1.55	5.161		2,975	187	3,162	3,550
6560	Skewed 45°, 14 ga.								
6562	(2) 2" x 6" or (2) 2" x 8"	1 Corp	1.60	5	C	1,875	181	2,056	2,350
6564	(2) 2" x 10" or (2) 2" x 12"		1.55	5.161		2,475	187	2,662	3,025
6566	(2) 2" x 14" or (2) 2" x 16"		1.50	5.333		3,950	193	4,143	4,675
6568	4" x 6" or 4" x 8"		1.60	5		2,275	181	2,456	2,800
6570	4" x 10" or 4" x 12"		1.55	5.161		2,750	187	2,937	3,325
6572	4" x 14" or 4" x 16"		1.55	5.161		4,200	187	4,387	4,900
6590	Joist hangers, heavy duty 12 ga., galvanized								
6592	2" x 4"	1 Corp	1.75	4.571	C	1,625	165	1,790	2,075

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.60 Timber Connectors		Daily	Labor-	Unit	2020 Bare Costs			Total	Total Incl O&P		
		Crew	Output		Hours	Material	Labor				
6594	2" x 6"			1 Carp	1.65	4.848	C	1,600	175	1,775	2,050
6595	2" x 6", 16 ga.				1.65	4.848		1,500	175	1,675	1,950
6596	2" x 8"				1.65	4.848		2,450	175	2,625	2,975
6597	2" x 8", 16 ga.				1.65	4.848		2,325	175	2,500	2,850
6598	2" x 10"				1.65	4.848		2,525	175	2,700	3,075
6600	2" x 12"				1.65	4.848		2,825	175	3,000	3,425
6602	2" x 14"				1.65	4.848		3,450	175	3,625	4,075
6604	2" x 16"				1.65	4.848		3,625	175	3,800	4,300
6606	3" x 4"				1.65	4.848		2,125	175	2,300	2,625
6608	3" x 6"				1.65	4.848		2,650	175	2,825	3,200
6610	3" x 8"				1.65	4.848		3,025	175	3,200	3,625
6612	3" x 10"				1.60	5		3,500	181	3,681	4,150
6614	3" x 12"				1.60	5		3,750	181	3,931	4,425
6616	3" x 14"				1.60	5		4,775	181	4,956	5,550
6618	3" x 16"				1.60	5		5,125	181	5,306	5,950
6620	(2) 2" x 4"				1.75	4.571		2,375	165	2,540	2,875
6622	(2) 2" x 6"				1.60	5		2,825	181	3,006	3,425
6624	(2) 2" x 8"				1.60	5		2,900	181	3,081	3,500
6626	(2) 2" x 10"				1.55	5.161		3,050	187	3,237	3,650
6628	(2) 2" x 12"				1.55	5.161		4,025	187	4,212	4,725
6630	(2) 2" x 14"				1.50	5.333		4,250	193	4,443	5,000
6632	(2) 2" x 16"				1.50	5.333		4,450	193	4,643	5,225
6634	4" x 4"				1.65	4.848		1,975	175	2,150	2,475
6636	4" x 6"				1.60	5		2,275	181	2,456	2,800
6638	4" x 8"				1.60	5		2,450	181	2,631	3,000
6640	4" x 10"				1.55	5.161		3,000	187	3,187	3,600
6642	4" x 12"				1.55	5.161		3,275	187	3,462	3,925
6644	4" x 14"				1.55	5.161		3,225	187	3,412	3,825
6646	4" x 16"				1.55	5.161		3,750	187	3,937	4,425
6648	(3) 2" x 10"				1.50	5.333		4,025	193	4,218	4,750
6650	(3) 2" x 12"				1.50	5.333		4,600	193	4,793	5,375
6652	(3) 2" x 14"				1.45	5.517		5,650	199	5,849	6,550
6654	(3) 2" x 16"				1.45	5.517		4,575	199	4,774	5,350
6656	6" x 6"				1.60	5		2,150	181	2,331	2,650
6658	6" x 8"				1.60	5		2,475	181	2,656	3,025
6660	6" x 10"				1.55	5.161		2,825	187	3,012	3,400
6662	6" x 12"				1.55	5.161		3,200	187	3,387	3,825
6664	6" x 14"				1.50	5.333		4,025	193	4,218	4,750
6666	6" x 16"				1.50	5.333		4,975	193	5,168	5,800
6690	Knee braces, galvanized, 12 ga.										
6692	Beam depth, 10" x 15" x 5' long			1 Corp	1.80	4.444	C	6,475	161	6,636	7,400
6694	15" x 22-1/2" x 7' long				1.70	4.706		7,425	170	7,595	8,450
6696	22-1/2" x 28-1/2" x 8' long				1.60	5		7,975	181	8,156	9,075
6698	28-1/2" x 36" x 10' long				1.55	5.161		8,325	187	8,512	9,450
6700	36" x 42" x 12' long				1.50	5.333		9,175	193	9,368	10,400
6710	Mudsill anchors										
6714	2" x 4" or 3" x 4"			1 Corp	115	.070	C	183	2.52	185.52	206
6716	2" x 6" or 3" x 6"				115	.070		183	2.52	185.52	206
6718	Block wall, 13-1/4" long				115	.070		93.50	2.52	96.02	107
6720	21-1/4" long				115	.070		128	2.52	130.52	145
6730	Post bases, 12 ga. galvanized										
6732	Adjustable, 3-9/16" x 3-9/16"			1 Corp	1.30	6.154	C	1,250	222	1,472	1,750
6734	3-9/16" x 5-1/2"				1.30	6.154		1,900	222	2,122	2,475

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.60	Timber Connectors	Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
						Material	Labor	Equipment		
6736	4" x 4"	1 Corp	1.30	6.154	C	945	222		1,167	1,425
6738	4" x 6"		1.30	6.154		1,325	222		1,547	1,825
6740	5-1/2" x 5-1/2"		1.30	6.154		1,825	222		2,047	2,375
6742	6" x 6"		1.30	6.154		3,300	222		3,522	4,000
6744	Elevated, 3-9/16" x 3-1/4"		1.30	6.154		1,400	222		1,622	1,900
6746	5-1/2" x 3-5/16"		1.30	6.154		1,875	222		2,097	2,450
6748	5-1/2" x 5"		1.30	6.154		2,875	222		3,097	3,550
6750	Regular, 3-9/16" x 3-3/8"		1.30	6.154		1,025	222		1,247	1,500
6752	4" x 3-3/8"		1.30	6.154		1,550	222		1,772	2,075
6754	18 ga., 5-1/4" x 3-1/8"		1.30	6.154		1,525	222		1,747	2,050
6755	5-1/2" x 3-3/8"		1.30	6.154		1,525	222		1,747	2,050
6756	5-1/2" x 5-3/8"		1.30	6.154		2,175	222		2,397	2,775
6758	6" x 3-3/8"		1.30	6.154		2,450	222		2,672	3,075
6760	6" x 5-3/8"		1.30	6.154		3,100	222		3,322	3,800
6762	Post combination cap/bases									
6764	3-9/16" x 3-9/16"	1 Corp	1.20	6.667	C	445	241		686	885
6766	3-9/16" x 5-1/2"		1.20	6.667		1,100	241		1,341	1,600
6768	4" x 4"		1.20	6.667		2,200	241		2,441	2,825
6770	5-1/2" x 5-1/2"		1.20	6.667		1,250	241		1,491	1,775
6772	6" x 6"		1.20	6.667		4,975	241		5,216	5,875
6774	7-1/2" x 7-1/2"		1.20	6.667		5,400	241		5,641	6,325
6776	8" x 8"		1.20	6.667		5,675	241		5,916	6,625
6790	Post-beam connection caps									
6792	Beam size 3-9/16"									
6794	12 ga. post, 4" x 4"	1 Corp	1	8	C	3,175	289		3,464	3,975
6796	4" x 6"		1	8		4,300	289		4,589	5,200
6798	4" x 8"		1	8		5,850	289		6,139	6,900
6800	16 ga. post, 4" x 4"		1	8		1,150	289		1,439	1,750
6802	4" x 6"		1	8		1,700	289		1,989	2,350
6804	4" x 8"		1	8		3,350	289		3,639	4,150
6805	18 ga. post, 2-7/8" x 3"		1	8		3,350	289		3,639	4,150
6806	Beam size 5-1/2"									
6808	12 ga. post, 6" x 4"	1 Corp	1	8	C	3,425	289		3,714	4,250
6810	6" x 6"		1	8		4,775	289		5,064	5,725
6812	6" x 8"		1	8		4,875	289		5,164	5,825
6816	16 ga. post, 6" x 4"		1	8		1,975	289		2,264	2,650
6818	6" x 6"		1	8		2,000	289		2,289	2,675
6820	Beam size 7-1/2"									
6822	12 ga. post, 8" x 4"	1 Corp	1	8	C	4,875	289		5,164	5,850
6824	8" x 6"		1	8		4,875	289		5,164	5,850
6826	8" x 8"		1	8		7,525	289		7,814	8,750
6840	Purlin anchors, embedded									
6842	Heavy duty, 10 ga.									
6844	Straight, 28" long	1 Corp	1.60	5	C	1,775	181		1,956	2,250
6846	35" long		1.50	5.333		1,850	193		2,043	2,350
6848	Twisted, 28" long		1.60	5		1,725	181		1,906	2,200
6850	35" long		1.50	5.333		1,825	193		2,018	2,325
6852	Regular duty, 12 ga.									
6854	Straight, 18-1/2" long	1 Corp	1.80	4.444	C	1,050	161		1,211	1,425
6856	23-3/4" long		1.70	4.706		1,250	170		1,420	1,650
6858	29" long		1.60	5		1,425	181		1,606	1,850
6860	35" long		1.50	5.333		1,650	193		1,843	2,150
6862	Twisted, 18" long		1.80	4.444		1,050	161		1,211	1,425

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.60 Timber Connectors		Daily	Labor-	Unit	2020 Bare Costs			Total	Total Incl O&P
		Crew Output	Hours		Material	Labor	Equipment		
6866	28" long	1 Corp	1.60	5	C	1,200	181	1,381	1,625
6868	35" long	↓	1.50	5.333	↓	1,850	193	2,043	2,350
6870	Straight, plastic coated								
6872	23-1/2" long	1 Corp	1.60	5	C	2,575	181	2,756	3,125
6874	26-7/8" long	↓	1.60	5	↓	3,000	181	3,181	3,600
6876	32-1/2" long	↓	1.50	5.333	↓	3,200	193	3,393	3,850
6878	35-7/8" long	↓	1.50	5.333	↓	3,350	193	3,543	4,000
6890	Purlin hangers, painted								
6892	12 ga., 2" x 6"	1 Corp	1.80	4.444	C	2,175	161	2,336	2,675
6894	2" x 8"	↓	1.80	4.444	↓	2,050	161	2,211	2,525
6896	2" x 10"	↓	1.80	4.444	↓	2,175	161	2,336	2,675
6898	2" x 12"	↓	1.75	4.571	↓	2,650	165	2,815	3,200
6900	2" x 14"	↓	1.75	4.571	↓	2,825	165	2,990	3,400
6902	2" x 16"	↓	1.75	4.571	↓	3,025	165	3,190	3,600
6904	3" x 6"	↓	1.70	4.706	↓	2,125	170	2,295	2,600
6906	3" x 8"	↓	1.70	4.706	↓	2,300	170	2,470	2,800
6908	3" x 10"	↓	1.70	4.706	↓	2,475	170	2,645	3,000
6910	3" x 12"	↓	1.65	4.848	↓	2,850	175	3,025	3,425
6912	3" x 14"	↓	1.65	4.848	↓	3,025	175	3,200	3,625
6914	3" x 16"	↓	1.65	4.848	↓	3,100	175	3,275	3,725
6916	4" x 6"	↓	1.65	4.848	↓	2,125	175	2,300	2,650
6918	4" x 8"	↓	1.65	4.848	↓	2,325	175	2,500	2,850
6920	4" x 10"	↓	1.65	4.848	↓	2,500	175	2,675	3,050
6922	4" x 12"	↓	1.60	5	↓	2,625	181	2,806	3,175
6924	4" x 14"	↓	1.60	5	↓	3,125	181	3,306	3,750
6926	4" x 16"	↓	1.60	5	↓	3,300	181	3,481	3,950
6928	6" x 6"	↓	1.60	5	↓	2,625	181	2,806	3,200
6930	6" x 8"	↓	1.60	5	↓	2,550	181	2,731	3,100
6932	6" x 10"	↓	1.55	5.161	↓	2,675	187	2,862	3,225
6934	double 2" x 6"	↓	1.70	4.706	↓	1,925	170	2,095	2,400
6936	double 2" x 8"	↓	1.70	4.706	↓	2,575	170	2,745	3,125
6938	double 2" x 10"	↓	1.70	4.706	↓	2,150	170	2,320	2,650
6940	double 2" x 12"	↓	1.65	4.848	↓	2,850	175	3,025	3,425
6942	double 2" x 14"	↓	1.65	4.848	↓	2,550	175	2,725	3,100
6944	double 2" x 16"	↓	1.65	4.848	↓	2,900	175	3,075	3,500
6960	11 ga., 4" x 6"	↓	1.65	4.848	↓	4,200	175	4,375	4,925
6962	4" x 8"	↓	1.65	4.848	↓	4,525	175	4,700	5,275
6964	4" x 10"	↓	1.65	4.848	↓	4,825	175	5,000	5,625
6966	6" x 6"	↓	1.60	5	↓	4,250	181	4,431	4,950
6968	6" x 8"	↓	1.60	5	↓	4,550	181	4,731	5,300
6970	6" x 10"	↓	1.55	5.161	↓	4,850	187	5,037	5,650
6972	6" x 12"	↓	1.55	5.161	↓	5,200	187	5,387	6,000
6974	6" x 14"	↓	1.55	5.161	↓	5,500	187	5,687	6,350
6976	6" x 16"	↓	1.50	5.333	↓	5,800	193	5,993	6,725
6978	7 ga., 8" x 6"	↓	1.60	5	↓	4,100	181	4,281	4,800
6980	8" x 8"	↓	1.60	5	↓	4,950	181	5,131	5,725
6982	8" x 10"	↓	1.55	5.161	↓	5,250	187	5,437	6,075
6984	8" x 12"	↓	1.55	5.161	↓	5,350	187	5,537	6,175
6986	8" x 14"	↓	1.50	5.333	↓	5,875	193	6,068	6,775
6988	8" x 16"	↓	1.50	5.333	↓	6,175	193	6,368	7,125
7000	Strap connectors, galvanized								
7002	12 ga., 2-1/16" x 36"	1 Corp	1.55	5.161	C	1,375	187	1,562	1,825
7004	2-1/16" x 47"	↓	1.50	5.333	↓	1,925	193	2,118	2,425

# 06 05 Common Work Results for Wood, Plastics, and Composites

## 06 05 23 – Wood, Plastic, and Composite Fastenings

06 05 23.60 Timber Connectors		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment	Total	
7005	10 ga., 2-1/16" x 72"	1 Corp	1.50	5.333	C	2,000	193	2,193	2,525
7006	7 ga., 2-1/16" x 34"		1.55	5.161		2,900	187	3,087	3,475
7008	2-1/16" x 45"		1.50	5.333		4,475	193	4,668	5,225
7010	3 ga., 3" x 32"		1.55	5.161		5,775	187	5,962	6,650
7012	3" x 41"		1.55	5.161		5,975	187	6,162	6,875
7014	3" x 50"		1.50	5.333		9,125	193	9,318	10,300
7016	3" x 59"		1.50	5.333		11,100	193	11,293	12,500
7018	3-1/2" x 68"		1.45	5.517		11,300	199	11,499	12,700
7030	Tension ties								
7032	19-1/8" long, 16 ga., 3/4" anchor bolt	1 Corp	1.80	4.444	C	1,525	161	1,686	1,950
7034	20" long, 12 ga., 1/2" anchor bolt		1.80	4.444		1,675	161	1,836	2,125
7036	20" long, 12 ga., 3/4" anchor bolt		1.80	4.444		1,700	161	1,861	2,125
7038	27-3/4" long, 12 ga., 3/4" anchor bolt		1.75	4.571		3,625	165	3,790	4,275
7050	Truss connectors, galvanized								
7052	Adjustable hanger								
7054	18 ga., 2" x 6"	1 Corp	1.65	4.848	C	525	175	700	865
7056	4" x 6"		1.65	4.848		815	175	990	1,175
7058	16 ga., 4" x 10"		1.60	5		1,200	181	1,381	1,600
7060	(2) 2" x 10"		1.60	5		1,200	181	1,381	1,600
7062	Connectors to plate								
7064	16 ga., 2" x 4" plate	1 Corp	1.80	4.444	C	515	161	676	830
7066	2" x 6" plate	"	1.80	4.444	"	790	161	951	1,125
7068	Hip jack connector								
7070	14 ga.	1 Corp	1.50	5.333	C	2,900	193	3,093	3,525

## 06 05 23.80 Metal Bracing

0010 METAL BRACING									
0302	Let-in, "T" shaped, 22 ga. galv. steel, studs at 16" OC	1 Corp	580	.014	L.F.	.85	.50	1.35	1.76
0402	Studs at 24" OC		600	.013		.85	.48	1.33	1.73
0502	Steel straps, 16 ga. galv. steel, studs at 16" OC		600	.013		1.10	.48	1.58	2
0602	Studs at 24" OC		620	.013		1.10	.47	1.57	1.98

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

### 06 11 10.01 Forest Stewardship Council Certification

0010 FOREST STEWARDSHIP COUNCIL CERTIFICATION		G	65%
0020	For Forest Stewardship Council (FSC) cert dimension lumber, add		

### 06 11 10.02 Blocking

0010 BLOCKING									
1790	Bolted to concrete								
1798	Ledger board, 2" x 4"	1 Corp	180	.044	L.F.	5.25	1.61	6.86	8.45
1800	2" x 6"		160	.050		5.45	1.81	7.26	8.95
1810	4" x 6"		140	.057		9.35	2.07	11.42	13.65
1820	4" x 8"		120	.067		10.60	2.41	13.01	15.60
1950	Miscellaneous, to wood construction								
2000	2" x 4"	1 Corp	250	.032	L.F.	.47	1.16	1.63	2.42
2005	Pneumatic nailed		305	.026		.48	.95	1.43	2.09
2050	2" x 6"		222	.036		.69	1.30	1.99	2.89
2055	Pneumatic nailed		271	.030		.69	1.07	1.76	2.51
2100	2" x 8"		200	.040		1	1.45	2.45	3.48
2105	Pneumatic nailed		244	.033		1.01	1.19	2.20	3.06

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.02 Blocking			Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Total Labor	Equipment	Total	Total Incl O&P
2150	2" x 10"		1 Carp	178	.045	L.F.	1.33	1.62			2.95	4.13
2155	Pneumatic nailed			217	.037		1.34	1.33			2.67	3.67
2200	2" x 12"			151	.053		1.74	1.92			3.66	5.05
2205	Pneumatic nailed			185	.043		1.76	1.56			3.32	4.50
2300	To steel construction											
2320	2" x 4"		1 Carp	208	.038	L.F.	.47	1.39			1.86	2.80
2340	2" x 6"			180	.044		.69	1.61			2.30	3.40
2360	2" x 8"			158	.051		1	1.83			2.83	4.11
2380	2" x 10"			136	.059		1.33	2.13			3.46	4.95
2400	2" x 12"			109	.073		1.74	2.65			4.39	6.30

## 06 11 10.04 Wood Bracing

0010 WOOD BRACING			Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Total Labor	Equipment	Total	Total Incl O&P
0012	Let-in, with 1" x 6" boards, studs @ 16" OC		1 Carp	150	.053	L.F.	.83	1.93			2.76	4.08
0202	Studs @ 24" OC	"		230	.035	"	.83	1.26			2.09	2.98

## 06 11 10.06 Bridging

0010 BRIDGING			Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Total Labor	Equipment	Total	Total Incl O&P
0012	Wood, for joists 16" OC, 1" x 3"		1 Carp	130	.062	Pr.	.70	2.22			2.92	4.43
0017	Pneumatic nailed			170	.047		.79	1.70			2.49	3.67
0102	2" x 3" bridging			130	.062		.72	2.22			2.94	4.45
0107	Pneumatic nailed			170	.047		.77	1.70			2.47	3.64
0302	Steel, galvanized, 18 ga., for 2" x 10" joists at 12" OC			130	.062		1.71	2.22			3.93	5.55
0352	16" OC			135	.059		1.72	2.14			3.86	5.40
0402	24" OC			140	.057		2.63	2.07			4.70	6.30
0602	For 2" x 14" joists at 16" OC			130	.062		1.98	2.22			4.20	5.85
0902	Compression type, 16" OC, 2" x 8" joists			200	.040		1.43	1.45			2.88	3.95
1002	2" x 12" joists			200	.040		1.43	1.45			2.88	3.95

## 06 11 10.10 Beam and Girder Framing

0010 BEAM AND GIRDER FRAMING			R061110-30	Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Total Labor	Equipment	Total	Total Incl O&P
1000	Single, 2" x 6"		2 Carp	700	.023	L.F.	.69	.83			1.52	2.11	
1005	Pneumatic nailed			812	.020		.69	.71			1.40	1.93	
1020	2" x 8"			650	.025		1	.89			1.89	2.56	
1025	Pneumatic nailed			754	.021		1.01	.77			1.78	2.37	
1040	2" x 10"			600	.027		1.33	.96			2.29	3.04	
1045	Pneumatic nailed			696	.023		1.34	.83			2.17	2.85	
1060	2" x 12"			550	.029		1.74	1.05			2.79	3.64	
1065	Pneumatic nailed			638	.025		1.76	.91			2.67	3.42	
1080	2" x 14"			500	.032		2.38	1.16			3.54	4.52	
1085	Pneumatic nailed			580	.028		2.40	1			3.40	4.28	
1100	3" x 8"			550	.029		2.95	1.05			4	4.97	
1120	3" x 10"			500	.032		3.57	1.16			4.73	5.85	
1140	3" x 12"			450	.036		4.83	1.29			6.12	7.40	
1160	3" x 14"			400	.040		5.30	1.45			6.75	8.25	
1170	4" x 6"	F-3	1100	.036			3.06	1.21	.43		4.70	5.80	
1180	4" x 8"			1000	.040		4.33	1.33	.47		6.13	7.45	
1200	4" x 10"			950	.042		5.45	1.40	.50		7.35	8.85	
1220	4" x 12"			900	.044		5.80	1.48	.52		7.80	9.40	
1240	4" x 14"			850	.047		6.70	1.56	.55		8.81	10.55	
1250	6" x 8"			525	.076		8.35	2.53	.90		11.78	14.30	
1260	6" x 10"			500	.080		7.10	2.66	.94		10.70	13.20	
1290	8" x 12"			300	.133		17.45	4.43	1.57		23.45	28	
2000	Double, 2" x 6"	2 Carp	625	.026			1.37	.93			2.30	3.03	
2005	Pneumatic nailed			725	.022		1.39	.80			2.19	2.84	

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.10 Beam and Girder Framing				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
2020	2" x 8"			2 Corp	575	.028	L.F.	2	1.01	3.01	3.85
2025	Pneumatic nailed				667	.024		2.02	.87	2.89	3.65
2040	2" x 10"				550	.029		2.65	1.05	3.70	4.65
2045	Pneumatic nailed				638	.025		2.68	.91	3.59	4.44
2060	2" x 12"				525	.030		3.48	1.10	4.58	5.65
2065	Pneumatic nailed				610	.026		3.51	.95	4.46	5.40
2080	2" x 14"				475	.034		4.76	1.22	5.98	7.25
2085	Pneumatic nailed				551	.029		4.80	1.05	5.85	7.05
3000	Triple, 2" x 6"				550	.029		2.06	1.05	3.11	3.99
3005	Pneumatic nailed				638	.025		2.08	.91	2.99	3.78
3020	2" x 8"				525	.030		3	1.10	4.10	5.10
3025	Pneumatic nailed				609	.026		3.03	.95	3.98	4.89
3040	2" x 10"				500	.032		3.98	1.16	5.14	6.30
3045	Pneumatic nailed				580	.028		4.03	1	5.03	6.05
3060	2" x 12"				475	.034		5.20	1.22	6.42	7.75
3065	Pneumatic nailed				551	.029		5.25	1.05	6.30	7.55
3080	2" x 14"				450	.036		7.70	1.29	8.99	10.60
3085	Pneumatic nailed				522	.031		7.20	1.11	8.31	9.75

## 06 11 10.12 Ceiling Framing

0010 CEILING FRAMING				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
6000	Suspended, 2" x 3"			2 Corp	1000	.016	L.F.	.42	.58	1	1.42
6050	2" x 4"				900	.018		.47	.64	1.11	1.58
6100	2" x 6"				800	.020		.69	.72	1.41	1.94
6150	2" x 8"				650	.025		1	.89	1.89	2.56

## 06 11 10.14 Posts and Columns

0010 POSTS AND COLUMNS				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
0100	4" x 4"			2 Corp	390	.041	L.F.	2.04	1.48	3.52	4.68
0150	4" x 6"				275	.058		3.06	2.10	5.16	6.80
0200	4" x 8"				220	.073		4.33	2.63	6.96	9.10
0250	6" x 6"				215	.074		5.35	2.69	8.04	10.30
0300	6" x 8"				175	.091		8.35	3.31	11.66	14.60
0350	6" x 10"				150	.107		7.10	3.86	10.96	14.15

## 06 11 10.18 Joist Framing

0010 JOIST FRAMING				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
2000	Joists, 2" x 4"			2 Corp	1250	.013	L.F.	.47	.46	.93	1.28
2005	Pneumatic nailed				1438	.011		.48	.40	.88	1.19
2100	2" x 6"				1250	.013		.69	.46	1.15	1.51
2105	Pneumatic nailed				1438	.011		.69	.40	1.09	1.42
2150	2" x 8"				1100	.015		1	.53	1.53	1.96
2155	Pneumatic nailed				1265	.013		1.01	.46	1.47	1.86
2200	2" x 10"				900	.018		1.33	.64	1.97	2.52
2205	Pneumatic nailed				1035	.015		1.34	.56	1.90	2.40
2250	2" x 12"				875	.018		1.74	.66	2.40	3
2255	Pneumatic nailed				1006	.016		1.76	.57	2.33	2.87
2300	2" x 14"				770	.021		2.38	.75	3.13	3.85
2305	Pneumatic nailed				886	.018		2.40	.65	3.05	3.71
2350	3" x 6"				925	.017		2.21	.63	2.84	3.46
2400	3" x 10"				780	.021		3.57	.74	4.31	5.15
2450	3" x 12"				600	.027		4.83	.96	5.79	6.90
2500	4" x 6"				800	.020		3.06	.72	3.78	4.55
2550	4" x 10"				600	.027		5.45	.96	6.41	7.60
2600	4" x 12"				450	.036		5.80	1.29	7.09	8.50

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

		Daily Crew	Output	Labor- Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
<b>06 11 10.18 Joist Framing</b>									
2605	Sister joist, 2" x 6"	2 Corp	800	.020	L.F.	.69	.72	1.41	1.94
2606	Pneumatic nailed		960	.017	↓	.69	.60	1.29	1.75
3000	Composite wood joist 9-1/2" deep		.90	17.778	M.L.F.	1,600	645	2,245	2,800
3010	11-1/2" deep		.88	18.182	↓	2,000	655	2,655	3,275
3020	14" deep		.82	19.512	↓	2,375	705	3,080	3,750
3030	16" deep		.78	20.513	↓	4,225	740	4,965	5,850
4000	Open web joist 12" deep		.88	18.182	↓	3,850	655	4,505	5,325
4002	Per linear foot		880	.018	L.F.	3.86	.66	4.52	5.35
4004	Treated, per linear foot		880	.018	"	4.85	.66	5.51	6.45
4010	14" deep		.82	19.512	M.L.F.	3,900	705	4,605	5,450
4012	Per linear foot		820	.020	L.F.	3.91	.71	4.62	5.45
4014	Treated, per linear foot		820	.020	"	5.05	.71	5.76	6.75
4020	16" deep		.78	20.513	M.L.F.	4,200	740	4,940	5,850
4022	Per linear foot		780	.021	L.F.	4.21	.74	4.95	5.85
4024	Treated, per linear foot		780	.021	"	5.55	.74	6.29	7.30
4030	18" deep		.74	21.622	M.L.F.	4,400	780	5,180	6,100
4032	Per linear foot		740	.022	L.F.	4.39	.78	5.17	6.10
4034	Treated, per linear foot		740	.022	"	5.90	.78	6.68	7.75
6000	Composite rim joist, 1-1/4" x 9-1/2"		.90	17.778	M.L.F.	2,075	645	2,720	3,350
6010	1-1/4" x 11-1/2"		.88	18.182	↓	2,250	655	2,905	3,550
6020	1-1/4" x 14-1/2"		.82	19.512	↓	3,200	705	3,905	4,675
6030	1-1/4" x 16-1/2"		.78	20.513	↓	2,850	740	3,590	4,375

## 06 11 10.24 Miscellaneous Framing

		Daily Crew	Output	Labor- Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
<b>0010 MISCELLANEOUS FRAMING</b>									
2000	Firestops, 2" x 4"	2 Corp	780	.021	L.F.	.47	.74	1.21	1.74
2005	Pneumatic nailed		952	.017	↓	.48	.61	1.09	1.53
2100	2" x 6"		600	.027	↓	.69	.96	1.65	2.33
2105	Pneumatic nailed		732	.022	↓	.69	.79	1.48	2.06
5000	Nailers, treated, wood construction, 2" x 4"		800	.020	↓	.57	.72	1.29	1.82
5005	Pneumatic nailed		960	.017	↓	.58	.60	1.18	1.63
5100	2" x 6"		750	.021	↓	.76	.77	1.53	2.11
5105	Pneumatic nailed		900	.018	↓	.77	.64	1.41	1.91
5120	2" x 8"		700	.023	↓	1.23	.83	2.06	2.71
5125	Pneumatic nailed		840	.019	↓	1.24	.69	1.93	2.50
5200	Steel construction, 2" x 4"		750	.021	↓	.57	.77	1.34	1.90
5220	2" x 6"		700	.023	↓	.76	.83	1.59	2.20
5240	2" x 8"		650	.025	↓	1.23	.89	2.12	2.82
7000	Rough bucks, treated, for doors or windows, 2" x 6"		400	.040	↓	.76	1.45	2.21	3.22
7005	Pneumatic nailed		480	.033	↓	.77	1.20	1.97	2.83
7100	2" x 8"		380	.042	↓	1.23	1.52	2.75	3.85
7105	Pneumatic nailed		456	.035	↓	1.24	1.27	2.51	3.45
8000	Stair stringers, 2" x 10"		130	.123	↓	1.33	4.45	5.78	8.75
8100	2" x 12"		130	.123	↓	1.74	4.45	6.19	9.20
8150	3" x 10"		125	.128	↓	3.57	4.63	8.20	11.55
8200	3" x 12"		125	.128	↓	4.83	4.63	9.46	12.90
8870	Laminated structural lumber, 1-1/4" x 11-1/2"		130	.123	↓	2.24	4.45	6.69	9.75
8880	1-1/4" x 14-1/2"		130	.123	↓	3.18	4.45	7.63	10.80

## 06 11 10.26 Partitions

		Daily Crew	Output	Labor- Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
<b>0010 PARTITIONS</b>									
0020	Single bottom and double top plate, no waste, std. & better lumber	2 Corp	80	.200	L.F.	5.20	7.25	12.45	17.65
0180	2" x 4" studs, 8' high, studs 12" OC		96	.167	↓	5.25	6.05	11.30	15.70
0185	12" OC, pneumatic nailed								

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.26 Partitions		Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0200	16" OC	2 Carp	100	.160	L.F.	4.26	5.80			10.06	14.20
0205	16" OC, pneumatic nailed		120	.133		4.31	4.82			9.13	12.65
0300	24" OC		125	.128		3.31	4.63			7.94	11.25
0305	24" OC, pneumatic nailed		150	.107		3.35	3.86			7.21	10.05
0380	10' high, studs 12" OC		80	.200		6.15	7.25			13.40	18.65
0385	12" OC, pneumatic nailed		96	.167		6.25	6.05			12.30	16.75
0400	16" OC		100	.160		4.97	5.80			10.77	14.95
0405	16" OC, pneumatic nailed		120	.133		5.05	4.82			9.87	13.45
0500	24" OC		125	.128		3.79	4.63			8.42	11.75
0505	24" OC, pneumatic nailed		150	.107		3.83	3.86			7.69	10.55
0580	12' high, studs 12" OC		65	.246		7.10	8.90			16	22.50
0585	12" OC, pneumatic nailed		78	.205		7.20	7.40			14.60	20
0600	16" OC		80	.200		5.70	7.25			12.95	18.15
0605	16" OC, pneumatic nailed		96	.167		5.75	6.05			11.80	16.25
0700	24" OC		100	.160		4.26	5.80			10.06	14.20
0705	24" OC, pneumatic nailed		120	.133		4.31	4.82			9.13	12.65
0780	2" x 6" studs, 8' high, studs 12" OC		70	.229		7.55	8.25			15.80	22
0785	12" OC, pneumatic nailed		84	.190		7.65	6.90			14.55	19.70
0800	16" OC		90	.178		6.15	6.45			12.60	17.35
0805	16" OC, pneumatic nailed		108	.148		6.25	5.35			11.60	15.65
0900	24" OC		115	.139		4.80	5.05			9.85	13.55
0905	24" OC, pneumatic nailed		138	.116		4.86	4.19			9.05	12.25
0980	10' high, studs 12" OC		70	.229		8.90	8.25			17.15	23.50
0985	12" OC, pneumatic nailed		84	.190		9	6.90			15.90	21
1000	16" OC		90	.178		7.20	6.45			13.65	18.45
1005	16" OC, pneumatic nailed		108	.148		7.30	5.35			12.65	16.80
1100	24" OC		115	.139		5.50	5.05			10.55	14.30
1105	24" OC, pneumatic nailed		138	.116		5.55	4.19			9.74	13
1180	12' high, studs 12" OC		55	.291		10.30	10.50			20.80	28.50
1185	12" OC, pneumatic nailed		66	.242		10.40	8.75			19.15	26
1200	16" OC		70	.229		8.25	8.25			16.50	22.50
1205	16" OC, pneumatic nailed		84	.190		8.35	6.90			15.25	20.50
1300	24" OC		90	.178		6.15	6.45			12.60	17.35
1305	24" OC, pneumatic nailed		108	.148		6.25	5.35			11.60	15.65
1400	For horizontal blocking, 2" x 4", add		600	.027		.47	.96			1.43	2.10
1500	2" x 6", add		600	.027		.69	.96			1.65	2.33
1600	For openings, add		250	.064					2.31	2.31	3.80
1702	Headers for above openings, material only, add				B.E.	.83			.83	.91	

## 06 11 10.28 Porch or Deck Framing

0010 PORCH OR DECK FRAMING		Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0100	Treated lumber, posts or columns, 4" x 4"	2 Carp	390	.041	L.F.	1.41	1.48			2.89	3.99
0110	4" x 6"		275	.058		2.24	2.10			4.34	5.90
0120	4" x 8"		220	.073		4.28	2.63			6.91	9
0130	Girder, single, 4" x 4"		675	.024		1.41	.86			2.27	2.96
0140	4" x 6"		600	.027		2.24	.96			3.20	4.04
0150	4" x 8"		525	.030		4.28	1.10			5.38	6.50
0160	Double, 2" x 4"		625	.026		1.18	.93			2.11	2.82
0170	2" x 6"		600	.027		1.58	.96			2.54	3.32
0180	2" x 8"		575	.028		2.54	1.01			3.55	4.44
0190	2" x 10"		550	.029		2.94	1.05			3.99	4.97
0200	2" x 12"		525	.030		4.75	1.10			5.85	7.05
0210	Triple, 2" x 4"		575	.028		1.77	1.01			2.78	3.60

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.28 Porch or Deck Framing		Crew	Daily	Labor-	Unit	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours		Material	Labor	Equipment		
0220	2" x 6"	2 Corp	550	.029	L.F.	2.37	1.05		3.42	4.34
0230	2" x 8"		525	.030		3.81	1.10		4.91	6
0240	2" x 10"		500	.032		4.41	1.16		5.57	6.75
0250	2" x 12"		475	.034		7.15	1.22		8.37	9.85
0260	Ledger, bolted 4' OC, 2" x 4"		400	.040		.75	1.45		2.20	3.20
0270	2" x 6"		395	.041		.93	1.46		2.39	3.44
0280	2" x 8"		390	.041		1.40	1.48		2.88	3.98
0290	2" x 10"		385	.042		1.59	1.50		3.09	4.22
0300	2" x 12"		380	.042		2.48	1.52		4	5.25
0310	Joists, 2" x 4"		1250	.013		.59	.46		1.05	1.41
0320	2" x 6"		1250	.013		.79	.46		1.25	1.63
0330	2" x 8"		1100	.015		1.27	.53		1.80	2.26
0340	2" x 10"		900	.018		1.47	.64		2.11	2.68
0350	2" x 12"		875	.018		1.77	.66		2.43	3.03
0360	Railings and trim, 1" x 4"	1 Corp	300	.027		.54	.96		1.50	2.17
0370	2" x 2"		300	.027		.48	.96		1.44	2.10
0380	2" x 4"		300	.027		.58	.96		1.54	2.22
0390	2" x 6"		300	.027		.77	.96		1.73	2.43
0400	Decking, 1" x 4"		275	.029	S.F.	3.09	1.05		4.14	5.15
0410	2" x 4"		300	.027		1.95	.96		2.91	3.73
0420	2" x 6"		320	.025		1.66	.90		2.56	3.32
0430	5/4" x 6"		320	.025		2.17	.90		3.07	3.87
0440	Balusters, square, 2" x 2"	2 Corp	660	.024	L.F.	.48	.88		1.36	1.97
0450	Turned, 2" x 2"		420	.038		.64	1.38		2.02	2.96
0460	Stair stringer, 2" x 10"		130	.123		1.47	4.45		5.92	8.90
0470	2" x 12"		130	.123		1.77	4.45		6.22	9.25
0480	Stair treads, 1" x 4"		140	.114		3.09	4.13		7.22	10.20
0490	2" x 4"		140	.114		.59	4.13		4.72	7.45
0500	2" x 6"		160	.100		.89	3.62		4.51	6.95
0510	5/4" x 6"		160	.100		1.01	3.62		4.63	7.05
0520	Turned handrail post, 4" x 4"		64	.250	Ea.	36	9.05		45.05	55
0530	Lattice panel, 4' x 8', 1/2"		1600	.010	S.F.	.68	.36		1.04	1.34
0535	3/4"		1600	.010	"	1.01	.36		1.37	1.70
0540	Cedar, posts or columns, 4" x 4"		390	.041	L.F.	4.14	1.48		5.62	7
0550	4" x 6"		275	.058		6.65	2.10		8.75	10.75
0560	4" x 8"		220	.073		12.50	2.63		15.13	18.05
0800	Decking, 1" x 4"		550	.029		2.85	1.05		3.90	4.86
0810	2" x 4"		600	.027		5.45	.96		6.41	7.60
0820	2" x 6"		640	.025		9.90	.90		10.80	12.35
0830	5/4" x 6"		640	.025		7.55	.90		8.45	9.80
0840	Railings and trim, 1" x 4"		600	.027		2.85	.96		3.81	4.71
0860	2" x 4"		600	.027		5.45	.96		6.41	7.60
0870	2" x 6"		600	.027		9.90	.96		10.86	12.45
0920	Stair treads, 1" x 4"		140	.114		2.85	4.13		6.98	9.95
0930	2" x 4"		140	.114		5.45	4.13		9.58	12.80
0940	2" x 6"		160	.100		9.90	3.62		13.52	16.80
0950	5/4" x 6"		160	.100		7.55	3.62		11.17	14.25
0980	Redwood, posts or columns, 4" x 4"		390	.041		6.60	1.48		8.08	9.75
0990	4" x 6"		275	.058		12.85	2.10		14.95	17.60
1000	4" x 8"		220	.073		24	2.63		26.63	31
1240	Decking, 1" x 4"	1 Corp	275	.029	S.F.	4.03	1.05		5.08	6.15
1260	2" x 6"		340	.024		6.95	.85		7.80	9
1270	5/4" x 6"		320	.025		4.89	.90		5.79	6.90

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.28 Porch or Deck Framing			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
			Crew			Labor	Equipment			
1280	Railings and trim, 1" x 4"		2 Corp	600	.027	L.F.	1.19	.96	2.15	2.89
1310	2" x 6"			600	.027		6.95	.96	7.91	9.25
1420	Alternative decking, wood/plastic composite, 5/4" x 6"	G		640	.025		3.44	.90	4.34	5.30
1440	1" x 4" square edge fir			550	.029		3.10	1.05	4.15	5.15
1450	1" x 4" tongue and groove fir			450	.036		1.53	1.29	2.82	3.79
1460	1" x 4" mahogany			550	.029		2.13	1.05	3.18	4.07
1462	5/4" x 6" PVC			550	.029		3.45	1.05	4.50	5.50
1465	Framing, porch or deck, alt deck fastening, screws, add		1 Corp	240	.033	S.F.		1.20	1.20	1.98
1470	Accessories, joist hangers, 2" x 4"			160	.050	Ea.	.85	1.81	2.66	3.91
1480	2" x 6" through 2" x 12"			150	.053		1.56	1.93	3.49	4.89
1530	Post footing, incl excav, backfill, tube form & concrete, 4' deep, 8" diam.	F-7		12	2.667		18.30	85.50	103.80	160
1540	10" diameter			11	2.909		26	93	119	182
1550	12" diameter			10	3.200		33.50	102	135.50	205

## 06 11 10.30 Roof Framing

0010 ROOF FRAMING			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
			Crew			Labor	Equipment			
1900	Rough fascia, 2" x 6"		2 Corp	250	.064	L.F.	.69	2.31	3	4.55
2000	2" x 8"			225	.071		1	2.57	3.57	5.30
2100	2" x 10"			180	.089		1.33	3.21	4.54	6.75
2200	2" x 12"			180	.089		1.74	3.21	4.95	7.20
5002	Rafters, to 4 in 12 pitch, 2" x 6", ordinary			1000	.016		.69	.58	1.27	1.70
5021	On steep roofs			800	.020		.69	.72	1.41	1.94
5041	On dormers or complex roofs			590	.027		.69	.98	1.67	2.36
5062	2" x 8", ordinary			950	.017		1	.61	1.61	2.10
5081	On steep roofs			750	.021		1	.77	1.77	2.37
5101	On dormers or complex roofs			540	.030		1	1.07	2.07	2.86
5122	2" x 10", ordinary			630	.025		1.33	.92	2.25	2.97
5141	On steep roofs			495	.032		1.33	1.17	2.50	3.38
5161	On dormers or complex roofs			425	.038		1.33	1.36	2.69	3.70
5182	2" x 12", ordinary			575	.028		1.74	1.01	2.75	3.56
5201	On steep roofs			455	.035		1.74	1.27	3.01	4
5221	On dormers or complex roofs			395	.041		1.74	1.46	3.20	4.32
5250	Composite rafter, 9-1/2" deep			575	.028		1.60	1.01	2.61	3.41
5260	11-1/2" deep			575	.028		2	1.01	3.01	3.85
5301	Hip and valley rafters, 2" x 6", ordinary			760	.021		.69	.76	1.45	2
5321	On steep roofs			585	.027		.69	.99	1.68	2.37
5341	On dormers or complex roofs			510	.031		.69	1.13	1.82	2.61
5361	2" x 8", ordinary			720	.022		1	.80	1.80	2.42
5381	On steep roofs			545	.029		1	1.06	2.06	2.84
5401	On dormers or complex roofs			470	.034		1	1.23	2.23	3.12
5421	2" x 10", ordinary			570	.028		1.33	1.01	2.34	3.13
5441	On steep roofs			440	.036		1.33	1.31	2.64	3.62
5461	On dormers or complex roofs			380	.042		1.33	1.52	2.85	3.96
5481	2" x 12", ordinary			525	.030		1.74	1.10	2.84	3.72
5501	On steep roofs			410	.039		1.74	1.41	3.15	4.23
5521	On dormers or complex roofs			355	.045		1.74	1.63	3.37	4.59
5541	Hip and valley jacks, 2" x 6", ordinary			600	.027		.69	.96	1.65	2.33
5561	On steep roofs			475	.034		.69	1.22	1.91	2.75
5581	On dormers or complex roofs			410	.039		.69	1.41	2.10	3.07
5601	2" x 8", ordinary			490	.033		1	1.18	2.18	3.04
5621	On steep roofs			385	.042		1	1.50	2.50	3.57
5641	On dormers or complex roofs			335	.048		1	1.73	2.73	3.94
5661	2" x 10", ordinary			450	.036		1.33	1.29	2.62	3.57

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.30 Roof Framing		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
5681	On steep roofs	2 Carp	.350	.046	L.F.	1.33	1.65	2.98	4.18
5701	On dormers or complex roofs		305	.052		1.33	1.90	3.23	4.58
5721	2" x 12", ordinary		375	.043		1.74	1.54	3.28	4.44
5741	On steep roofs		295	.054		1.74	1.96	3.70	5.15
5762	On dormers or complex roofs		255	.063		1.74	2.27	4.01	5.65
5781	Rafter tie, 1" x 4", #3		800	.020		.53	.72	1.25	1.78
5791	2" x 4", #3		800	.020		.47	.72	1.19	1.71
5801	Ridge board, #2 or better, 1" x 6"		600	.027		.83	.96	1.79	2.49
5821	1" x 8"		550	.029		1.29	1.05	2.34	3.15
5841	1" x 10"		500	.032		1.98	1.16	3.14	4.08
5861	2" x 6"		500	.032		.69	1.16	1.85	2.65
5881	2" x 8"		450	.036		1	1.29	2.29	3.21
5901	2" x 10"		400	.040		1.33	1.45	2.78	3.84
5921	Roof cant, split, 4" x 4"		650	.025		2.04	.89	2.93	3.70
5941	6" x 6"		600	.027		5.35	.96	6.31	7.50
5961	Roof curbs, untreated, 2" x 6"		520	.031		.69	1.11	1.80	2.58
5981	2" x 12"		400	.040		1.74	1.45	3.19	4.29
6001	Sister rafters, 2" x 6"		800	.020		.69	.72	1.41	1.94
6021	2" x 8"		640	.025		.99	.90	1.89	2.58
6041	2" x 10"		535	.030		1.33	1.08	2.41	3.24
6061	2" x 12"		455	.035		1.74	1.27	3.01	4

## 06 11 10.32 Sill and Ledger Framing

0010	SILL AND LEDGER FRAMING	1 Carp	1600	.005	L.F.	.14	.18	.32	.45
0020	Extruded polystyrene sill sealer, 5-1/2" wide	2 Carp	755	.021		.47	.77	1.24	1.78
2002	Ledgers, nailed, 2" x 4"		600	.027		.69	.96	1.65	2.33
2052	2" x 6"		325	.049		2.19	1.78	3.97	5.35
2102	Bolted, not including bolts, 3" x 6"		233	.069		4.81	2.48	7.29	9.40
2152	3" x 12"		895	.018		2.31	.65	2.96	3.60
2602	Mud sills, redwood, construction grade, 2" x 4"		780	.021		3.14	.74	3.88	4.68
2622	2" x 6"		600	.027		.47	.96	1.43	2.09
4002	Sills, 2" x 4"		550	.029		.68	1.05	1.73	2.47
4052	2" x 6"		500	.032		.99	1.16	2.15	2.99
4082	2" x 8"		450	.036		1.31	1.29	2.60	3.55
4101	2" x 10"		400	.040		1.72	1.45	3.17	4.27
4121	2" x 12"		550	.029		.57	1.05	1.62	2.35
4202	Treated, 2" x 4"		500	.032		.75	1.16	1.91	2.73
4222	2" x 6"		450	.036		1.22	1.29	2.51	3.45
4242	2" x 8"		400	.040		1.41	1.45	2.86	3.93
4261	2" x 10"		350	.046		2.30	1.65	3.95	5.25
4281	2" x 12"		450	.036		1.36	1.29	2.65	3.60
4402	4" x 4"		350	.046		2.16	1.65	3.81	5.10
4422	4" x 6"		300	.053		4.18	1.93	6.11	7.75
4462	4" x 8"		260	.062		5.75	2.22	7.97	9.95

## 06 11 10.34 Sleepers

0010	SLEEPERS	2 Carp	2350	.007	L.F.	.31	.25	.56	.74
0100	On concrete, treated, 1" x 2"		2000	.008		.51	.29	.80	1.04
0150	1" x 3"		1500	.011		.61	.39	1	1.30
0200	2" x 4"		1300	.012		.84	.45	1.29	1.66
0250	2" x 6"								

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.36 Soffit and Canopy Framing		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
06 11 10.38 Treated Lumber Framing Material							Labor	Equipment	
0010	<b>SOFFIT AND CANOPY FRAMING</b>								
1002	Canopy or soffit framing, 1" x 4"	2 Corp	900	.018	L.F.	.53	.64	1.17	1.65
1021	1" x 6"		850	.019		.83	.68	1.51	2.03
1042	1" x 8"		750	.021		1.29	.77	2.06	2.69
1102	2" x 4"		620	.026		.47	.93	1.40	2.05
1121	2" x 6"		560	.029		.69	1.03	1.72	2.45
1142	2" x 8"		500	.032		1	1.16	2.16	3
1202	3" x 4"		500	.032		1.38	1.16	2.54	3.41
1221	3" x 6"		400	.040		2.21	1.45	3.66	4.81
1242	3" x 10"		300	.053		3.57	1.93	5.50	7.10
0010	<b>TREATED LUMBER FRAMING MATERIAL</b>								
0100	2" x 4"				M.B.F.	850		850	935
0110	2" x 6"					755		755	830
0120	2" x 8"					915		915	1,000
0130	2" x 10"					845		845	930
0140	2" x 12"					1,150		1,150	1,275
0200	4" x 4"					1,025		1,025	1,125
0210	4" x 6"					1,075		1,075	1,200
0220	4" x 8"					1,575		1,575	1,725
0010	<b>WALL FRAMING</b>	R061110-30							
0100	Door buck, studs, header, access, 8' high, 2" x 4" wall, 3' wide	1 Corp	32	.250	Ea.	19.60	9.05	28.65	36.50
0110	4' wide		32	.250		21	9.05	30.05	38
0120	5' wide		32	.250		25.50	9.05	34.55	43
0130	6' wide		32	.250		27.50	9.05	36.55	45.50
0140	8' wide		30	.267		37	9.65	46.65	56.50
0150	10' wide		30	.267		50.50	9.65	60.15	71.50
0160	12' wide		30	.267		73	9.65	82.65	96.50
0170	2" x 6" wall, 3' wide		32	.250		26.50	9.05	35.55	44
0180	4' wide		32	.250		28	9.05	37.05	45.50
0190	5' wide		32	.250		32.50	9.05	41.55	50.50
0200	6' wide		32	.250		34.50	9.05	43.55	53
0210	8' wide		30	.267		43.50	9.65	53.15	64
0220	10' wide		30	.267		57.50	9.65	67.15	79
0230	12' wide		30	.267		80	9.65	89.65	104
0240	Window buck, studs, header & access, 8' high 2" x 4" wall, 2' wide		24	.333		21	12.05	33.05	43
0250	3' wide		24	.333		24.50	12.05	36.55	47
0260	4' wide		24	.333		26.50	12.05	38.55	49.50
0270	5' wide		24	.333		31.50	12.05	43.55	54.50
0280	6' wide		24	.333		34.50	12.05	46.55	58
0290	7' wide		24	.333		42.50	12.05	54.55	66.50
0300	8' wide		22	.364		47	13.15	60.15	73
0310	10' wide		22	.364		62	13.15	75.15	89.50
0320	12' wide		22	.364		87.50	13.15	100.65	118
0330	2" x 6" wall, 2' wide		24	.333		29.50	12.05	41.55	52.50
0340	3' wide		24	.333		33	12.05	45.05	56
0350	4' wide		24	.333		35.50	12.05	47.55	59
0360	5' wide		24	.333		40.50	12.05	52.55	64.50
0370	6' wide		24	.333		44.50	12.05	56.55	69
0380	7' wide		24	.333		53.50	12.05	65.55	79
0390	8' wide		22	.364		58	13.15	71.15	85.50

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.40 Wall Framing		Daily	Labor-	Unit	2020 Bare Costs			Total	Total Incl Q&P
		Crew	Output		Material	Labor	Equipment		
0400	10' wide	1 Carp	22	.364	Ea.	74	13.15	87.15	103
0410	12' wide	↓	22	.364	↓	101	13.15	114.15	133
2002	Headers over openings, 2" x 6"	2 Carp	360	.044	L.F.	.69	1.61	2.30	3.39
2007	2" x 6", pneumatic nailed		432	.037		.69	1.34	2.03	2.96
2052	2" x 8"		340	.047		1	1.70	2.70	3.90
2057	2" x 8", pneumatic nailed		408	.039		1.01	1.42	2.43	3.44
2101	2" x 10"		320	.050		1.33	1.81	3.14	4.43
2106	2" x 10", pneumatic nailed		384	.042		1.34	1.51	2.85	3.96
2152	2" x 12"		300	.053		1.74	1.93	3.67	5.10
2157	2" x 12", pneumatic nailed		360	.044		1.76	1.61	3.37	4.57
2180	4" x 8"		260	.062		4.33	2.22	6.55	8.40
2185	4" x 8", pneumatic nailed		312	.051		4.35	1.85	6.20	7.85
2191	4" x 10"		240	.067		5.45	2.41	7.86	9.95
2196	4" x 10", pneumatic nailed		288	.056		5.45	2.01	7.46	9.30
2202	4" x 12"		190	.084		5.80	3.04	8.84	11.40
2207	4" x 12", pneumatic nailed		228	.070		5.85	2.54	8.39	10.60
2241	6" x 10"		165	.097		7.05	3.51	10.56	13.55
2246	6" x 10", pneumatic nailed		198	.081		7.10	2.92	10.02	12.65
2251	6" x 12"		140	.114		9	4.13	13.13	16.70
2256	6" x 12", pneumatic nailed		168	.095		9.05	3.44	12.49	15.60
5002	Plates, untreated, 2" x 3"		850	.019		.42	.68	1.10	1.59
5007	2" x 3", pneumatic nailed		1020	.016		.43	.57	1	1.40
5022	2" x 4"		800	.020		.47	.72	1.19	1.71
5027	2" x 4", pneumatic nailed		960	.017		.48	.60	1.08	1.52
5041	2" x 6"		750	.021		.69	.77	1.46	2.02
5045	2" x 6", pneumatic nailed		900	.018		.69	.64	1.33	1.82
5061	Treated, 2" x 3"		850	.019		.53	.68	1.21	1.70
5066	2" x 3", treated, pneumatic nailed		1020	.016		.53	.57	1.10	1.51
5081	2" x 4"		800	.020		.57	.72	1.29	1.82
5086	2" x 4", treated, pneumatic nailed		960	.017		.58	.60	1.18	1.63
5101	2" x 6"		750	.021		.76	.77	1.53	2.11
5106	2" x 6", treated, pneumatic nailed		900	.018		.77	.64	1.41	1.91
5122	Studs, 8' high wall, 2" x 3"		1200	.013		.42	.48	.90	1.26
5127	2" x 3", pneumatic nailed		1440	.011		.43	.40	.83	1.13
5142	2" x 4"		1100	.015		.47	.53	1	1.37
5147	2" x 4", pneumatic nailed		1320	.012		.48	.44	.92	1.25
5162	2" x 6"		1000	.016		.69	.58	1.27	1.70
5167	2" x 6", pneumatic nailed		1200	.013		.69	.48	1.17	1.55
5182	3" x 4"		800	.020		1.38	.72	2.10	2.70
5187	3" x 4", pneumatic nailed		960	.017		1.38	.60	1.98	2.51
5201	Installed on second story, 2" x 3"		1170	.014		.42	.49	.91	1.28
5206	2" x 3", pneumatic nailed		1200	.013		.43	.48	.91	1.26
5221	2" x 4"		1015	.016		.47	.57	1.04	1.46
5226	2" x 4", pneumatic nailed		1080	.015		.48	.54	1.02	1.41
5241	2" x 6"		890	.018		.69	.65	1.34	1.82
5246	2" x 6", pneumatic nailed		1020	.016		.69	.57	1.26	1.69
5261	3" x 4"		800	.020		1.38	.72	2.10	2.70
5266	3" x 4", pneumatic nailed		960	.017		1.38	.60	1.98	2.51
5281	Installed on dormer or gable, 2" x 3"		1045	.015		.42	.55	.97	1.38
5286	2" x 3", pneumatic nailed		1254	.013		.43	.46	.89	1.23
5301	2" x 4"		905	.018		.47	.64	1.11	1.57
5306	2" x 4", pneumatic nailed		1086	.015		.48	.53	1.01	1.41
5321	2" x 6"		800	.020		.69	.72	1.41	1.94

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.40 Wall Framing		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
5326	2" x 6", pneumatic nailed	2 Carp	.960	.017	.L.F.	.69	.60	1.29	1.75
5341	3" x 4"		700	.023		1.38	.83	2.21	2.87
5346	3" x 4", pneumatic nailed		840	.019		1.38	.69	2.07	2.65
5361	6' high wall, 2" x 3"		970	.016		.42	.60	1.02	1.45
5366	2" x 3", pneumatic nailed		1164	.014		.43	.50	.93	1.29
5381	2" x 4"		850	.019		.47	.68	1.15	1.64
5386	2" x 4", pneumatic nailed		1020	.016		.48	.57	1.05	1.46
5401	2" x 6"		740	.022		.69	.78	1.47	2.03
5406	2" x 6", pneumatic nailed		888	.018		.69	.65	1.34	1.83
5421	3" x 4"		600	.027		1.38	.96	2.34	3.09
5426	3" x 4", pneumatic nailed		720	.022		1.38	.80	2.18	2.84
5441	Installed on second story, 2" x 3"		950	.017		.43	.61	1.04	1.47
5446	2" x 3", pneumatic nailed		1140	.014		.43	.51	.94	1.30
5461	2" x 4"		810	.020		.47	.71	1.18	1.69
5466	2" x 4", pneumatic nailed		972	.016		.48	.60	1.08	1.51
5481	2" x 6"		700	.023		.69	.83	1.52	2.11
5486	2" x 6", pneumatic nailed		840	.019		.69	.69	1.38	1.89
5501	3" x 4"		550	.029		1.38	1.05	2.43	3.24
5506	3" x 4", pneumatic nailed		660	.024		1.38	.88	2.26	2.96
5521	Installed on dormer or gable, 2" x 3"		850	.019		.42	.68	1.10	1.59
5526	2" x 3", pneumatic nailed		1020	.016		.43	.57	1	1.40
5541	2" x 4"		720	.022		.47	.80	1.27	1.84
5546	2" x 4", pneumatic nailed		864	.019		.48	.67	1.15	1.63
5561	2" x 6"		620	.026		.69	.93	1.62	2.28
5566	2" x 6", pneumatic nailed		744	.022		.69	.78	1.47	2.04
5581	3" x 4"		480	.033		1.38	1.20	2.58	3.49
5586	3" x 4", pneumatic nailed		576	.028		1.38	1	2.38	3.17
5601	3' high wall, 2" x 3"		740	.022		.42	.78	1.20	1.75
5606	2" x 3", pneumatic nailed		888	.018		.43	.65	1.08	1.54
5621	2" x 4"		640	.025		.47	.90	1.37	2.01
5626	2" x 4", pneumatic nailed		768	.021		.48	.75	1.23	1.77
5641	2" x 6"		550	.029		.69	1.05	1.74	2.48
5646	2" x 6", pneumatic nailed		660	.024		.69	.88	1.57	2.20
5661	3" x 4"		440	.036		1.38	1.31	2.69	3.67
5666	3" x 4", pneumatic nailed		528	.030		1.38	1.10	2.48	3.32
5681	Installed on second story, 2" x 3"		700	.023		.42	.83	1.25	1.83
5686	2" x 3", pneumatic nailed		840	.019		.43	.69	1.12	1.60
5701	2" x 4"		610	.026		.47	.95	1.42	2.08
5706	2" x 4", pneumatic nailed		732	.022		.48	.79	1.27	1.83
5721	2" x 6"		520	.031		.69	1.11	1.80	2.58
5726	2" x 6", pneumatic nailed		624	.026		.69	.93	1.62	2.28
5741	3" x 4"		430	.037		1.38	1.35	2.73	3.72
5746	3" x 4", pneumatic nailed		516	.031		1.38	1.12	2.50	3.36
5761	Installed on dormer or gable, 2" x 3"		625	.026		.42	.93	1.35	1.99
5766	2" x 3", pneumatic nailed		750	.021		.43	.77	1.20	1.74
5781	2" x 4"		545	.029		.47	1.06	1.53	2.26
5786	2" x 4", pneumatic nailed		654	.024		.48	.88	1.36	1.98
5801	2" x 6"		465	.034		.69	1.24	1.93	2.79
5806	2" x 6", pneumatic nailed		558	.029		.69	1.04	1.73	2.46
5821	3" x 4"		380	.042		1.38	1.52	2.90	4.01
5826	3" x 4", pneumatic nailed		456	.035		1.38	1.27	2.65	3.60
8250	For second story & above, add						5%		
8300	For dormer & gable, add						15%		

# 06 11 Wood Framing

## 06 11 10 – Framing with Dimensional, Engineered or Composite Lumber

06 11 10.42 Furring		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	FURRING									
0012	Wood strips, 1" x 2", on walls, on wood	1 Carp	550	.015	L.F.	.29	.53		.82	1.18
0015	On wood, pneumatic nailed		710	.011		.29	.41		.70	.99
0300	On masonry		495	.016		.31	.58		.89	1.31
0400	On concrete		260	.031		.31	1.11		1.42	2.18
0600	1" x 3", on walls, on wood		550	.015		.44	.53		.97	1.34
0605	On wood, pneumatic nailed		710	.011		.44	.41		.85	1.15
0700	On masonry		495	.016		.47	.58		1.05	1.48
0800	On concrete		260	.031		.47	1.11		1.58	2.35
0850	On ceilings, on wood		350	.023		.44	.83		1.27	1.84
0855	On wood, pneumatic nailed		450	.018		.44	.64		1.08	1.54
0900	On masonry		320	.025		.47	.90		1.37	2.01
0950	On concrete	↓	210	.038	↓	.47	1.38		1.85	2.78

## 06 11 10.44 Grounds

06 11 10.44 Grounds		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	GROUNDS									
0020	For casework, 1" x 2" wood strips, on wood	1 Carp	330	.024	L.F.	.29	.88		1.17	1.76
0100	On masonry		285	.028		.31	1.01		1.32	2.02
0200	On concrete		250	.032		.31	1.16		1.47	2.25
0400	For plaster, 3/4" deep, on wood		450	.018		.29	.64		.93	1.38
0500	On masonry		225	.036		.31	1.29		1.60	2.46
0600	On concrete		175	.046		.31	1.65		1.96	3.07
0700	On metal lath	↓	200	.040	↓	.31	1.45		1.76	2.73

# 06 12 Structural Panels

## 06 12 10 – Structural Insulated Panels

### 06 12 10.10 OSB Faced Panels

06 12 10.10 OSB Faced Panels		G	F-3	2075	.019	S.F.	4.18	.64	.23	5.05	5.90	
0100	Structural insul. panels, 7/16" OSB both faces, EPS insul., 3-5/8" T			G	1725	.023		4.41	.77	.27	5.45	6.40
0110	5-5/8" thick			G	1425	.028		5.50	.93	.33	6.76	7.95
0120	7-3/8" thick			G	1125	.036		5.95	1.18	.42	7.55	8.95
0130	9-3/8" thick			G	2175	.018		4.27	.61	.22	5.10	5.95
0140	7/16" OSB one face, EPS insul., 3-5/8" thick			G	1825	.022		4.62	.73	.26	5.61	6.60
0150	5-5/8" thick			G	1525	.026		5.40	.87	.31	6.58	7.70
0160	7-3/8" thick			G	1225	.033		5.85	1.08	.38	7.31	8.65
0170	9-3/8" thick			G	2075	.019		3.61	.64	.23	4.48	5.30
0190	7/16" OSB - 1/2" GWB faces, EPS insul., 3-5/8" T			G	1725	.023		4.74	.77	.27	5.78	6.75
0200	5-5/8" thick			G	1425	.028		5	.93	.33	6.26	7.40
0210	7-3/8" thick			G	1125	.036		5.60	1.18	.42	7.20	8.55
0220	9-3/8" thick			G	2075	.019		4.45	.64	.23	5.32	6.20
0240	7/16" OSB - 1/2" MRGWB faces, EPS insul., 3-5/8" T			G	1725	.023		4.56	.77	.27	5.60	6.55
0250	5-5/8" thick			G	1425	.028		5.25	.93	.33	6.51	7.70
0260	7-3/8" thick			G	1125	.036		5.85	1.18	.42	7.45	8.80
0270	9-3/8" thick			G	2075	.019		3.61	.64	.23	4.48	5.30
0300	For 1/2" GWB added to OSB skin, add			G				1.52			1.52	1.67
0310	For 1/2" MRGWB added to OSB skin, add			G				1.54			1.54	1.69
0320	For one T1-11 skin, add to OSB-OSB			G				2.22			2.22	2.44
0330	For one 19/32" CDX skin, add to OSB-OSB			G				1.63			1.63	1.79
0500	Structural insulated panel, 7/16" OSB both sides, straw core			F-6	2400	.017	S.F.	7.30	.55	.20	8.05	9.15
0510	4-3/8" T, walls (w/sill, splines, plates)			G	2400	.017	↓	7.30	.55	.20	8.05	9.15
0520	Floors (w/splines)			G								

# 06 12 Structural Panels

## 06 12 10 – Structural Insulated Panels

06 12 10.10 OSB Faced Panels			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew				Labor	Equipment		
0530	Roof (w/splines)	[G]	F-6	2400	.017	S.F.	7.30	.55	.20
0550	7-7/8" T, walls (w/sill, splines, plates)	[G]		2400	.017		11.45	.55	.20
0560	Floors (w/splines)	[G]		2400	.017		11.45	.55	.20
0570	Roof (w/splines)	[G]		2400	.017		11.45	.55	.20

## 06 12 19 – Composite Shearwall Panels

### 06 12 19.10 Steel and Wood Composite Shearwall Panels

0010 STEEL & WOOD COMPOSITE SHEARWALL PANELS									
		1 Carp	150	.053	Ea.	43.50	1.93		
0020	Anchor bolts, 36" long (must be placed in wet concrete)							45.43	51
0030	On concrete, 2" x 4" & 2" x 6" walls, 7'-10" high, 360 lb. shear, 12" wide	2 Carp	8	2		495	72.50	567.50	665
0040	715 lb. shear, 15" wide			8	2	650	72.50	722.50	835
0050	1860 lb. shear, 18" wide			8	2	700	72.50	772.50	890
0060	2780 lb. shear, 21" wide			8	2	830	72.50	902.50	1,025
0070	3790 lb. shear, 24" wide			8	2	780	72.50	852.50	980
0080	2" x 6" walls, 11'-13' high, 1180 lb. shear, 18" wide			6	2.667	735	96.50	831.50	965
0090	1555 lb. shear, 21" wide			6	2.667	755	96.50	851.50	990
0100	2280 lb. shear, 24" wide			6	2.667	895	96.50	991.50	1,150
0110	For installing above on wood floor frame, add								
0120	Coupler nuts, threaded rods, bolts, shear transfer plate kit	1 Carp	16	.500	Ea.	63	18.10	81.10	99
0130	Framing anchors, angle (2 required)	"	96	.083	"	2.53	3.01	5.54	7.75
0140	For blocking see Section 06 11 10.02								
0150	For installing above, first floor to second floor, wood floor frame, add								
0160	Add stack option to first floor wall panel				Ea.	69.50		69.50	76.50
0170	Threaded rods, bolts, shear transfer plate kit	1 Carp	16	.500		78	18.10	96.10	115
0180	Framing anchors, angle (2 required)	"	96	.083		2.53	3.01	5.54	7.75
0190	For blocking see section 06 11 10.02								
0200	For installing stacked panels, balloon framing								
0210	Add stack option to first floor wall panel				Ea.	69.50		69.50	76.50
0220	Threaded rods, bolts kit	1 Carp	16	.500	"	44.50	18.10	62.60	78.50

# 06 13 Heavy Timber Construction

## 06 13 13 – Log Construction

### 06 13 13.10 Log Structures

0010 LOG STRUCTURES									
		2 Carp	500	.032	L.F.	4.88	1.16		
0020	Exterior walls, pine, D logs, with double T&G, 6" x 6"							6.04	7.25
0030	6" x 8"		375	.043		5.20	1.54	6.74	8.25
0040	8" x 6"		375	.043		4.88	1.54	6.42	7.90
0050	8" x 7"		322	.050		4.88	1.80	6.68	8.30
0060	Square/rectangular logs, with double T&G, 6" x 6"		500	.032		4.88	1.16	6.04	7.25
0070	6" x 8"		375	.043		4.88	1.54	6.42	7.90
0080	8" x 6"		375	.043		4.88	1.54	6.42	7.90
0090	8" x 7"		322	.050		4.88	1.80	6.68	8.30
0100	Round logs, with double T&G, 6" x 8"		375	.043		4.88	1.54	6.42	7.90
0110	8" x 7"		322	.050		4.88	1.80	6.68	8.30
0120	Log siding, ship lapped, 2" x 6"		225	.071	S.F.	2.99	2.57	5.56	7.50
0130	2" x 8"		200	.080		2.53	2.89	5.42	7.55
0140	2" x 12"		180	.089		2.25	3.21	5.46	7.80
0150	Foam sealant strip, 3/8" x 3/8"	1 Carp	1920	.004	L.F.	.16	.15	.31	.43
0152	Chinking, 2" - 3" wide joint, 1/4" to 3/8" deep		600	.013		1.44	.48	1.92	2.37
0154	Caulking, 1/4" to 1/2" joint		900	.009		.49	.32	.81	1.07
0156	Backer rod, 1/4"		900	.009		.18	.32	.50	.73

# 06 13 Heavy Timber Construction

## 06 13 13 – Log Construction

06 13 13.10 Log Structures		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
						Labor	Equipment		
0157	Penetrating wood preservative	1 Pord	2000	.004	S.F.	.18	.12	.30	.40
0158	Insect treatment	"	4000	.002	"	.38	.06	.44	.52
0160	Upper floor framing, pine, posts/columns, 4" x 6"	2 Carp	750	.021	L.F.	3.04	.77	3.81	4.61
0180	4" x 8"		562	.028		4.30	1.03	5.33	6.40
0190	6" x 6"		500	.032		5.30	1.16	6.46	7.75
0200	6" x 8"		375	.043		8.30	1.54	9.84	11.70
0210	8" x 8"		281	.057		9.85	2.06	11.91	14.25
0220	8" x 10"		225	.071		12.35	2.57	14.92	17.75
0230	Beams, 4" x 8"		562	.028		4.30	1.03	5.33	6.40
0240	4" x 10"		449	.036		5.40	1.29	6.69	8.05
0250	4" x 12"		375	.043		5.80	1.54	7.34	8.90
0260	6" x 8"		375	.043		8.30	1.54	9.84	11.70
0270	6" x 10"		300	.053		7.05	1.93	8.98	10.90
0280	6" x 12"		250	.064		8.95	2.31	11.26	13.65
0290	8" x 10"		225	.071		12.35	2.57	14.92	17.75
0300	8" x 12"		188	.085		17.40	3.08	20.48	24
0310	Joists, 4" x 8"		562	.028		4.30	1.03	5.33	6.40
0320	4" x 10"		449	.036		5.40	1.29	6.69	8.05
0330	4" x 12"		375	.043		5.80	1.54	7.34	8.90
0340	6" x 8"		375	.043		8.30	1.54	9.84	11.70
0350	6" x 10"		300	.053		7.05	1.93	8.98	10.90
0360	6" x 12"		250	.064		8.95	2.31	11.26	13.65
0370	8" x 10"		225	.071		12.35	2.57	14.92	17.75
0380	8" x 12"		188	.085		14.80	3.08	17.88	21.50
0390	Decking, 1" x 6" T&G		964	.017	S.F.	1.62	.60	2.22	2.77
0400	1" x 8" T&G		700	.023		1.47	.83	2.30	2.98
0410	2" x 6" T&G		482	.033		3.59	1.20	4.79	5.90
0420	Gable end roof framing, rafters, 4" x 8"		562	.028	L.F.	4.30	1.03	5.33	6.40
0430	4" x 10"		449	.036		5.40	1.29	6.69	8.05
0450	4" x 12"		375	.043		5.80	1.54	7.34	8.90
0460	6" x 8"		375	.043		8.30	1.54	9.84	11.70
0470	6" x 10"		300	.053		7.05	1.93	8.98	10.90
0480	6" x 12"		250	.064		8.95	2.31	11.26	13.65
0490	8" x 10"		225	.071		12.35	2.57	14.92	17.75
0500	8" x 12"		188	.085		14.80	3.08	17.88	21.50
0510	Purlins, 4" x 8"		562	.028		4.30	1.03	5.33	6.40
0520	6" x 8"		375	.043		8.30	1.54	9.84	11.70
0530	Roof decking, 1" x 6" T&G		640	.025	S.F.	1.62	.90	2.52	3.27
0540	1" x 8" T&G		430	.037		1.47	1.35	2.82	3.83
0550	2" x 6" T&G		320	.050		3.59	1.81	5.40	6.90

## 06 13 23 – Heavy Timber Framing

### 06 13 23.10 Heavy Framing

0010 HEAVY FRAMING		2 Carp	1.10	14.545	M.B.F.	1,575	525	2,100	2,600
0020	Beams, single 6" x 10"		1.20	13.333	"	2,000	480	2,480	3,000
0100	Single 8" x 16"								
0202	Built from 2" lumber, multiple 2" x 14"		900	.018	B.F.	1.01	.64	1.65	2.17
0212	Built from 3" lumber, multiple 3" x 6"		700	.023		1.46	.83	2.29	2.97
0222	Multiple 3" x 8"		800	.020		1.46	.72	2.18	2.80
0232	Multiple 3" x 10"		900	.018		1.42	.64	2.06	2.62
0242	Multiple 3" x 12"		1000	.016		1.60	.58	2.18	2.71
0252	Built from 4" lumber, multiple 4" x 6"		800	.020		1.52	.72	2.24	2.86
0262	Multiple 4" x 8"		900	.018		1.61	.64	2.25	2.83

# 06 13 Heavy Timber Construction

## 06 13 23 – Heavy Timber Framing

06 13 23.10 Heavy Framing			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
			Crew				Labor	Equipment		
0272	Multiple 4" x 10"		2 Carp	1000	.016	B.F.	1.62	.58	2.20	2.74
0282	Multiple 4" x 12"			1100	.015		1.45	.53	1.98	2.45
0292	Columns, structural grade, 1500Fb, 4" x 4"			450	.036	L.F.	2.32	1.29	3.61	4.66
0302	6" x 6"			225	.071		4.07	2.57	6.64	8.70
0402	8" x 8"			240	.067		8.25	2.41	10.66	13
0502	10" x 10"			90	.178		14.60	6.45	21.05	26.50
0602	12" x 12"			70	.229		18.30	8.25	26.55	33.50
0802	Floor planks, 2" thick, T&G, 2" x 6"			1050	.015	B.F.	1.45	.55	2	2.50
0902	2" x 10"			1100	.015		1.46	.53	1.99	2.47
1102	3" thick, 3" x 6"			1050	.015		1.62	.55	2.17	2.69
1202	3" x 10"			1100	.015		1.65	.53	2.18	2.67
1402	Girders, structural grade, 12" x 12"			800	.020		1.52	.72	2.24	2.87
1502	10" x 16"			1000	.016		2.56	.58	3.14	3.77
2302	Roof purlins, 4" thick, structural grade			1050	.015		1.61	.55	2.16	2.68

# 06 15 Wood Decking

## 06 15 16 – Wood Roof Decking

### 06 15 16.10 Solid Wood Roof Decking

0010 SOLID WOOD ROOF DECKING			2 Corp	350	.046	S.F.	7.05	1.65		8.70	10.45
0350	Cedar planks, 2" thick			320	.050		10.60	1.81		12.41	14.60
0400	3" thick			250	.064		14.15	2.31		16.46	19.35
0500	4" thick			200	.080		21	2.89		23.89	28.50
0550	6" thick			350	.046		3.10	1.65		4.75	6.15
0650	Douglas fir, 2" thick			320	.050		4.65	1.81		6.46	8.05
0700	3" thick			250	.064		6.20	2.31		8.51	10.65
0800	4" thick			200	.080		9.30	2.89		12.19	15
0850	6" thick			350	.046		3.16	1.65		4.81	6.20
0950	Hemlock, 2" thick			320	.050		4.74	1.81		6.55	8.15
1000	3" thick			250	.064		6.30	2.31		8.61	10.75
1100	4" thick			200	.080		9.50	2.89		12.39	15.15
1150	6" thick			350	.046		2.02	1.65		3.67	4.94
1250	Western white spruce, 2" thick			320	.050		3.03	1.81		4.84	6.30
1300	3" thick			250	.064		4.03	2.31		6.34	8.25
1400	4" thick			200	.080		6.05	2.89		8.94	11.40
1450	6" thick										

## 06 15 23 – Laminated Wood Decking

### 06 15 23.10 Laminated Roof Deck

0010 LAMINATED ROOF DECK			2 Corp	425	.038	S.F.	5.70	1.36		7.06	8.50
0020	Pine or hemlock, 3" thick			325	.049		7.40	1.78		9.18	11.05
0100	4" thick			425	.038		8.20	1.36		9.56	11.25
0300	Cedar, 3" thick			325	.049		11.05	1.78		12.83	15.05
0400	4" thick			425	.038		6.60	1.36		7.96	9.50
0600	Fir, 3" thick			325	.049		8.40	1.78		10.18	12.15
0700	4" thick										

# 06 16 Sheathing

## 06 16 13 – Insulating Sheathing

06 16 13.10 Insulating Sheathing		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
0010	INSULATING SHEATHING						Labor	Equipment		
0020	Expanded polystyrene, 1#/C.F. density, 3/4" thick, R2.89	G	2 Carp	1400	.011	S.F.	.37	.41	.78	1.09
0030	1" thick, R3.85	G		1300	.012		.45	.45	.90	1.22
0040	2" thick, R7.69	G		1200	.013		.74	.48	1.22	1.60
0050	Extruded polystyrene, 15 psi compressive strength, 1" thick, R5	G		1300	.012		.68	.45	1.13	1.48
0060	2" thick, R10	G		1200	.013		.83	.48	1.31	1.71
0070	Polyisocyanurate, 2#/C.F. density, 3/4" thick	G		1400	.011		.68	.41	1.09	1.43
0080	1" thick	G		1300	.012		.61	.45	1.06	1.40
0090	1-1/2" thick	G		1250	.013		.76	.46	1.22	1.59
0100	2" thick	G		1200	.013		1.08	.48	1.56	1.98

## 06 16 23 – Subflooring

### 06 16 23.10 Subfloor

0010	SUBFLOOR		2 Carp	1500	.011	SF Flr.	.68	.39	1.07	1.38
0011	Plywood, CDX, 1/2" thick			1860	.009		.68	.31	.99	1.26
0015	Pneumatic nailed			1350	.012		.77	.43	1.20	1.55
0102	5/8" thick			1674	.010		.77	.35	1.12	1.42
0107	Pneumatic nailed			1250	.013		.95	.46	1.41	1.80
0202	3/4" thick			1550	.010		.95	.37	1.32	1.65
0207	Pneumatic nailed			1050	.015		2.12	.55	2.67	3.24
0302	1-1/8" thick, 2-4-1 including underlayment			900	.018		1.79	.64	2.43	3.03
0440	With boards, 1" x 6", S4S, laid regular			1000	.016		2.06	.58	2.64	3.21
0452	1" x 8", laid regular			850	.019		2.06	.68	2.74	3.38
0502	1" x 10", laid regular			1100	.015		2.49	.53	3.02	3.60
0602	Laid diagonal			900	.018		2.49	.64	3.13	3.80
1500	OSB, 5/8" thick			1330	.012	S.F.	.61	.43	1.04	1.38
1600	3/4" thick			1230	.013	"	.74	.47	1.21	1.58
8990	Subfloor adhesive, 3/8" bead		1 Carp	2300	.003	L.F.	.10	.13	.23	.32

## 06 16 26 – Underlayment

### 06 16 26.10 Wood Product Underlayment

0010	WOOD PRODUCT UNDERLAYERMENT		2 Carp	1500	.011	S.F.	.95	.39	1.34	1.67
0015	Plywood, underlayment grade, 1/4" thick			1860	.009		.95	.31	1.26	1.55
0018	Pneumatic nailed			1500	.011		1.05	.39	1.44	1.79
0030	3/8" thick			1860	.009		1.05	.31	1.36	1.67
0070	Pneumatic nailed			1450	.011		1.18	.40	1.58	1.96
0102	1/2" thick			1798	.009		1.18	.32	1.50	1.83
0107	Pneumatic nailed			1400	.011		1.54	.41	1.95	2.37
0202	5/8" thick			1736	.009		1.54	.33	1.87	2.24
0207	Pneumatic nailed			1300	.012		1.49	.45	1.94	2.37
0302	3/4" thick			1612	.010		1.49	.36	1.85	2.23
0306	Pneumatic nailed			1500	.011		.39	.39	.78	1.06
0502	Particle board, 3/8" thick			1860	.009		.39	.31	.70	.94
0507	Pneumatic nailed			1450	.011		.41	.40	.81	1.11
0602	1/2" thick			1798	.009		.41	.32	.73	.98
0607	Pneumatic nailed			1400	.011		.61	.41	1.02	1.35
0802	5/8" thick			1736	.009		.61	.33	.94	1.22
0807	Pneumatic nailed			1300	.012		.74	.45	1.19	1.54
0902	3/4" thick			1612	.010		.74	.36	1.10	1.40
0907	Pneumatic nailed			G			.72	.39	1.11	1.42
1100	Hardboard, underlayment grade, 4' x 4', .215" thick									

# 06 16 Sheathing

## 06 16 33 – Wood Board Sheathing

06 16 33.10 Board Sheathing		Daily Output	Labor Hours	Unit	2020 Bare Costs			Total	Total Ind O&P
					Crew	Material	Labor		
<b>0009 BOARD SHEATHING</b>									
0010	Roof, 1" x 6" boards, laid horizontal	2 Carp	725	.022	S.F.	1.79	.80	2.59	3.28
0020	On steep roof		520	.031		1.79	1.11	2.90	3.80
0040	On dormers, hips, & valleys		480	.033		1.79	1.20	2.99	3.95
0050	Laid diagonal		650	.025		1.79	.89	2.68	3.43
0070	1" x 8" boards, laid horizontal		875	.018		2.06	.66	2.72	3.35
0080	On steep roof		635	.025		2.06	.91	2.97	3.76
0090	On dormers, hips, & valleys		580	.028		2.10	1	3.10	3.95
0100	Laid diagonal		725	.022		2.06	.80	2.86	3.57
0110	Skip sheathing, 1" x 4", 7" OC	1 Carp	1200	.007		.66	.24	.90	1.13
0120	1" x 6", 9" OC		1450	.006		.82	.20	1.02	1.23
0180	T&G sheathing decking, 1" x 6"		1000	.008		1.78	.29	2.07	2.44
0190	2" x 6"		1000	.008		3.95	.29	4.24	4.83
0200	Walls, 1" x 6" boards, laid regular	2 Corp	650	.025		1.79	.89	2.68	3.43
0210	Laid diagonal		585	.027		1.79	.99	2.78	3.59
0220	1" x 8" boards, laid regular		765	.021		2.06	.76	2.82	3.50
0230	Laid diagonal		650	.025		2.06	.89	2.95	3.72

## 06 16 36 – Wood Panel Product Sheathing

### 06 16 36.10 Sheathing

0010	<b>SHEATHING</b>	R061636-20							
0012	Plywood on roofs, CDX								
0032	5/16" thick	2 Carp	1600	.010	S.F.	.60	.36	.96	1.24
0037	Pneumatic nailed		1952	.008		.60	.30	.90	1.14
0052	3/8" thick		1525	.010		.53	.38	.91	1.20
0057	Pneumatic nailed		1860	.009		.53	.31	.84	1.09
0102	1/2" thick		1400	.011		.68	.41	1.09	1.43
0103	Pneumatic nailed		1708	.009		.68	.34	1.02	1.31
0202	5/8" thick		1300	.012		.77	.45	1.22	1.58
0207	Pneumatic nailed		1586	.010		.77	.36	1.13	1.45
0302	3/4" thick		1200	.013		.95	.48	1.43	1.83
0307	Pneumatic nailed		1464	.011		.95	.40	1.35	1.69
0502	Plywood on walls, with exterior CDX, 3/8" thick		1200	.013		.53	.48	1.01	1.37
0507	Pneumatic nailed		1488	.011		.53	.39	.92	1.22
0603	1/2" thick		1125	.014		.68	.51	1.19	1.59
0608	Pneumatic nailed		1395	.011		.68	.41	1.09	1.43
0702	5/8" thick		1050	.015		.77	.55	1.32	1.76
0707	Pneumatic nailed		1302	.012		.77	.44	1.21	1.58
0803	3/4" thick		975	.016		.95	.59	1.54	2.01
0808	Pneumatic nailed		1209	.013		.95	.48	1.43	1.83
1000	For shear wall construction, add						20%		
1200	For structural 1 exterior plywood, add				S.F.	10%			
3000	Wood fiber, regular, no vapor barrier, 1/2" thick	2 Corp	1200	.013		.64	.48	1.12	1.49
3100	5/8" thick		1200	.013		.70	.48	1.18	1.56
3300	No vapor barrier, in colors, 1/2" thick		1200	.013		.82	.48	1.30	1.69
3400	5/8" thick		1200	.013		.86	.48	1.34	1.74
3600	With vapor barrier one side, white, 1/2" thick		1200	.013		.63	.48	1.11	1.48
3700	Vapor barrier 2 sides, 1/2" thick		1200	.013		.86	.48	1.34	1.74
3800	Asphalt impregnated, 25/32" thick		1200	.013		.32	.48	.80	1.14
3850	Intermediate, 1/2" thick		1200	.013		.34	.48	.82	1.16
4500	Oriented strand board, on roof, 7/16" thick	G	1460	.011		.48	.40	.88	1.18
4505	Pneumatic nailed	G	1780	.009		.48	.33	.81	1.06
4550	1/2" thick	G	1400	.011		.48	.41	.89	1.21

# 06 16 Sheathing

## 06 16 36 – Wood Panel Product Sheathing

### 06 16 36.10 Sheathing

			Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
4555	Pneumatic nailed		[G]	2 Carp	.1736	.009	S.F.	.48	.33	.81	1.08
4600	5/8" thick		[G]		.1300	.012		.66	.45	1.11	1.46
4605	Pneumatic nailed		[G]		.1586	.010		.66	.36	1.02	1.33
4610	On walls, 7/16" thick		[G]		.1200	.013		.48	.48	.96	1.32
4615	Pneumatic nailed		[G]		.1488	.011		.48	.39	.87	1.17
4620	1/2" thick		[G]		.1195	.013		.48	.48	.96	1.33
4625	Pneumatic nailed		[G]		.1325	.012		.48	.44	.92	1.25
4630	5/8" thick		[G]		.1050	.015		.66	.55	1.21	1.64
4635	Pneumatic nailed		[G]		.1302	.012		.66	.44	1.10	1.46
4700	Oriented strand board, factory laminated W.R. barrier, on roof, 1/2" thick		[G]		.1400	.011		.79	.41	1.20	1.55
4705	Pneumatic nailed		[G]		.1736	.009		.79	.33	1.12	1.42
4720	5/8" thick		[G]		.1300	.012		.98	.45	1.43	1.81
4725	Pneumatic nailed		[G]		.1586	.010		.98	.36	1.34	1.68
4730	5/8" thick, T&G		[G]		.1150	.014		1.06	.50	1.56	2
4735	Pneumatic nailed, T&G		[G]		.1400	.011		1.06	.41	1.47	1.85
4740	On walls, 7/16" thick		[G]		.1200	.013		.73	.48	1.21	1.59
4745	Pneumatic nailed		[G]		.1488	.011		.73	.39	1.12	1.44
4750	1/2" thick		[G]		.1195	.013		.79	.48	1.27	1.67
4755	Pneumatic nailed		[G]		.1325	.012		.79	.44	1.23	1.59
4800	Joint sealant tape, 3-1/2"				.7600	.002	L.F.	.36	.08	.44	.53
4810	Joint sealant tape, 6"				.7600	.002	"	.41	.08	.49	.58

## 06 16 43 – Gypsum Sheathing

### 06 16 43.10 Gypsum Sheathing

0010	GYPSUM SHEATHING			2 Carp	.1125	.014	S.F.	.53	.51	1.04	1.42
0020	Gypsum, weatherproof, 1/2" thick			"	.1100	.015	"	.71	.53	1.24	1.64
0040	With embedded glass mats										

# 06 17 Shop-Fabricated Structural Wood

## 06 17 33 – Wood I-Joists

### 06 17 33.10 Wood and Composite I-Joists

0010	WOOD AND COMPOSITE I-JOISTS										
0100	Plywood webs, incl. bridging & blocking, panels 24" OC										
1200	15' to 24' span, 50 psf live load		F-5	2400	.013	SF Flr.		1.81	.43	2.24	2.69
1300	55 psf live load			2250	.014			2.26	.45	2.71	3.24
1400	24' to 30' span, 45 psf live load			2600	.012			2.68	.39	3.07	3.59
1500	55 psf live load			2400	.013			4.77	.43	5.20	5.95

## 06 17 53 – Shop-Fabricated Wood Trusses

### 06 17 53.10 Roof Trusses

0010	ROOF TRUSSES										
5000	Common wood, 2" x 4" metal plate connected, 24" OC, 4/12 slope										
5010	1' overhang, 12' span		F-5	55	.582	Ea.	36	18.55		54.55	70.50
5050	20' span		F-6	62	.645		74.50	21.50	7.60	103.60	125
5100	24' span			60	.667		78.50	22	7.85	108.35	132
5150	26' span			57	.702		79	23.50	8.25	110.75	135
5200	28' span			53	.755		107	25	8.90	140.90	169
5240	30' span			51	.784		107	26	9.25	142.25	171
5250	32' span			50	.800		115	26.50	9.40	150.90	180
5280	34' span			48	.833		109	27.50	9.80	146.30	176
5350	8/12 pitch, 1' overhang, 20' span			57	.702		93	23.50	8.25	124.75	150
5400	24' span			55	.727		108	24	8.55	140.55	167

# 06 17 Shop-Fabricated Structural Wood

## 06 17 53 – Shop-Fabricated Wood Trusses

06 17 53.10 Roof Trusses		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total
							Labor	Equipment	Total		Incl O&P
5450	26' span	F-6	52	.769	Ea.	105	25.50	9.05	139.55	167	
5500	28' span		49	.816		126	27	9.60	162.60	193	
5550	32' span		45	.889		143	29.50	10.45	182.95	217	
5600	36' span		41	.976		170	32.50	11.50	214	253	
5650	38' span		40	1		183	33.50	11.80	228.30	268	
5700	40' span		40	1		190	33.50	11.80	235.30	276	

# 06 18 Glued-Laminated Construction

## 06 18 13 – Glued-Laminated Beams

### 06 18 13.10 Laminated Beams

0010 LAMINATED BEAMS											
0050	3-1/2" x 18"	F-3	480	.083	L.F.	27.50	2.77	.98	31.25	35.50	
0100	5-1/4" x 11-7/8"		450	.089		28.50	2.95	1.05	32.50	37.50	
0150	5-1/4" x 16"		360	.111		34.50	3.69	1.31	39.50	45	
0200	5-1/4" x 18"		290	.138		43.50	4.58	1.62	49.70	57.50	
0250	5-1/4" x 24"		220	.182		60.50	6.05	2.14	68.69	79	
0300	7" x 11-7/8"		320	.125		42.50	4.15	1.47	48.12	55	
0350	7" x 16"		260	.154		59.50	5.10	1.81	66.41	76	
0400	7" x 18"		210	.190		67.50	6.35	2.24	76.09	87	
0500	For premium appearance, add to L.F. prices					5%					
0550	For industrial type, deduct					15%					
0600	For stain and varnish, add					5%					
0650	For 3/4" laminations, add					25%					

### 06 18 13.20 Laminated Framing

0010 LAMINATED FRAMING											
0020	30 lb., short term live load, 15 lb. dead load										
0200	Straight roof beams, 20' clear span, beams 8' OC	F-3	2560	.016	SF Flr.	2.27	.52	.18	2.97	3.56	
0300	Beams 16' OC		3200	.013		1.66	.42	.15	2.23	2.67	
0500	40' clear span, beams 8' OC		3200	.013		4.31	.42	.15	4.88	5.60	
0600	Beams 16' OC		3840	.010		3.57	.35	.12	4.04	4.63	
0800	60' clear span, beams 8' OC	F-4	2880	.014		7.40	.46	.34	8.20	9.25	
0900	Beams 16' OC	"	3840	.010		5.55	.35	.26	6.16	6.95	
1100	Tudor arches, 30' to 40' clear span, frames 8' OC	F-3	1680	.024		9.60	.79	.28	10.67	12.20	
1200	Frames 16' OC	"	2240	.018		7.50	.59	.21	8.30	9.45	
1400	50' to 60' clear span, frames 8' OC	F-4	2200	.018		10.35	.60	.45	11.40	12.90	
1500	Frames 16' OC		2640	.015		8.85	.50	.37	9.72	10.95	
1700	Radial arches, 60' clear span, frames 8' OC		1920	.021		9.70	.69	.51	10.90	12.35	
1800	Frames 16' OC		2880	.014		7.75	.46	.34	8.55	9.65	
2000	100' clear span, frames 8' OC		1600	.025		10	.83	.61	11.44	13.05	
2100	Frames 16' OC		2400	.017		8.80	.55	.41	9.76	11.05	
2300	120' clear span, frames 8' OC		1440	.028		13.25	.92	.68	14.85	16.85	
2400	Frames 16' OC		1920	.021		12.10	.69	.51	13.30	15.05	
2600	Bowstring trusses, 20' OC, 40' clear span	F-3	2400	.017		6	.55	.20	6.75	7.75	
2700	60' clear span	F-4	3600	.011		5.40	.37	.27	6.04	6.85	
2800	100' clear span		4000	.010		7.65	.33	.25	8.23	9.20	
2900	120' clear span		3600	.011		8.10	.37	.27	8.74	9.85	
3100	For premium appearance, add to S.F. prices					5%					
3300	For industrial type, deduct					15%					
3500	For stain and varnish, add					5%					
3900	For 3/4" laminations, add to straight					25%					
4100	Add to curved					15%					

# 06 18 Glued-Laminated Construction

## 06 18 13 – Glued-Laminated Beams

06 18 13.20 Laminated Framing		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Equipment	Total	Total Incl O&P
4300 Alternate pricing method: (use nominal footage of components). Straight beams, camber less than 6"		F-3	3.50	11.429	M.B.F.	3,075	380	135	3,590	4,150	
4400 Columns, including hardware			2	20		3,300	665	236	4,201	4,975	
4600 Curved members, radius over 32'			2.50	16		3,375	530	188	4,093	4,775	
4700 Radius 10' to 32'			3	13.333		3,350	445	157	3,952	4,575	
4900 For complicated shapes, add maximum						100%					
5100 For pressure treating, add to straight						35%					
5200 Add to curved						45%					
6000 Laminated veneer members, southern pine or western species											
6050 1-3/4" wide x 5-1/2" deep		2 Carp	480	.033	L.F.	3.36	1.20			4.56	5.70
6100 9-1/2" deep			480	.033		4.56	1.20			5.76	7
6150 14" deep			450	.036		7.35	1.29			8.64	10.15
6200 18" deep			450	.036		10.15	1.29			11.44	13.30
6300 Parallel strand members, southern pine or western species											
6350 1-3/4" wide x 9-1/4" deep		2 Carp	480	.033	L.F.	5.05	1.20			6.25	7.55
6400 11-1/4" deep			450	.036		5.65	1.29			6.94	8.35
6450 14" deep			400	.040		8.35	1.45			9.80	11.60
6500 3-1/2" wide x 9-1/4" deep			480	.033		18.10	1.20			19.30	22
6550 11-1/4" deep			450	.036		19.70	1.29			20.99	23.50
6600 14" deep			400	.040		22.50	1.45			23.95	27.50
6650 7" wide x 9-1/4" deep			450	.036		33	1.29			34.29	38.50
6700 11-1/4" deep			420	.038		42	1.38			43.38	48.50
6750 14" deep			400	.040		50	1.45			51.45	57.50
8000 Straight beams											
8102 20' span											
8104 3-1/8" x 9"		F-3	30	1.333	Ea.	144	44.50	15.70	204.20	248	
8106 x 10-1/2"			30	1.333		168	44.50	15.70	228.20	275	
8108 x 12"			30	1.333		192	44.50	15.70	252.20	300	
8110 x 13-1/2"			30	1.333		216	44.50	15.70	276.20	325	
8112 x 15"			29	1.379		240	46	16.25	302.25	355	
8114 5-1/8" x 10-1/2"			30	1.333		275	44.50	15.70	335.20	395	
8116 x 12"			30	1.333		315	44.50	15.70	375.20	435	
8118 x 13-1/2"			30	1.333		355	44.50	15.70	415.20	480	
8120 x 15"			29	1.379		395	46	16.25	457.25	525	
8122 x 16-1/2"			29	1.379		430	46	16.25	492.25	570	
8124 x 18"			29	1.379		470	46	16.25	532.25	615	
8126 x 19-1/2"			29	1.379		510	46	16.25	572.25	655	
8128 x 21"			28	1.429		550	47.50	16.85	614.35	700	
8130 x 22-1/2"			28	1.429		590	47.50	16.85	654.35	745	
8132 x 24"			28	1.429		630	47.50	16.85	694.35	785	
8134 6-3/4" x 12"			29	1.379		415	46	16.25	477.25	550	
8136 x 13-1/2"			29	1.379		465	46	16.25	527.25	610	
8138 x 15"			29	1.379		520	46	16.25	582.25	665	
8140 x 16-1/2"			28	1.429		570	47.50	16.85	634.35	720	
8142 x 18"			28	1.429		620	47.50	16.85	684.35	780	
8144 x 19-1/2"			28	1.429		675	47.50	16.85	739.35	835	
8146 x 21"			27	1.481		725	49	17.45	791.45	895	
8148 x 22-1/2"			27	1.481		775	49	17.45	841.45	955	
8150 x 24"			27	1.481		830	49	17.45	896.45	1,000	
8152 x 25-1/2"			27	1.481		880	49	17.45	946.45	1,075	
8154 x 27"			26	1.538		930	51	18.10	999.10	1,125	
8156 x 28-1/2"			26	1.538		985	51	18.10	1,054.10	1,175	
8158 x 30"			26	1.538		1,025	51	18.10	1,094.10	1,250	

# 06 18 Glued-Laminated Construction

## 06 18 13 – Glued-Laminated Beams

06 18 13.20 Laminated Framing			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
							Labor	Equipment		Total	
8200	30' span										
8250	3-1/8" x 9"		F-3	30	1.333	Ea.	216	44.50	15.70	276.20	325
8252	x 10-1/2"				30	1.333		252	44.50	15.70	312.20
8254	x 12"				30	1.333		288	44.50	15.70	348.20
8256	x 13-1/2"				30	1.333		325	44.50	15.70	385.20
8258	x 15"				29	1.379		360	46	16.25	422.25
8260	5-1/8" x 10-1/2"				30	1.333		415	44.50	15.70	475.20
8262	x 12"				30	1.333		470	44.50	15.70	530.20
8264	x 13-1/2"				30	1.333		530	44.50	15.70	590.20
8266	x 15"				29	1.379		590	46	16.25	652.25
8268	x 16-1/2"				29	1.379		650	46	16.25	712.25
8270	x 18"				29	1.379		710	46	16.25	772.25
8272	x 19-1/2"				29	1.379		765	46	16.25	827.25
8274	x 21"				28	1.429		825	47.50	16.85	889.35
8276	x 22-1/2"				28	1.429		885	47.50	16.85	949.35
8278	x 24"				28	1.429		945	47.50	16.85	1,009.35
8280	6-3/4" x 12"				29	1.379		620	46	16.25	682.25
8282	x 13-1/2"				29	1.379		700	46	16.25	762.25
8284	x 15"				29	1.379		775	46	16.25	837.25
8286	x 16-1/2"				28	1.429		855	47.50	16.85	919.35
8288	x 18"				28	1.429		930	47.50	16.85	994.35
8290	x 19-1/2"				28	1.429		1,000	47.50	16.85	1,064.35
8292	x 21"				27	1.481		1,075	49	17.45	1,141.45
8294	x 22-1/2"				27	1.481		1,175	49	17.45	1,241.45
8296	x 24"				27	1.481		1,250	49	17.45	1,316.45
8298	x 25-1/2"				27	1.481		1,325	49	17.45	1,391.45
8300	x 27"				26	1.538		1,400	51	18.10	1,469.10
8302	x 28-1/2"				26	1.538		1,475	51	18.10	1,544.10
8304	x 30"		▼	26	1.538	▼	1,550	51	18.10	1,619.10	1,800
8400	40' span										
8402	3-1/8" x 9"		F-3	30	1.333	Ea.	288	44.50	15.70	348.20	405
8404	x 10-1/2"				30	1.333		335	44.50	15.70	395.20
8406	x 12"				30	1.333		385	44.50	15.70	445.20
8408	x 13-1/2"				30	1.333		430	44.50	15.70	490.20
8410	x 15"				29	1.379		480	46	16.25	542.25
8412	5-1/8" x 10-1/2"				30	1.333		550	44.50	15.70	610.20
8414	x 12"				30	1.333		630	44.50	15.70	690.20
8416	x 13-1/2"				30	1.333		710	44.50	15.70	770.20
8418	x 15"				29	1.379		785	46	16.25	847.25
8420	x 16-1/2"				29	1.379		865	46	16.25	927.25
8422	x 18"				29	1.379		945	46	16.25	1,007.25
8424	x 19-1/2"				29	1.379		1,025	46	16.25	1,087.25
8426	x 21"				28	1.429		1,100	47.50	16.85	1,164.35
8428	x 22-1/2"				28	1.429		1,175	47.50	16.85	1,239.35
8430	x 24"				28	1.429		1,250	47.50	16.85	1,314.35
8432	6-3/4" x 12"				29	1.379		830	46	16.25	892.25
8434	x 13-1/2"				29	1.379		930	46	16.25	992.25
8436	x 15"				29	1.379		1,025	46	16.25	1,087.25
8438	x 16-1/2"				28	1.429		1,150	47.50	16.85	1,214.35
8440	x 18"				28	1.429		1,250	47.50	16.85	1,314.35
8442	x 19-1/2"				28	1.429		1,350	47.50	16.85	1,414.35
8444	x 21"				27	1.481		1,450	49	17.45	1,516.45
8446	x 22-1/2"		▼	27	1.481	▼	1,550	49	17.45	1,616.45	1,800

# 06 18 Glued-Laminated Construction

## 06 18 13 – Glued-Laminated Beams

06 18 13.20 Laminated Framing			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
8448	x 24"		F-3	27	1.481	Ea.	1,650	49	17.45	1,716.45	1,925
8450	x 25-1/2"			27	1.481		1,750	49	17.45	1,816.45	2,025
8452	x 27"			26	1.538		1,875	51	18.10	1,944.10	2,150
8454	x 28-1/2"			26	1.538		1,975	51	18.10	2,044.10	2,275
8456	x 30"			26	1.538		2,075	51	18.10	2,144.10	2,375

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

### 06 22 13.10 Millwork

0010 MILLWORK											
0020	Rule of thumb, milled material equals rough lumber cost x 3										
1020	1" x 12", custom birch			L.F.						4.80	5.30
1040	Cedar									5.90	6.50
1060	Oak									5.35	5.85
1080	Redwood									4.34	4.78
1100	Southern yellow pine									4.14	4.55
1120	Sugar pine									6.35	6.95
1140	Teak									35	38.50
1160	Walnut									7.80	8.60
1180	White pine									5.05	5.55

### 06 22 13.15 Moldings, Base

0010 MOLDINGS, BASE											
5100	Classic profile, 5/8" x 5-1/2", finger jointed and primed	1 Corp	250	.032	L.F.	1.76	1.16			2.92	3.84
5105	Poplar		240	.033		2.18	1.20			3.38	4.38
5110	Red oak		220	.036		2.54	1.31			3.85	4.95
5115	Maple		220	.036		4.15	1.31			5.46	6.75
5120	Cherry		220	.036		4.55	1.31			5.86	7.15
5125	3/4" x 7-1/2", finger jointed and primed		250	.032		2.05	1.16			3.21	4.16
5130	Poplar		240	.033		2.66	1.20			3.86	4.91
5135	Red oak		220	.036		3.70	1.31			5.01	6.25
5140	Maple		220	.036		5.15	1.31			6.46	7.80
5145	Cherry		220	.036		6.10	1.31			7.41	8.90
5150	Modern profile, 5/8" x 3-1/2", finger jointed and primed		250	.032		.95	1.16			2.11	2.95
5155	Poplar		240	.033		1.06	1.20			2.26	3.15
5160	Red oak		220	.036		1.74	1.31			3.05	4.07
5165	Maple		220	.036		2.70	1.31			4.01	5.15
5170	Cherry		220	.036		2.94	1.31			4.25	5.40
5175	Ogee profile, 7/16" x 3", finger jointed and primed		250	.032		.68	1.16			1.84	2.65
5180	Poplar		240	.033		.76	1.20			1.96	2.82
5185	Red oak		220	.036		.99	1.31			2.30	3.25
5200	9/16" x 3-1/2", finger jointed and primed		250	.032		.68	1.16			1.84	2.65
5205	Pine		240	.033		1.28	1.20			2.48	3.39
5210	Red oak		220	.036		2.92	1.31			4.23	5.35
5215	9/16" x 4-1/2", red oak		220	.036		4.38	1.31			5.69	6.95
5220	5/8" x 3-1/2", finger jointed and primed		250	.032		1.04	1.16			2.20	3.04
5225	Poplar		240	.033		1.06	1.20			2.26	3.15
5230	Red oak		220	.036		1.74	1.31			3.05	4.07
5235	Maple		220	.036		2.70	1.31			4.01	5.15
5240	Cherry		220	.036		2.92	1.31			4.23	5.35
5245	5/8" x 4", finger jointed and primed		250	.032		1.28	1.16			2.44	3.31
5250	Poplar		240	.033		1.37	1.20			2.57	3.49

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.15 Moldings, Base		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P	
					Material	Labor	Equipment		
5255	Red oak	1 Carp	.220	.036	L.F.	1.96	1.31	3.27	4.32
5260	Maple		.220	.036		3.02	1.31	4.33	5.50
5265	Cherry		.220	.036		3.17	1.31	4.48	5.65
5270	Rectangular profile, oak, 3/8" x 1-1/4"		.260	.031		1.58	1.11	2.69	3.56
5275	1/2" x 2-1/2"		.255	.031		2.27	1.13	3.40	4.36
5280	1/2" x 3-1/2"		.250	.032		2.85	1.16	4.01	5.05
5285	1" x 6"		.240	.033		4.06	1.20	5.26	6.45
5290	1" x 8"		.240	.033		5.05	1.20	6.25	7.60
5295	Pine, 3/8" x 1-3/4"		.260	.031		.50	1.11	1.61	2.38
5300	7/16" x 2-1/2"		.255	.031		.82	1.13	1.95	2.76
5305	1" x 6"		.240	.033		.84	1.20	2.04	2.90
5310	1" x 8"		.240	.033		.95	1.20	2.15	3.03
5315	Shoe, 1/2" x 3/4", primed		.260	.031		.59	1.11	1.70	2.48
5320	Pine		.240	.033		.43	1.20	1.63	2.45
5325	Poplar		.240	.033		.43	1.20	1.63	2.45
5330	Red oak		.220	.036		.57	1.31	1.88	2.79
5335	Maple		.220	.036		.82	1.31	2.13	3.06
5340	Cherry		.220	.036		.84	1.31	2.15	3.08
5345	11/16" x 1-1/2", pine		.240	.033		.87	1.20	2.07	2.94
5350	Caps, 11/16" x 1-3/8", pine		.240	.033		.69	1.20	1.89	2.74
5355	3/4" x 1-3/4", finger jointed and primed		.260	.031		.93	1.11	2.04	2.85
5360	Poplar		.240	.033		1.07	1.20	2.27	3.16
5365	Red oak		.220	.036		1.33	1.31	2.64	3.62
5370	Maple		.220	.036		1.68	1.31	2.99	4.01
5375	Cherry		.220	.036		3.69	1.31	5	6.20
5380	Combination base & shoe, 9/16" x 3-1/2" & 1/2" x 3/4", pine		.125	.064		1.71	2.31	4.02	5.70
5385	Three piece oak, 6" high		.80	.100		5.95	3.62	9.57	12.50
5390	Including 3/4" x 1" base shoe		.70	.114		6.60	4.13	10.73	14.05
5395	Flooring cant strip, 3/4" x 3/4", pre-finished pine		.260	.031		.48	1.11	1.59	2.36
5400	For pre-finished, stain and clear coat, odd					.59		.59	.65
5405	Clear coat only, add					.45		.45	.50

## 06 22 13.30 Moldings, Casings

0010 MOLDINGS, CASINGS		1 Corp	250	.032	L.F.	1.51	1.16	2.67	3.56
0085	Apron, 9/16" x 2-1/2", pine		.250	.032		1.81	1.16	2.97	3.89
0090	5/8" x 2-1/2", pine		.220	.036		2.27	1.31	3.58	4.66
0110	5/8" x 3-1/2", pine		.270	.030		.77	1.07	1.84	2.61
0300	Band, 11/16" x 1-1/8", pine		.270	.030		.76	1.07	1.83	2.60
0310	11/16" x 1-1/2", finger jointed and primed		.270	.030		1.02	1.07	2.09	2.88
0320	Pine		.270	.030		.96	1.07	2.03	2.82
0330	11/16" x 1-3/4", finger jointed and primed		.270	.030		1.09	1.07	2.16	2.96
0355	Beaded, 3/4" x 3-1/2", finger jointed and primed		.220	.036		1.03	1.31	2.34	3.29
0360	Poplar		.220	.036		1.20	1.31	2.51	3.48
0365	Red oak		.220	.036		1.74	1.31	3.05	4.07
0370	Maple		.220	.036		2.69	1.31	4	5.10
0375	Cherry		.220	.036		3.25	1.31	4.56	5.75
0380	3/4" x 4", finger jointed and primed		.220	.036		1.27	1.31	2.58	3.56
0385	Poplar		.220	.036		1.84	1.31	3.15	4.18
0390	Red oak		.220	.036		2.47	1.31	3.78	4.88
0395	Maple		.220	.036		2.71	1.31	4.02	5.15
0400	Cherry		.220	.036		4.03	1.31	5.34	6.60
0405	3/4" x 5-1/2", finger jointed and primed		.200	.040		1.59	1.45	3.04	4.13

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.30 Moldings, Casings		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total Incl O&P
							Labor	Equipment	Total	
0410	Poplar	1 Carp	200	.040	L.F.	2.04	1.45		3.49	4.62
0415	Red oak		200	.040		2.99	1.45		4.44	5.65
0420	Maple		200	.040		3.95	1.45		5.40	6.75
0425	Cherry		200	.040		4.53	1.45		5.98	7.35
0430	Classic profile, 3/4" x 2-3/4", finger jointed and primed		250	.032		.87	1.16		2.03	2.86
0435	Poplar		250	.032		1.05	1.16		2.21	3.06
0440	Red oak		250	.032		1.57	1.16		2.73	3.63
0445	Maple		250	.032		2.21	1.16		3.37	4.33
0450	Cherry		250	.032		2.54	1.16		3.70	4.69
0455	Fluted, 3/4" x 3-1/2", poplar		220	.036		1.20	1.31		2.51	3.48
0460	Red oak		220	.036		1.74	1.31		3.05	4.07
0465	Maple		220	.036		3.04	1.31		4.35	5.50
0470	Cherry		220	.036		3.25	1.31		4.56	5.75
0475	3/4" x 4", poplar		220	.036		1.47	1.31		2.78	3.78
0480	Red oak		220	.036		2.31	1.31		3.62	4.70
0485	Maple		220	.036		2.71	1.31		4.02	5.15
0490	Cherry		220	.036		4.03	1.31		5.34	6.60
0495	3/4" x 5-1/2", poplar		200	.040		2.04	1.45		3.49	4.62
0500	Red oak		200	.040		3.08	1.45		4.53	5.75
0505	Maple		200	.040		3.95	1.45		5.40	6.75
0510	Cherry		200	.040		4.52	1.45		5.97	7.35
0515	3/4" x 7-1/2", poplar		190	.042		1.59	1.52		3.11	4.25
0520	Red oak		190	.042		4	1.52		5.52	6.90
0525	Maple		190	.042		7.20	1.52		8.72	10.40
0530	Cherry		190	.042		8.60	1.52		10.12	11.95
0535	3/4" x 9-1/2", poplar		180	.044		4.21	1.61		5.82	7.25
0540	Red oak		180	.044		6.60	1.61		8.21	9.95
0545	Maple		180	.044		11.45	1.61		13.06	15.25
0550	Cherry		180	.044		12.50	1.61		14.11	16.40
0555	Modern profile, 9/16" x 2-1/4", poplar		250	.032		.88	1.16		2.04	2.87
0560	Red oak		250	.032		.99	1.16		2.15	2.99
0565	11/16" x 2-1/2", finger jointed & primed		250	.032		.77	1.16		1.93	2.75
0570	Pine		250	.032		1.29	1.16		2.45	3.32
0575	3/4" x 2-1/2", poplar		250	.032		.94	1.16		2.10	2.93
0580	Red oak		250	.032		1.26	1.16		2.42	3.29
0585	Maple		250	.032		1.94	1.16		3.10	4.03
0590	Cherry		250	.032		2.75	1.16		3.91	4.93
0595	Mullion, 5/16" x 2", pine		270	.030		.98	1.07		2.05	2.84
0600	9/16" x 2-1/2", finger jointed and primed		250	.032		.98	1.16		2.14	2.98
0605	Pine		250	.032		1.35	1.16		2.51	3.39
0610	Red oak		250	.032		3.40	1.16		4.56	5.65
0615	1-1/16" x 3-3/4", red oak		220	.036		7.05	1.31		8.36	9.90
0620	Ogee, 7/16" x 2-1/2", poplar		250	.032		.79	1.16		1.95	2.77
0625	Red oak		250	.032		.93	1.16		2.09	2.92
0630	9/16" x 2-1/4", finger jointed and primed		250	.032		.61	1.16		1.77	2.57
0635	Poplar		250	.032		.62	1.16		1.78	2.58
0640	Red oak		250	.032		.85	1.16		2.01	2.84
0645	11/16" x 2-1/2", finger jointed and primed		250	.032		.73	1.16		1.89	2.70
0700	Pine		250	.032		1.41	1.16		2.57	3.45
0701	Red oak		250	.032		3.29	1.16		4.45	5.50
0730	11/16" x 3-1/2", finger jointed and primed		220	.036		1.36	1.31		2.67	3.66
0750	Pine		220	.036		1.95	1.31		3.26	4.31
0755	3/4" x 2-1/2", finger jointed and primed		250	.032		.77	1.16		1.93	2.75

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.30 Moldings, Casings		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
						Labor	Equipment	Total		
0760	Poplar	1 Carp	250	.032	L.F.	.96	1.16	2.12	2.96	
0765	Red oak		250	.032		1.32	1.16	2.48	3.35	
0770	Maple		250	.032		1.91	1.16	3.07	4	
0775	Cherry		250	.032		2.40	1.16	3.56	4.54	
0780	3/4" x 3-1/2", finger jointed and primed		220	.036		.86	1.31	2.17	3.11	
0785	Poplar		220	.036		1.20	1.31	2.51	3.48	
0790	Red oak		220	.036		1.74	1.31	3.05	4.07	
0795	Maple		220	.036		2.68	1.31	3.99	5.10	
0800	Cherry		220	.036		3.30	1.31	4.61	5.80	
4700	Square profile, 1" x 1", teak		215	.037		2.23	1.35	3.58	4.66	
4800	Rectangular profile, 1" x 3", teak		200	.040		6.60	1.45	8.05	9.65	

## 06 22 13.35 Moldings, Ceilings

0010 MOLDINGS, CEILINGS		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
						Labor	Equipment	Total		
0600	Bed, 9/16" x 1-3/4", pine	1 Corp	270	.030	L.F.	1.13	1.07	2.20	3	
0650	9/16" x 2", pine		270	.030		1.30	1.07	2.37	3.19	
0710	9/16" x 1-3/4", oak		270	.030		2.44	1.07	3.51	4.44	
1200	Cornice, 9/16" x 1-3/4", pine		270	.030		1.02	1.07	2.09	2.88	
1300	9/16" x 2-1/4", pine		265	.030		1.37	1.09	2.46	3.30	
1350	Cove, 1/2" x 2-1/4", poplar		265	.030		1.26	1.09	2.35	3.18	
1360	Red oak		265	.030		1.73	1.09	2.82	3.69	
1370	Hard maple		265	.030		1.71	1.09	2.80	3.67	
1380	Cherry		265	.030		2.31	1.09	3.40	4.33	
2400	9/16" x 1-3/4", pine		270	.030		1.10	1.07	2.17	2.97	
2401	Oak		270	.030		.99	1.07	2.06	2.85	
2500	11/16" x 2-3/4", pine		265	.030		2.21	1.09	3.30	4.22	
2510	Crown, 5/8" x 5/8", poplar		300	.027		.55	.96	1.51	2.19	
2520	Red oak		300	.027		.56	.96	1.52	2.20	
2530	Hard maple		300	.027		.76	.96	1.72	2.42	
2540	Cherry		300	.027		.80	.96	1.76	2.46	
2600	9/16" x 3-5/8", pine		250	.032		1.83	1.16	2.99	3.91	
2700	11/16" x 4-1/4", pine		250	.032		3.05	1.16	4.21	5.25	
2705	Oak		250	.032		6.50	1.16	7.66	9.05	
2710	3/4" x 1-3/4", poplar		270	.030		.76	1.07	1.83	2.60	
2720	Red oak		270	.030		1.12	1.07	2.19	2.99	
2730	Hard maple		270	.030		1.47	1.07	2.54	3.38	
2740	Cherry		270	.030		1.81	1.07	2.88	3.75	
2750	3/4" x 2", poplar		270	.030		1	1.07	2.07	2.86	
2760	Red oak		270	.030		1.50	1.07	2.57	3.41	
2770	Hard maple		270	.030		2.05	1.07	3.12	4.02	
2780	Cherry		270	.030		2.28	1.07	3.35	4.27	
2790	3/4" x 2-3/4", poplar		265	.030		1.08	1.09	2.17	2.98	
2800	Red oak		265	.030		1.67	1.09	2.76	3.63	
2810	Hard maple		265	.030		2.28	1.09	3.37	4.30	
2820	Cherry		265	.030		2.59	1.09	3.68	4.64	
2830	3/4" x 3-1/2", poplar		250	.032		1.40	1.16	2.56	3.44	
2840	Red oak		250	.032		2.08	1.16	3.24	4.19	
2850	Hard maple		250	.032		2.95	1.16	4.11	5.15	
2860	Cherry		250	.032		3.16	1.16	4.32	5.40	
2870	FJP poplar		250	.032		1.06	1.16	2.22	3.07	
2880	3/4" x 5", poplar		245	.033		2.04	1.18	3.22	4.19	
2890	Red oak		245	.033		3.02	1.18	4.20	5.25	
2900	Hard maple		245	.033		3.99	1.18	5.17	6.35	

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.35 Moldings, Ceilings			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
2910	Cherry		1 Corp	245	.033	L.F.	4.76	1.18	5.94	7.20
2920	FJP poplar			245	.033		1.48	1.18	2.66	3.57
2930	3/4" x 6-1/4", poplar			240	.033		2.45	1.20	3.65	4.68
2940	Red oak			240	.033		3.69	1.20	4.89	6.05
2950	Hard maple			240	.033		4.96	1.20	6.16	7.45
2960	Cherry			240	.033		5.90	1.20	7.10	8.50
2970	7/8" x 8-3/4", poplar			220	.036		4.97	1.31	6.28	7.60
2980	Red oak			220	.036		5.20	1.31	6.51	7.85
2990	Hard maple			220	.036		6.85	1.31	8.16	9.70
3000	Cherry			220	.036		7.85	1.31	9.16	10.80
3010	1" x 7-1/4", poplar			220	.036		4.45	1.31	5.76	7.05
3020	Red oak			220	.036		6.25	1.31	7.56	9
3030	Hard maple			220	.036		9.05	1.31	10.36	12.10
3040	Cherry			220	.036		10.30	1.31	11.61	13.45
3050	1-1/16" x 4-1/4", poplar			250	.032		2.54	1.16	3.70	4.70
3060	Red oak			250	.032		2.86	1.16	4.02	5.05
3070	Hard maple			250	.032		4.20	1.16	5.36	6.50
3080	Cherry			250	.032		5.45	1.16	6.61	7.85
3090	Dentil crown, 3/4" x 5", poplar			250	.032		2.04	1.16	3.20	4.15
3100	Red oak			250	.032		3.02	1.16	4.18	5.20
3110	Hard maple			250	.032		3.98	1.16	5.14	6.30
3120	Cherry			250	.032		4.59	1.16	5.75	6.95
3130	Dentil piece for above, 1/2" x 1/2", poplar			300	.027		3.22	.96	4.18	5.10
3140	Red oak			300	.027		3.33	.96	4.29	5.25
3150	Hard maple			300	.027		4.17	.96	5.13	6.15
3160	Cherry			300	.027		4.14	.96	5.10	6.15

## 06 22 13.40 Moldings, Exterior

0010 MOLDINGS, EXTERIOR			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
0100	Band board, cedar, rough sawn, 1" x 2"		1 Corp	300	.027	L.F.	.72	.96	1.68	2.37
0110	1" x 3"			300	.027		1.07	.96	2.03	2.76
0120	1" x 4"			250	.032		1.43	1.16	2.59	3.47
0130	1" x 6"			250	.032		2.15	1.16	3.31	4.26
0140	1" x 8"			225	.036		2.86	1.29	4.15	5.25
0150	1" x 10"			225	.036		3.56	1.29	4.85	6
0160	1" x 12"			200	.040		4.27	1.45	5.72	7.10
0240	STK, 1" x 2"			300	.027		.44	.96	1.40	2.06
0250	1" x 3"			300	.027		.48	.96	1.44	2.11
0260	1" x 4"			250	.032		.85	1.16	2.01	2.84
0270	1" x 6"			250	.032		1.39	1.16	2.55	3.43
0280	1" x 8"			225	.036		2.35	1.29	3.64	4.70
0290	1" x 10"			225	.036		2.86	1.29	4.15	5.25
0300	1" x 12"			200	.040		4.44	1.45	5.89	7.25
0310	Pine, #2, 1" x 2"			300	.027		.31	.96	1.27	1.92
0320	1" x 3"			300	.027		.45	.96	1.41	2.08
0330	1" x 4"			250	.032		.57	1.16	1.73	2.53
0340	1" x 6"			250	.032		.86	1.16	2.02	2.85
0350	1" x 8"			225	.036		1.33	1.29	2.62	3.57
0360	1" x 10"			225	.036		2.04	1.29	3.33	4.35
0370	1" x 12"			200	.040		2.66	1.45	4.11	5.30
0380	D & better, 1" x 2"			300	.027		.51	.96	1.47	2.14
0390	1" x 3"			300	.027		.73	.96	1.69	2.38
0400	1" x 4"			250	.032		.95	1.16	2.11	2.95

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.40 Moldings, Exterior		Crew	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours			Labor	Equipment	Total		
0410	1" x 6"		1 Carp	.250	.032	L.F.	1.10	1.16	2.26	3.11	
0420	1" x 8"			.225	.036		1.64	1.29	2.93	3.91	
0430	1" x 10"			.225	.036		2.16	1.29	3.45	4.49	
0440	1" x 12"			.200	.040		2.73	1.45	4.18	5.40	
0450	Redwood, clear all heart, 1" x 2"			.300	.027		.66	.96	1.62	2.31	
0460	1" x 3"			.300	.027		.98	.96	1.94	2.66	
0470	1" x 4"			.250	.032		1.22	1.16	2.38	3.24	
0480	1" x 6"			.252	.032		1.83	1.15	2.98	3.91	
0490	1" x 8"			.225	.036		2.43	1.29	3.72	4.78	
0500	1" x 10"			.225	.036		4.03	1.29	5.32	6.55	
0510	1" x 12"			.200	.040		4.40	1.45	5.85	7.20	
0530	Corner board, cedar, rough sawn, 1" x 2"			.225	.036		.72	1.29	2.01	2.90	
0540	1" x 3"			.225	.036		1.07	1.29	2.36	3.29	
0550	1" x 4"			.200	.040		1.43	1.45	2.88	3.95	
0560	1" x 6"			.200	.040		2.15	1.45	3.60	4.74	
0570	1" x 8"			.200	.040		2.86	1.45	4.31	5.55	
0580	1" x 10"			.175	.046		3.56	1.65	5.21	6.65	
0590	1" x 12"			.175	.046		4.27	1.65	5.92	7.40	
0670	STK, 1" x 2"			.225	.036		.44	1.29	1.73	2.59	
0680	1" x 3"			.225	.036		.48	1.29	1.77	2.64	
0690	1" x 4"			.200	.040		.83	1.45	2.28	3.29	
0700	1" x 6"			.200	.040		1.39	1.45	2.84	3.91	
0710	1" x 8"			.200	.040		2.35	1.45	3.80	4.97	
0720	1" x 10"			.175	.046		2.86	1.65	4.51	5.85	
0730	1" x 12"			.175	.046		4.44	1.65	6.09	7.60	
0740	Pine, #2, 1" x 2"			.225	.036		.31	1.29	1.60	2.45	
0750	1" x 3"			.225	.036		.45	1.29	1.74	2.61	
0760	1" x 4"			.200	.040		.57	1.45	2.02	3.01	
0770	1" x 6"			.200	.040		.86	1.45	2.31	3.33	
0780	1" x 8"			.200	.040		1.33	1.45	2.78	3.84	
0790	1" x 10"			.175	.046		2.04	1.65	3.69	4.96	
0800	1" x 12"			.175	.046		2.66	1.65	4.31	5.65	
0810	D & better, 1" x 2"			.225	.036		.51	1.29	1.80	2.67	
0820	1" x 3"			.225	.036		.73	1.29	2.02	2.91	
0830	1" x 4"			.200	.040		.95	1.45	2.40	3.43	
0840	1" x 6"			.200	.040		1.10	1.45	2.55	3.59	
0850	1" x 8"			.200	.040		1.64	1.45	3.09	4.18	
0860	1" x 10"			.175	.046		2.16	1.65	3.81	5.10	
0870	1" x 12"			.175	.046		2.73	1.65	4.38	5.70	
0880	Redwood, clear all heart, 1" x 2"			.225	.036		.66	1.29	1.95	2.84	
0890	1" x 3"			.225	.036		.98	1.29	2.27	3.19	
0900	1" x 4"			.200	.040		1.22	1.45	2.67	3.72	
0910	1" x 6"			.200	.040		1.83	1.45	3.28	4.40	
0920	1" x 8"			.200	.040		2.43	1.45	3.88	5.05	
0930	1" x 10"			.175	.046		4.03	1.65	5.68	7.15	
0940	1" x 12"			.175	.046		4.40	1.65	6.05	7.55	
0950	Cornice board, cedar, rough sawn, 1" x 2"			.330	.024		.72	.88	1.60	2.23	
0960	1" x 3"			.290	.028		1.07	1	2.07	2.82	
0970	1" x 4"			.250	.032		1.43	1.16	2.59	3.47	
0980	1" x 6"			.250	.032		2.15	1.16	3.31	4.26	
0990	1" x 8"			.200	.040		2.86	1.45	4.31	5.55	
1000	1" x 10"			.180	.044		3.56	1.61	5.17	6.55	
1010	1" x 12"			.180	.044		4.27	1.61	5.88	7.35	

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.40 Moldings, Exterior		Daily	Labor-	2020 Bare Costs			Total	Total Incl O&P	
		Crew Output	Hours	Unit	Material	Labor	Equipment		
1020	STK, 1" x 2"	1 Corp	.330	.024	L.F.	.44	.88	1.32	1.92
1030	1" x 3"		.290	.028		.48	1	1.48	2.17
1040	1" x 4"		.250	.032		.85	1.16	2.01	2.84
1050	1" x 6"		.250	.032		1.39	1.16	2.55	3.43
1060	1" x 8"		.200	.040		2.35	1.45	3.80	4.97
1070	1" x 10"		.180	.044		2.86	1.61	4.47	5.80
1080	1" x 12"		.180	.044		4.44	1.61	6.05	7.55
1500	Pine, #2, 1" x 2"		.330	.024		.31	.88	1.19	1.78
1510	1" x 3"		.290	.028		.31	1	1.31	1.98
1600	1" x 4"		.250	.032		.57	1.16	1.73	2.53
1700	1" x 6"		.250	.032		.86	1.16	2.02	2.85
1800	1" x 8"		.200	.040		1.33	1.45	2.78	3.84
1900	1" x 10"		.180	.044		2.04	1.61	3.65	4.88
2000	1" x 12"		.180	.044		2.66	1.61	4.27	5.55
2020	D & better, 1" x 2"		.330	.024		.51	.88	1.39	2
2030	1" x 3"		.290	.028		.73	1	1.73	2.44
2040	1" x 4"		.250	.032		.95	1.16	2.11	2.95
2050	1" x 6"		.250	.032		1.10	1.16	2.26	3.11
2060	1" x 8"		.200	.040		1.64	1.45	3.09	4.18
2070	1" x 10"		.180	.044		2.16	1.61	3.77	5
2080	1" x 12"		.180	.044		2.73	1.61	4.34	5.65
2090	Redwood, clear all heart, 1" x 2"		.330	.024		.66	.88	1.54	2.17
2100	1" x 3"		.290	.028		.98	1	1.98	2.72
2110	1" x 4"		.250	.032		1.22	1.16	2.38	3.24
2120	1" x 6"		.250	.032		1.83	1.16	2.99	3.92
2130	1" x 8"		.200	.040		2.43	1.45	3.88	5.05
2140	1" x 10"		.180	.044		4.03	1.61	5.64	7.10
2150	1" x 12"		.180	.044		4.40	1.61	6.01	7.50
2160	3 piece, 1" x 2", 1" x 4", 1" x 6", rough sawn cedar		.80	.100		4.31	3.62	7.93	10.70
2180	STK cedar		.80	.100		2.68	3.62	6.30	8.90
2200	#2 pine		.80	.100		1.75	3.62	5.37	7.85
2210	D & better pine		.80	.100		2.56	3.62	6.18	8.75
2220	Clear all heart redwood		.80	.100		3.71	3.62	7.33	10.05
2230	1" x 8", 1" x 10", 1" x 12", rough sawn cedar		.65	.123		10.65	4.45	15.10	19
2240	STK cedar		.65	.123		9.60	4.45	14.05	17.85
2300	#2 pine		.65	.123		6	4.45	10.45	13.90
2320	D & better pine		.65	.123		6.50	4.45	10.95	14.45
2330	Clear all heart redwood		.65	.123		10.80	4.45	15.25	19.20
2340	Door/window casing, cedar, rough sawn, 1" x 2"		.275	.029		.72	1.05	1.77	2.52
2350	1" x 3"		.275	.029		1.07	1.05	2.12	2.91
2360	1" x 4"		.250	.032		1.43	1.16	2.59	3.47
2370	1" x 6"		.250	.032		2.15	1.16	3.31	4.26
2380	1" x 8"		.230	.035		2.86	1.26	4.12	5.20
2390	1" x 10"		.230	.035		3.56	1.26	4.82	6
2395	1" x 12"		.210	.038		4.27	1.38	5.65	6.95
2410	STK, 1" x 2"		.275	.029		.44	1.05	1.49	2.21
2420	1" x 3"		.275	.029		.48	1.05	1.53	2.26
2430	1" x 4"		.250	.032		.85	1.16	2.01	2.84
2440	1" x 6"		.250	.032		1.39	1.16	2.55	3.43
2450	1" x 8"		.230	.035		2.35	1.26	3.61	4.66
2460	1" x 10"		.230	.035		2.86	1.26	4.12	5.20
2470	1" x 12"		.210	.038		4.44	1.38	5.82	7.15
2550	Pine, #2, 1" x 2"		.275	.029		.31	1.05	1.36	2.07

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.40 Moldings, Exterior		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
2560	1" x 3"		1 Corp	.275	.029	L.F.	.45	1.05		1.50	2.23
2570	1" x 4"			.250	.032		.57	1.16		1.73	2.53
2580	1" x 6"			.250	.032		.86	1.16		2.02	2.85
2590	1" x 8"			.230	.035		1.33	1.26		2.59	3.53
2600	1" x 10"			.230	.035		2.04	1.26		3.30	4.31
2610	1" x 12"			.210	.038		2.66	1.38		4.04	5.20
2620	Pine, D & better, 1" x 2"			.275	.029		.51	1.05		1.56	2.29
2630	1" x 3"			.275	.029		.73	1.05		1.78	2.53
2640	1" x 4"			.250	.032		.95	1.16		2.11	2.95
2650	1" x 6"			.250	.032		1.10	1.16		2.26	3.11
2660	1" x 8"			.230	.035		1.64	1.26		2.90	3.87
2670	1" x 10"			.230	.035		2.16	1.26		3.42	4.45
2680	1" x 12"			.210	.038		2.73	1.38		4.11	5.25
2690	Redwood, clear all heart, 1" x 2"			.275	.029		.66	1.05		1.71	2.46
2695	1" x 3"			.275	.029		.98	1.05		2.03	2.81
2710	1" x 4"			.250	.032		1.22	1.16		2.38	3.24
2715	1" x 6"			.250	.032		1.83	1.16		2.99	3.92
2730	1" x 8"			.230	.035		2.43	1.26		3.69	4.74
2740	1" x 10"			.230	.035		4.03	1.26		5.29	6.50
2750	1" x 12"			.210	.038		4.40	1.38		5.78	7.10
3500	Bellyband, pine, 11/16" x 4-1/4"			.250	.032		2.82	1.16		3.98	5
3610	Brickmold, pine, 1-1/4" x 2"			.200	.040		2.13	1.45		3.58	4.72
3620	FJP, 1-1/4" x 2"			.200	.040		1.03	1.45		2.48	3.51
5100	Fascia, cedar, rough sawn, 1" x 2"			.275	.029		.72	1.05		1.77	2.52
5110	1" x 3"			.275	.029		1.07	1.05		2.12	2.91
5120	1" x 4"			.250	.032		1.43	1.16		2.59	3.47
5200	1" x 6"			.250	.032		2.15	1.16		3.31	4.26
5300	1" x 8"			.230	.035		2.86	1.26		4.12	5.20
5310	1" x 10"			.230	.035		3.56	1.26		4.82	6
5320	1" x 12"			.210	.038		4.27	1.38		5.65	6.95
5400	2" x 4"			.220	.036		1.26	1.31		2.57	3.54
5500	2" x 6"			.220	.036		1.88	1.31		3.19	4.23
5600	2" x 8"			.200	.040		2.51	1.45		3.96	5.15
5700	2" x 10"			.180	.044		3.12	1.61		4.73	6.05
5800	2" x 12"			.170	.047		7.45	1.70		9.15	10.95
6120	STK, 1" x 2"			.275	.029		.44	1.05		1.49	2.21
6130	1" x 3"			.275	.029		.48	1.05		1.53	2.26
6140	1" x 4"			.250	.032		.85	1.16		2.01	2.84
6150	1" x 6"			.250	.032		1.39	1.16		2.55	3.43
6160	1" x 8"			.230	.035		2.35	1.26		3.61	4.66
6170	1" x 10"			.230	.035		2.86	1.26		4.12	5.20
6180	1" x 12"			.210	.038		4.44	1.38		5.82	7.15
6185	2" x 2"			.260	.031		.76	1.11		1.87	2.67
6190	Pine, #2, 1" x 2"			.275	.029		.31	1.05		1.36	2.07
6200	1" x 3"			.275	.029		.45	1.05		1.50	2.23
6210	1" x 4"			.250	.032		.57	1.16		1.73	2.53
6220	1" x 6"			.250	.032		.86	1.16		2.02	2.85
6230	1" x 8"			.230	.035		1.33	1.26		2.59	3.53
6240	1" x 10"			.230	.035		2.04	1.26		3.30	4.31
6250	1" x 12"			.210	.038		2.66	1.38		4.04	5.20
6260	D & better, 1" x 2"			.275	.029		.51	1.05		1.56	2.29
6270	1" x 3"			.275	.029		.73	1.05		1.78	2.53
6280	1" x 4"			.250	.032		.95	1.16		2.11	2.95

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.40 Moldings, Exterior		Daily Output	Labor Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
6290	1" x 6"	1 Carp	.250	.032	L.F.	1.10	1.16	2.26	3.11
6300	1" x 8"		.230	.035		1.64	1.26	2.90	3.87
6310	1" x 10"		.230	.035		2.16	1.26	3.42	4.45
6312	1" x 12"		.210	.038		2.73	1.38	4.11	5.25
6330	Southern yellow, 1-1/4" x 5"		.240	.033		3.12	1.20	4.32	5.40
6340	1-1/4" x 6"		.240	.033		2.55	1.20	3.75	4.79
6350	1-1/4" x 8"		.215	.037		3.83	1.35	5.18	6.40
6360	1-1/4" x 12"		.190	.042		6.15	1.52	7.67	9.30
6370	Redwood, clear all heart, 1" x 2"		.275	.029		.66	1.05	1.71	2.46
6380	1" x 3"		.275	.029		1.22	1.05	2.27	3.07
6390	1" x 4"		.250	.032		1.22	1.16	2.38	3.24
6400	1" x 6"		.250	.032		1.83	1.16	2.99	3.92
6410	1" x 8"		.230	.035		2.43	1.26	3.69	4.74
6420	1" x 10"		.230	.035		4.03	1.26	5.29	6.50
6430	1" x 12"		.210	.038		4.40	1.38	5.78	7.10
6440	1-1/4" x 5"		.240	.033		1.92	1.20	3.12	4.09
6450	1-1/4" x 6"		.240	.033		2.29	1.20	3.49	4.50
6460	1-1/4" x 8"		.215	.037		3.63	1.35	4.98	6.20
6470	1-1/4" x 12"		.190	.042		6.60	1.52	8.12	9.75
6580	Frieze, cedar, rough sawn, 1" x 2"		.275	.029		.72	1.05	1.77	2.52
6590	1" x 3"		.275	.029		1.07	1.05	2.12	2.91
6600	1" x 4"		.250	.032		1.43	1.16	2.59	3.47
6610	1" x 6"		.250	.032		2.15	1.16	3.31	4.26
6620	1" x 8"		.250	.032		2.86	1.16	4.02	5.05
6630	1" x 10"		.225	.036		3.56	1.29	4.85	6
6640	1" x 12"		.200	.040		4.23	1.45	5.68	7.05
6650	STK, 1" x 2"		.275	.029		.44	1.05	1.49	2.21
6660	1" x 3"		.275	.029		.48	1.05	1.53	2.26
6670	1" x 4"		.250	.032		.85	1.16	2.01	2.84
6680	1" x 6"		.250	.032		1.39	1.16	2.55	3.43
6690	1" x 8"		.250	.032		2.35	1.16	3.51	4.49
6700	1" x 10"		.225	.036		2.86	1.29	4.15	5.25
6710	1" x 12"		.200	.040		4.44	1.45	5.89	7.25
6790	Pine, #2, 1" x 2"		.275	.029		.31	1.05	1.36	2.07
6800	1" x 3"		.275	.029		.45	1.05	1.50	2.23
6810	1" x 4"		.250	.032		.57	1.16	1.73	2.53
6820	1" x 6"		.250	.032		.86	1.16	2.02	2.85
6830	1" x 8"		.250	.032		1.33	1.16	2.49	3.36
6840	1" x 10"		.225	.036		2.04	1.29	3.33	4.35
6850	1" x 12"		.200	.040		2.66	1.45	4.11	5.30
6860	D 8 better, 1" x 2"		.275	.029		.51	1.05	1.56	2.29
6870	1" x 3"		.275	.029		.73	1.05	1.78	2.53
6880	1" x 4"		.250	.032		.95	1.16	2.11	2.95
6890	1" x 6"		.250	.032		1.10	1.16	2.26	3.11
6900	1" x 8"		.250	.032		1.64	1.16	2.80	3.70
6910	1" x 10"		.225	.036		2.16	1.29	3.45	4.49
6920	1" x 12"		.200	.040		2.73	1.45	4.18	5.40
6930	Redwood, clear all heart, 1" x 2"		.275	.029		.66	1.05	1.71	2.46
6940	1" x 3"		.275	.029		.98	1.05	2.03	2.81
6950	1" x 4"		.250	.032		1.22	1.16	2.38	3.24
6960	1" x 6"		.250	.032		1.83	1.16	2.99	3.92
6970	1" x 8"		.250	.032		2.43	1.16	3.59	4.57
6980	1" x 10"		.225	.036		4.03	1.29	5.32	6.55

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.40 Moldings, Exterior		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
					Material	Labor	Equipment	
6990	1" x 12"	1 Corp	.200	.040	.440	1.45		5.85 7.20
7000	Grounds, 1" x 1", cedar, rough sawn		.300	.027	.37	.96		1.33 1.99
7010	STK		.300	.027	.27	.96		1.23 1.88
7020	Pine, #2		.300	.027	.20	.96		1.16 1.79
7030	D & better		.300	.027	.31	.96		1.27 1.93
7050	Redwood		.300	.027	.40	.96		1.36 2.02
7060	Rake/verge board, cedar, rough sawn, 1" x 2"		.225	.036	.72	1.29		2.01 2.90
7070	1" x 3"		.225	.036		1.07		2.36 3.29
7080	1" x 4"		.200	.040		1.43		2.88 3.95
7090	1" x 6"		.200	.040		2.15		3.60 4.74
7100	1" x 8"		.190	.042		2.86		4.38 5.65
7110	1" x 10"		.190	.042		3.56		5.08 6.40
7120	1" x 12"		.180	.044		4.27		5.88 7.35
7130	STK, 1" x 2"		.225	.036		.44		1.73 2.59
7140	1" x 3"		.225	.036		.48		1.77 2.64
7150	1" x 4"		.200	.040		.85		2.30 3.32
7160	1" x 6"		.200	.040		1.39		2.84 3.91
7170	1" x 8"		.190	.042		2.35		3.87 5.10
7180	1" x 10"		.190	.042		2.86		4.38 5.65
7190	1" x 12"		.180	.044		4.44		6.05 7.55
7200	Pine, #2, 1" x 2"		.225	.036		.31		1.60 2.45
7210	1" x 3"		.225	.036		.45		1.74 2.61
7220	1" x 4"		.200	.040		.57		2.02 3.01
7230	1" x 6"		.200	.040		.86		2.31 3.33
7240	1" x 8"		.190	.042		1.33		2.85 3.96
7250	1" x 10"		.190	.042		2.04		3.56 4.74
7260	1" x 12"		.180	.044		2.66		4.27 5.55
7340	D & better, 1" x 2"		.225	.036		.51		1.80 2.67
7350	1" x 3"		.225	.036		.73		2.02 2.91
7360	1" x 4"		.200	.040		.95		2.40 3.43
7370	1" x 6"		.200	.040		1.10		2.55 3.59
7380	1" x 8"		.190	.042		1.64		3.16 4.30
7390	1" x 10"		.190	.042		2.16		3.68 4.88
7400	1" x 12"		.180	.044		2.73		4.34 5.65
7410	Redwood, clear all heart, 1" x 2"		.225	.036		.66		1.95 2.84
7420	1" x 3"		.225	.036		.98		2.27 3.19
7430	1" x 4"		.200	.040		1.22		2.67 3.72
7440	1" x 6"		.200	.040		1.83		3.28 4.40
7450	1" x 8"		.190	.042		2.43		3.95 5.15
7460	1" x 10"		.190	.042		4.03		5.55 6.95
7470	1" x 12"		.180	.044		4.40		6.01 7.50
7480	2" x 4"		.200	.040		2.35		3.80 4.96
7490	2" x 6"		.182	.044		3.19		4.78 6.10
7500	2" x 8"		.165	.048		5.10		6.85 8.55
7630	Soffit, cedar, rough sawn, 1" x 2"	2 Corp	.440	.036	.72	1.31		2.03 2.95
7640	1" x 3"		.440	.036		1.07		2.38 3.34
7650	1" x 4"		.420	.038		1.43		2.81 3.83
7660	1" x 6"		.420	.038		2.15		3.53 4.62
7670	1" x 8"		.420	.038		2.86		4.24 5.40
7680	1" x 10"		.400	.040		3.56		5.01 6.30
7690	1" x 12"		.400	.040		4.27		5.72 7.10
7700	STK, 1" x 2"		.440	.036		.44		1.75 2.64
7710	1" x 3"		.440	.036		.48		1.79 2.69

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.40 Moldings, Exterior			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Ind O&P
			Crew			Labor	Equipment	Total		
7720	1" x 4"		2 Corp	420	.038	L.F.	.85	1.38	2.23	3.20
7730	1" x 6"			420	.038		1.39	1.38	2.77	3.79
7740	1" x 8"			420	.038		2.35	1.38	3.73	4.85
7750	1" x 10"			400	.040		2.86	1.45	4.31	5.55
7760	1" x 12"			400	.040		4.44	1.45	5.89	7.25
7770	Pine, #2, 1" x 2"			440	.036		.31	1.31	1.62	2.50
7780	1" x 3"			440	.036		.45	1.31	1.76	2.66
7790	1" x 4"			420	.038		.57	1.38	1.95	2.89
7800	1" x 6"			420	.038		.86	1.38	2.24	3.21
7810	1" x 8"			420	.038		1.33	1.38	2.71	3.72
7820	1" x 10"			400	.040		2.04	1.45	3.49	4.62
7830	1" x 12"			400	.040		2.66	1.45	4.11	5.30
7840	D & better, 1" x 2"			440	.036		.51	1.31	1.82	2.72
7850	1" x 3"			440	.036		.73	1.31	2.04	2.96
7860	1" x 4"			420	.038		.95	1.38	2.33	3.31
7870	1" x 6"			420	.038		1.10	1.38	2.48	3.47
7880	1" x 8"			420	.038		1.64	1.38	3.02	4.06
7890	1" x 10"			400	.040		2.16	1.45	3.61	4.76
7900	1" x 12"			400	.040		2.73	1.45	4.18	5.40
7910	Redwood, clear all heart, 1" x 2"			440	.036		.66	1.31	1.97	2.89
7920	1" x 3"			440	.036		.98	1.31	2.29	3.24
7930	1" x 4"			420	.038		1.22	1.38	2.60	3.60
7940	1" x 6"			420	.038		1.83	1.38	3.21	4.28
7950	1" x 8"			420	.038		2.43	1.38	3.81	4.93
7960	1" x 10"			400	.040		4.03	1.45	5.48	6.80
7970	1" x 12"			400	.040		4.40	1.45	5.85	7.20
8050	Trim, crown molding, pine, 11/16" x 4-1/4"		1 Corp	250	.032		4.10	1.16	5.26	6.40
8060	Back band, 11/16" x 1-1/16"			250	.032		.92	1.16	2.08	2.91
8070	Insect screen frame stock, 1-1/16" x 1-3/4"			395	.020		2.24	.73	2.97	3.66
8080	Dentils, 2-1/2" x 2-1/2" x 4", 6" OC			30	.267		1.27	9.65	10.92	17.25
8100	Fluted, 5-1/2"			165	.048		5.15	1.75	6.90	8.55
8110	Stucco bead, 1-3/8" x 1-5/8"			250	.032		2.53	1.16	3.69	4.68

## 06 22 13.45 Moldings, Trim

0010 MOLDINGS, TRIM										
0200	Astragal, stock pine, 11/16" x 1-3/4"		1 Corp	255	.031	L.F.	1.26	1.13	2.39	3.25
0250	1-5/16" x 2-3/16"			240	.033		2.65	1.20	3.85	4.90
0800	Chair rail, stock pine, 5/8" x 2-1/2"			270	.030		1.54	1.07	2.61	3.45
0900	5/8" x 3-1/2"			240	.033		2.36	1.20	3.56	4.58
1000	Closet pole, stock pine, 1-1/8" diameter			200	.040		1.19	1.45	2.64	3.69
1100	Fir, 1-5/8" diameter			200	.040		2.28	1.45	3.73	4.89
1150	Corner, inside, 5/16" x 1"			225	.036		.36	1.29	1.65	2.51
1160	Outside, 1-1/16" x 1-1/16"			240	.033		1.26	1.20	2.46	3.37
1161	1-5/16" x 1-5/16"			240	.033		1.76	1.20	2.96	3.92
3300	Half round, stock pine, 1/4" x 1/2"			270	.030		.25	1.07	1.32	2.04
3350	1/2" x 1"			255	.031		.64	1.13	1.77	2.56
3400	Handrail, fir, single piece, stock, hardware not included									
3450	1-1/2" x 1-3/4"		1 Corp	80	.100	L.F.	2.24	3.62	5.86	8.40
3470	Pine, 1-1/2" x 1-3/4"			80	.100		2.07	3.62	5.69	8.25
3500	1-1/2" x 2-1/2"			76	.105		2.59	3.81	6.40	9.10
3600	Lattice, stock pine, 1/4" x 1-1/8"			270	.030		.40	1.07	1.47	2.20
3700	1/4" x 1-3/4"			250	.032		.72	1.16	1.88	2.69
3800	Miscellaneous, custom, pine, 1" x 1"			270	.030		.42	1.07	1.49	2.22

# 06 22 Millwork

## 06 22 13 – Standard Pattern Wood Trim

06 22 13.45 Moldings, Trim		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
		1 Corp	265	.030	L.F.	.84	1.09		1.93	2.71
3850	1" x 2"									
3900	1" x 3"		240	.033		1.26	1.20		2.46	3.36
4100	Birch or oak, nominal 1" x 1"		240	.033		.40	1.20		1.60	2.42
4200	Nominal 1" x 3"		215	.037		1.20	1.35		2.55	3.53
4400	Walnut, nominal 1" x 1"		215	.037		.65	1.35		2	2.93
4500	Nominal 1" x 3"		200	.040		1.96	1.45		3.41	4.53
4700	Teak, nominal 1" x 1"		215	.037		2.91	1.35		4.26	5.40
4800	Nominal 1" x 3"		200	.040		8.75	1.45		10.20	12
4900	Quarter round, stock pine, 1/4" x 1/4"		275	.029		.29	1.05		1.34	2.05
4950	3/4" x 3/4"		255	.031		.54	1.13		1.67	2.45
5600	Wainscot moldings, 1-1/8" x 9/16", 2' high, minimum		76	.105	S.F.	12.70	3.81		16.51	20
5700	Maximum		65	.123	"	16.80	4.45		21.25	26

## 06 22 13.50 Moldings, Window and Door

0010 MOLDINGS, WINDOW AND DOOR		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
		1 Corp	17	.471	Set	47.50	17		64.50	80.50
2800	Door moldings, stock, decorative, 1-1/8" wide, plain									
2900	Detailed		17	.471	"	112	17		129	151
2960	Clear pine door jamb, no stops, 11/16" x 4-9/16"		240	.033	L.F.	5.45	1.20		6.65	8
3150	Door trim set, 1 head and 2 sides, pine, 2-1/2" wide		12	.667	Opng.	24	24		48	65.50
3170	3-1/2" wide		11	.727	"	33	26.50		59.50	79.50
3250	Glass beads, stock pine, 3/8" x 1/2"		275	.029	L.F.	.35	1.05		1.40	2.12
3270	3/8" x 7/8"		270	.030		.44	1.07		1.51	2.24
4850	Parting bead, stock pine, 3/8" x 3/4"		275	.029		.47	1.05		1.52	2.25
4870	1/2" x 3/4"		255	.031		.46	1.13		1.59	2.37
5000	Stool caps, stock pine, 11/16" x 3-1/2"		200	.040		2.56	1.45		4.01	5.20
5100	1-1/16" x 3-1/4"		150	.053		3.80	1.93		5.73	7.35
5300	Threshold, oak, 3' long, inside, 5/8" x 3-5/8"		32	.250	Ea.	12.70	9.05		21.75	29
5400	Outside, 1-1/2" x 7-5/8"		16	.500	"	48	18.10		66.10	82.50
5900	Window trim sets, including casings, header, stops,									
5910	stool and apron, 2-1/2" wide, FJP	1 Corp	13	.615	Opng.	33	22.50		55.50	73
5950	Pine		10	.800		39	29		68	90.50
6000	Oak		6	1.333		79.50	48		127.50	167

## 06 22 13.60 Moldings, Soffits

0010 MOLDINGS, SOFFITS		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
		2 Corp	420	.038	L.F.	.53	1.38		1.91	2.84
0200	Soffits, pine, 1" x 4"									
0210	1" x 6"		420	.038		.82	1.38		2.20	3.16
0220	1" x 8"		420	.038		1.29	1.38		2.67	3.67
0230	1" x 10"		400	.040		1.97	1.45		3.42	4.55
0240	1" x 12"		400	.040		2.60	1.45		4.05	5.25
0250	STK cedar, 1" x 4"		420	.038		.81	1.38		2.19	3.15
0260	1" x 6"		420	.038		1.35	1.38		2.73	3.75
0270	1" x 8"		420	.038		2.31	1.38		3.69	4.80
0280	1" x 10"		400	.040		2.80	1.45		4.25	5.45
0290	1" x 12"		400	.040		4.38	1.45		5.83	7.20
1000	Exterior AC plywood, 1/4" thick		400	.040	S.F.	.99	1.45		2.44	3.47
1050	3/8" thick		400	.040		1.05	1.45		2.50	3.54
1100	1/2" thick		400	.040		1.18	1.45		2.63	3.68
1150	Polyvinyl chloride, white, solid	1 Corp	230	.035		2.24	1.26		3.50	4.53
1160	Perforated		"	230	.035		2.24	1.26	3.50	4.53
1170	Accessories, "J" channel 5/8"	2 Corp	700	.023	L.F.	.56	.83		1.39	1.98

# 06 25 Prefinished Paneling

## 06 25 13 – Prefinished Hardboard Paneling

06 25 13.10 Paneling, Hardboard		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	PANELING, HARDBOARD									
0050	Not incl. furring or trim, hardboard, tempered, 1/8" thick	G	2 Carp	500	.032	S.F.	.50	1.16	1.66	2.45
0100	1/4" thick	G		500	.032		.58	1.16	1.74	2.54
0300	Tempered pegboard, 1/8" thick	G		500	.032		.43	1.16	1.59	2.37
0400	1/4" thick	G		500	.032		.76	1.16	1.92	2.74
0600	Untempered hardboard, natural finish, 1/8" thick	G		500	.032		.44	1.16	1.60	2.38
0700	1/4" thick	G		500	.032		.53	1.16	1.69	2.48
0900	Untempered pegboard, 1/8" thick	G		500	.032		.49	1.16	1.65	2.44
1000	1/4" thick	G		500	.032		.55	1.16	1.71	2.51
1200	Plastic faced hardboard, 1/8" thick	G		500	.032		.63	1.16	1.79	2.59
1300	1/4" thick	G		500	.032		.87	1.16	2.03	2.86
1500	Plastic faced pegboard, 1/8" thick	G		500	.032		.68	1.16	1.84	2.65
1600	1/4" thick	G		500	.032		.83	1.16	1.99	2.81
1800	Wood grained, plain or grooved, 1/8" thick	G		500	.032		.68	1.16	1.84	2.65
1900	1/4" thick	G		425	.038		1.43	1.36	2.79	3.81
2100	Moldings, wood grained MDF			500	.032	L.F.	.41	1.16	1.57	2.35
2200	Pine			425	.038	"	1.40	1.36	2.76	3.78

## 06 25 16 – Prefinished Plywood Paneling

### 06 25 16.10 Paneling, Plywood

0010	PANELING, PLYWOOD									
2400	Plywood, prefinished, 1/4" thick, 4' x 8' sheets									
2410	with vertical grooves. Birch faced, economy		2 Carp	500	.032	S.F.	1.69	1.16	2.85	3.76
2420	Average			420	.038		1.24	1.38	2.62	3.62
2430	Custom			350	.046		1.08	1.65	2.73	3.91
2600	Mahogany, African			400	.040		2.43	1.45	3.88	5.05
2700	Philippine (Lauan)			500	.032		.57	1.16	1.73	2.53
2900	Oak			500	.032		1.36	1.16	2.52	3.40
3000	Cherry			400	.040		2.03	1.45	3.48	4.61
3200	Rosewood			320	.050		3.08	1.81	4.89	6.35
3400	Teak			400	.040		3.26	1.45	4.71	5.95
3600	Chestnut			375	.043		5.45	1.54	6.99	8.55
3800	Pecan			400	.040		2.57	1.45	4.02	5.20
3900	Walnut, average			500	.032		2.64	1.16	3.80	4.80
3950	Custom			400	.040		2.38	1.45	3.83	5
4000	Plywood, prefinished, 3/4" thick, stock grades, economy			320	.050		1.38	1.81	3.19	4.49
4100	Average			224	.071		5.20	2.58	7.78	9.95
4300	Architectural grade, custom			224	.071		5.30	2.58	7.88	10.10
4400	Luxury			160	.100		5.55	3.62	9.17	12.10
4600	Plywood, "A" face, birch, VC, 1/2" thick, natural			450	.036		1.36	1.29	2.65	3.61
4700	Select			450	.036		1.95	1.29	3.24	4.26
4900	Veneer core, 3/4" thick, natural			320	.050		2.29	1.81	4.10	5.50
5000	Select			320	.050		2.68	1.81	4.49	5.90
5200	Lumber core, 3/4" thick, natural			320	.050		3.05	1.81	4.86	6.35
5500	Plywood, knotty pine, 1/4" thick, A2 grade			450	.036		1.62	1.29	2.91	3.89
5600	A3 grade			450	.036		2.25	1.29	3.54	4.59
5800	3/4" thick, veneer core, A2 grade			320	.050		2.42	1.81	4.23	5.65
5900	A3 grade			320	.050		2.49	1.81	4.30	5.70
6100	Aromatic cedar, 1/4" thick, plywood			400	.040		2.26	1.45	3.71	4.87
6200	1/4" thick, particle board			400	.040		1.16	1.45	2.61	3.66

# 06 25 Prefinished Paneling

## 06 25 26 – Panel System

06 25 26.10 Panel Systems		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	PANEL SYSTEMS								
0100	Raised panel, eng. wood core w/wood veneer, std., paint grade	2 Corp	300	.053	S.F.	13.10	1.93	15.03	17.60
0110	Oak veneer		300	.053		26.50	1.93	28.43	32
0120	Maple veneer		300	.053		30	1.93	31.93	36
0130	Cherry veneer		300	.053		40	1.93	41.93	47.50
0300	Class I fire rated, paint grade		300	.053		14	1.93	15.93	18.55
0310	Oak veneer		300	.053		30.50	1.93	32.43	37
0320	Maple veneer		300	.053		34.50	1.93	36.43	41
0330	Cherry veneer		300	.053		50	1.93	51.93	58
0510	Beadboard, 5/8" MDF, standard, primed		300	.053		9.70	1.93	11.63	13.80
0520	Oak veneer, unfinished		300	.053		16	1.93	17.93	21
0530	Maple veneer, unfinished		300	.053		16.50	1.93	18.43	21.50
0610	Rustic paneling, 5/8" MDF, standard, maple veneer, unfinished	▼	300	.053	▼	18.20	1.93	20.13	23

# 06 26 Board Paneling

## 06 26 13 – Profile Board Paneling

06 26 13.10 Paneling, Boards		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	PANELING, BOARDS								
6400	Wood board paneling, 3/4" thick, knotty pine	2 Corp	300	.053	S.F.	2.07	1.93	4	5.45
6500	Rough sawn cedar		300	.053		3.48	1.93	5.41	7
6700	Redwood, clear, 1" x 4" boards		300	.053		5.05	1.93	6.98	8.70
6900	Aromatic cedar, closet lining, boards	▼	275	.058	▼	2.28	2.10	4.38	5.95
8950	On ceiling, wood board, install	1 Corp	225	.036	▼	3.48	1.29	4.77	5.95

# 06 43 Wood Stairs and Railings

## 06 43 13 – Wood Stairs

06 43 13.20 Prefabricated Wood Stairs		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	PREFABRICATED WOOD STAIRS								
0100	Box stairs, prefabricated, 3'-0" wide	2 Corp	39	.410	Riser	98	14.85	112.85	133
0110	Oak treads, up to 14 risers	"	39	.410	"	63.50	14.85	78.35	94.50
0600	With pine treads for carpet, up to 14 risers				Flight	25%			
1100	For 4' wide stairs, add								
1550	Stairs, prefabricated stair handrail with balusters	1 Corp	30	.267	L.F.	83	9.65	92.65	107
1700	Basement stairs, prefabricated, pine treads								
1710	Pine risers, 3' wide, up to 14 risers	2 Corp	52	.308	Riser	63.50	11.10	74.60	88.50
4000	Residential, wood, oak treads, prefabricated		1.50	10.667	Flight	1,275	385	1,660	2,025
4200	Built in place	▼	.44	36.364	"	2,250	1,325	3,575	4,625
4400	Spiral, oak, 4'-6" diameter, unfinished, prefabricated,								
4500	incl. railing, 9' high	2 Corp	1.50	10.667	Flight	2,625	385	3,010	3,500

## 06 43 13.40 Wood Stair Parts

06 43 13.40 Wood Stair Parts		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	WOOD STAIR PARTS								
0020	Pin top balusters, 1-1/4", oak, 34"	1 Corp	96	.083	Ea.	5.65	3.01	8.66	11.15
0030	38"		96	.083		5.75	3.01	8.76	11.30
0040	42"		96	.083		6.85	3.01	9.86	12.45
0050	Poplar, 34"		96	.083		3.34	3.01	6.35	8.60
0060	38"		96	.083		5.60	3.01	8.61	11.10
0070	42"		96	.083		5.95	3.01	8.96	11.50
0080	Maple, 34"	▼	96	.083	▼	6	3.01	9.01	11.55

# 06 43 Wood Stairs and Railings

## 06 43 13 – Wood Stairs

06 43 13.40 Wood Stair Parts			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
			Crew				Labor			
0090	38"		1 Carp	.96	.083	Ea.	5.55	3.01	8.56	11.05
0100	42"			.96	.083		7.85	3.01	10.86	13.60
0130	Primed, 34"			.96	.083		3.67	3.01	6.68	9
0140	38"			.96	.083		4.20	3.01	7.21	9.55
0150	42"			.96	.083		4.84	3.01	7.85	10.25
0180	Box top balusters, 1-1/4", oak, 34"			60	.133		7.45	4.82	12.27	16.10
0190	38"			60	.133		11.75	4.82	16.57	21
0200	42"			60	.133		12.85	4.82	17.67	22
0210	Poplar, 34"			60	.133		7.65	4.82	12.47	16.35
0220	38"			60	.133		8.25	4.82	13.07	17
0230	42"			60	.133		9.10	4.82	13.92	17.90
0240	Maple, 34"			60	.133		9.75	4.82	14.57	18.60
0250	38"			60	.133		10.65	4.82	15.47	19.60
0260	42"			60	.133		11.75	4.82	16.57	21
0290	Primed, 34"			60	.133		8.20	4.82	13.02	16.90
0300	38"			60	.133		12.05	4.82	16.87	21
0310	42"			60	.133		11.30	4.82	16.12	20.50
0340	Square balusters, cut from lined stock, pine, 1-1/16" x 1-1/16"			180	.044	L.F.	1.29	1.61	2.90	4.06
0350	1-5/16" x 1-5/16"			180	.044		1.99	1.61	3.60	4.83
0360	1-5/8" x 1-5/8"			180	.044		2.48	1.61	4.09	5.35
0370	Turned newel, oak, 3-1/2" square, 48" high			8	1	Ea.	94	36	130	163
0380	62" high			8	1		99.50	36	135.50	169
0390	Poplar, 3-1/2" square, 48" high			8	1		46	36	82	111
0400	62" high			8	1		56.50	36	92.50	122
0410	Maple, 3-1/2" square, 48" high			8	1		79	36	115	146
0420	62" high			8	1		79	36	115	147
0430	Square newel, oak, 3-1/2" square, 48" high			8	1		56.50	36	92.50	122
0440	58" high			8	1		65	36	101	131
0450	Poplar, 3-1/2" square, 48" high			8	1		42	36	78	106
0460	58" high			8	1		62	36	98	128
0470	Maple, 3" square, 48" high			8	1		53	36	89	118
0480	58" high			8	1		67	36	103	134
0490	Railings, oak, economy			96	.083	L.F.	9	3.01	12.01	14.85
0500	Average			96	.083		15.10	3.01	18.11	21.50
0510	Custom			96	.083		18.75	3.01	21.76	25.50
0520	Maple, economy			96	.083		11.70	3.01	14.71	17.85
0530	Average			96	.083		13.25	3.01	16.26	19.50
0540	Custom			96	.083		22	3.01	25.01	29.50
0550	Oak, for bending rail, economy			48	.167		26.50	6.05	32.55	39
0560	Average			48	.167		29.50	6.05	35.55	42.50
0570	Custom			48	.167		33	6.05	39.05	46
0580	Maple, for bending rail, economy			48	.167		29	6.05	35.05	42
0590	Average			48	.167		31.50	6.05	37.55	44.50
0600	Custom			48	.167		36.50	6.05	42.55	50
0610	Risers, oak, 3/4" x 8", 36" long			80	.100	Ea.	12.85	3.62	16.47	20
0620	42" long			70	.114		15	4.13	19.13	23.50
0630	48" long			63	.127		17.10	4.59	21.69	26.50
0640	54" long			56	.143		19.25	5.15	24.40	29.50
0650	60" long			50	.160		21.50	5.80	27.30	33
0660	72" long			42	.190		25.50	6.90	32.40	40
0670	Poplar, 3/4" x 8", 36" long			80	.100		13.10	3.62	16.72	20.50
0680	42" long			71	.113		15.25	4.07	19.32	23.50
0690	48" long			63	.127		17.45	4.59	22.04	27

# 06 43 Wood Stairs and Railings

## 06 43 13 – Wood Stairs

06 43 13.40 Wood Stair Parts		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
					Material	Labor	Equipment	
0700	54" long	1 Carp	.56	.143 Ea.	19.60	5.15		24.75 30
0710	60" long		50	.160	22	5.80		27.80 33.50
0720	72" long		42	.190	26	6.90		32.90 40.50
0730	Pine, 1" x 8", 36" long		80	.100	3.86	3.62		7.48 10.20
0740	42" long		70	.114	4.50	4.13		8.63 11.75
0750	48" long		63	.127	5.15	4.59		9.74 13.20
0760	54" long		56	.143	5.80	5.15		10.95 14.85
0770	60" long		50	.160	6.45	5.80		12.25 16.55
0780	72" long		42	.190	7.70	6.90		14.60 19.80
0790	Treads, oak, no returns, 1-1/32" x 11-1/2" x 36" long		32	.250	31.50	9.05		40.55 49.50
0800	42" long		32	.250	36.50	9.05		45.55 55.50
0810	48" long		32	.250	42	9.05		51.05 61
0820	54" long		32	.250	47	9.05		56.05 67
0830	60" long		32	.250	52.50	9.05		61.55 72.50
0840	72" long		32	.250	63	9.05		72.05 84
0850	Mitered return one end, 1-1/32" x 11-1/2" x 36" long		24	.333	38.50	12.05		50.55 62
0860	42" long		24	.333	45	12.05		57.05 69
0870	48" long		24	.333	51	12.05		63.05 76.50
0880	54" long		24	.333	57.50	12.05		69.55 83.50
0890	60" long		24	.333	64	12.05		76.05 90.50
0900	72" long		24	.333	76.50	12.05		88.55 104
0910	Mitered return two ends, 1-1/32" x 11-1/2" x 36" long		12	.667	45.50	24		69.50 89.50
0920	42" long		12	.667	53	24		77 98
0930	48" long		12	.667	61	24		85 107
0940	54" long		12	.667	68.50	24		92.50 115
0950	60" long		12	.667	76	24		100 123
0960	72" long		12	.667	91.50	24		115.50 140
0970	Starting step, oak, 48", bullnose		8	1	176	36		212 254
0980	Double end bullnose		8	1	268	36		304 355
1030	Skirt board, pine, 1" x 10"		55	.145 L.F.	1.97	5.25		7.22 10.80
1040	1" x 12"		52	.154 "	2.60	5.55		8.15 12
1050	Oak landing tread, 1-1/16" thick		54	.148 S.F.	7.90	5.35		13.25 17.45
1060	Oak cove molding		96	.083 L.F.	.95	3.01		3.96 6
1070	Oak stringer molding		96	.083 "	3.68	3.01		6.69 9
1090	Rail bolt, 5/16" x 3-1/2"		48	.167 Ea.	3.55	6.05		9.60 13.80
1100	5/16" x 4-1/2"		48	.167	3.04	6.05		9.09 13.25
1120	Newel post anchor		16	.500	12.85	18.10		30.95 43.50
1130	Tapered plug, 1/2"		240	.033	.95	1.20		2.15 3.03
1140	1"		240	.033	.98	1.20		2.18 3.06

## 06 43 16 – Wood Railings

### 06 43 16.10 Wood Handrails and Railings

0010	WOOD HANDRAILS AND RAILINGS							
0020	Custom design, architectural grade, hardwood, plain	1 Carp	.38	.211 L.F.	12.60	7.60		20.20 26.50
0100	Shaped		30	.267	56	9.65		65.65 77.50
0300	Stock interior railing with spindles 4" OC, 4' long		40	.200	46.50	7.25		53.75 63
0400	8' long	▼	48	.167 ▼	46.50	6.05		52.55 61

# 06 44 Ornamental Woodwork

## 06 44 19 – Wood Grilles

06 44 19.10 Grilles		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 GRILLES and panels, hardwood, sanded											
0020 2' x 4' to 4' x 8', custom designs, unfinished, economy		1 Carp	38	.211	S.F.	61	7.60			68.60	79.50
0050 Average				30	.267		73.50	9.65		83.15	97
0100 Custom				19	.421		70.50	15.20		85.70	103

## 06 44 33 – Wood Mantels

### 06 44 33.10 Fireplace Mantels

0010 FIREPLACE MANTELS		1 Carp	5	1.600	Opng.	490	58		548	635
0015	6" molding, 6' x 3'-6" opening, plain, paint grade									
0100	Ornate, oak		5	1.600		640	58		698	800
0300	Prefabricated pine, colonial type, stock, deluxe			2	4	1,900	145		2,045	2,350
0400	Economy			3	2.667	815	96.50		911.50	1,050

### 06 44 33.20 Fireplace Mantel Beam

0010 FIREPLACE MANTEL BEAM		1 Carp	36	.222	L.F.	8.80	8.05		16.85	23
0020	Rough texture wood, 4" x 8"									
0100	4" x 10"		35	.229	"	12.45	8.25		20.70	27.50
0300	Laminated hardwood, 2-1/4" x 10-1/2" wide, 6' long			5	1.600	Ea.	109	58	167	215
0400	8' long			5	1.600	"	162	58	220	273
0600	Brackets for above, rough sawn			12	.667	Pr.	11.50	24	35.50	52
0700	Laminated			12	.667	"	22.50	24	46.50	64

## 06 44 39 – Wood Posts and Columns

### 06 44 39.10 Decorative Beams

0010 DECORATIVE BEAMS		2 Carp	180	.089	L.F.	1.61	3.21		4.82	7.05
0020	Rough sawn cedar, non-load bearing, 4" x 4"									
0100	4" x 6"		170	.094		1.84	3.40		5.24	7.60
0200	4" x 8"		160	.100		2.44	3.62		6.06	8.65
0300	4" x 10"			150	.107		4.66	3.86	8.52	11.50
0400	4" x 12"			140	.114		5.50	4.13	9.63	12.85
0500	8" x 8"			130	.123		5	4.45	9.45	12.80
0600	Plastic beam, "hewn finish", 6" x 2"			240	.067		3.52	2.41	5.93	7.85
0601	6" x 4"			220	.073		4.09	2.63	6.72	8.80

### 06 44 39.20 Columns

0010 COLUMNS		2 Carp	80	.200	V.L.F.	21.50	7.25		28.75	36
0050	Aluminum, round colonial, 6" diameter									
0100	8" diameter		62.25	.257		20.50	9.30		29.80	38
0200	10" diameter		55	.291		24.50	10.50		35	44.50
0250	Fir, stock units, hollow round, 6" diameter			80	.200		31	7.25	38.25	46
0300	8" diameter			80	.200		36.50	7.25	43.75	52.50
0350	10" diameter			70	.229		45.50	8.25	53.75	63.50
0360	12" diameter			65	.246		65	8.90	73.90	86
0400	Solid turned, to 8' high, 3-1/2" diameter			80	.200		11.30	7.25	18.55	24.50
0500	4-1/2" diameter			75	.213		14.30	7.70	22	28.50
0600	5-1/2" diameter			70	.229		19.75	8.25	28	35
0800	Square columns, built-up, 5" x 5"			65	.246		34.50	8.90	43.40	52.50
0900	Solid, 3-1/2" x 3-1/2"			130	.123		11.95	4.45	16.40	20.50
1600	Hemlock, tapered, T&G, 12" diam., 10' high			100	.160		48	5.80	53.80	62
1700	16' high			65	.246		82.50	8.90	91.40	105
1900	14" diameter, 10' high			100	.160		102	5.80	107.80	122
2000	18' high			65	.246		102	8.90	110.90	127
2200	18" diameter, 12' high			65	.246		204	8.90	212.90	240
2300	20' high			50	.320		125	11.55	136.55	157
2500	20" diameter, 14' high			40	.400		201	14.45	215.45	245

# 06 44 Ornamental Woodwork

## 06 44 39 – Wood Posts and Columns

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
<b>06 44 39.20 Columns</b>										
2600	20' high			2 Corp	.35	.457	V.L.F.	188	16.55	204.55
2800	For flat pilasters, deduct						↓	33%		
3000	For splitting into halves, add						Ea.	130		130
4000	Rough sawn cedar posts, 4" x 4"			2 Corp	.250	.064	V.L.F.	4.61	2.31	6.92
4100	4" x 6"				.235	.068		8.55	2.46	11.01
4200	6" x 6"				.220	.073		13.10	2.63	15.73
4300	8" x 8"				↓ .200	.080	↓	21	2.89	23.89
										28

# 06 48 Wood Frames

## 06 48 13 – Exterior Wood Door Frames

### 06 48 13.10 Exterior Wood Door Frames and Accessories

<b>0010 EXTERIOR WOOD DOOR FRAMES AND ACCESSORIES</b>										
0400	Exterior frame, incl. ext. trim, pine, 5/4 x 4-9/16" deep			2 Corp	.375	.043	L.F.	6.90	1.54	8.44
0420	5-3/16" deep				.375	.043		8.05	1.54	9.59
0440	6-9/16" deep				.375	.043		10	1.54	11.54
0600	Oak, 5/4 x 4-9/16" deep				.350	.046		12.30	1.65	13.95
0620	5-3/16" deep				.350	.046		13.50	1.65	15.15
0640	6-9/16" deep				.350	.046		21	1.65	22.65
1000	Sills, 8/4 x 8" deep, oak, no horns				.100	.160		8.35	5.80	14.15
1020	2" horns				.100	.160		21.50	5.80	27.30
1040	3" horns				.100	.160		21.50	5.80	27.30
1100	8/4 x 10" deep, oak, no horns				.90	.178		6.85	6.45	13.30
1120	2" horns				.90	.178		27.50	6.45	33.95
1140	3" horns				.90	.178	↓	27.50	6.45	33.95
2000	Wood frame & trim, ext., colonial, 3' opng., fluted pilasters, flat head				.22	.727	Ea.	510	26.50	536.50
2010	Dentil head				.21	.762		620	27.50	647.50
2020	Ram's head				.20	.800		735	29	764
2100	5'-4" opening, in-swing, fluted pilasters, flat head				.17	.941		485	34	519
2120	Ram's head				.15	1.067		1,325	38.50	1,363.50
2140	Out-swing, fluted pilasters, flat head				.17	.941		480	34	514
2160	Ram's head				.15	1.067		1,550	38.50	1,588.50
2400	6'-0" opening, in-swing, fluted pilasters, flat head				.16	1		490	36	526
2420	Ram's head				.10	1.600		1,525	58	1,583
2460	Out-swing, fluted pilasters, flat head				.16	1		485	36	521
2480	Ram's head				.10	1.600	↓	1,525	58	1,583
2600	For two sidelights, flat head, add				.30	.533	Opng.	330	19.30	349.30
2620	Ram's head, add				.20	.800	"	865	29	894
2700	Custom birch frame, 3'-0" opening				.16	1	Ea.	246	36	282
2750	6'-0" opng.				.16	1		395	36	431
2900	Exterior, modern, plain trim, 3' opng., in-swing, FJP				.26	.615		55	22.50	77.50
2920	Fir				.24	.667		59	24	83
2940	Oak				.22	.727	↓	68.50	26.50	95

## 06 48 16 – Interior Wood Door Frames

### 06 48 16.10 Interior Wood Door Jamb and Frames

<b>0010 INTERIOR WOOD DOOR JAMB AND FRAMES</b>										
3000	Interior frame, pine, 11/16" x 3-5/8" deep			2 Corp	.375	.043	L.F.	4.27	1.54	5.81
3020	4-9/16" deep				.375	.043		5.40	1.54	6.94
3040	5-3/16" deep				.375	.043		5.75	1.54	7.29
3200	Oak, 11/16" x 3-5/8" deep				.350	.046		2.53	1.65	4.18
3220	4-9/16" deep				↓ .350	.046	↓	10.45	1.65	12.10
										14.15

# 06 48 Wood Frames

## 06 48 16 – Interior Wood Door Frames

06 48 16.10 Interior Wood Door Jamb and Frames			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
							Labor	Equipment		
3240	5-3/16" deep		2 Carp	350	.046	L.F.	18.60	1.65	20.25	23
3400	Walnut, 11/16" x 3-5/8" deep			350	.046		9.75	1.65	11.40	13.40
3420	4-9/16" deep			350	.046		12.10	1.65	13.75	16
3440	5-3/16" deep			350	.046	↓	9.95	1.65	11.60	13.65
3600	Pocket door frame			16	1	Ea.	113	36	149	184
3800	Threshold, oak, 5/8" x 3-5/8" deep			200	.080	L.F.	3.73	2.89	6.62	8.85
3820	4-5/8" deep			190	.084		4.25	3.04	7.29	9.70
3840	5-5/8" deep		↓	180	.089	↓	6.80	3.21	10.01	12.80

# 06 49 Wood Screens and Exterior Wood Shutters

## 06 49 19 – Exterior Wood Shutters

### 06 49 19.10 Shutters, Exterior

#### 0010 SHUTTERS, EXTERIOR

0012	Aluminum, louvered, 1'-4" wide, 3'-0" long	1 Carp	10	.800	Pr.	219	29		248	289
0200	4'-0" long		10	.800		265	29		294	340
0300	5'-4" long		10	.800		315	29		344	395
0400	6'-8" long		9	.889		390	32		422	485
1000	Pine, louvered, primed, each 1'-2" wide, 3'-3" long		10	.800		263	29		292	335
1100	4'-7" long		10	.800		305	29		334	385
1250	Each 1'-4" wide, 3'-0" long		10	.800		297	29		326	375
1350	5'-3" long		10	.800		410	29		439	500
1500	Each 1'-6" wide, 3'-3" long		10	.800		294	29		323	375
1600	4'-7" long		10	.800		405	29		434	495
1620	Cedar, louvered, 1'-2" wide, 5'-7" long		10	.800		360	29		389	445
1630	Each 1'-4" wide, 2'-2" long		10	.800		195	29		224	262
1640	3'-0" long		10	.800		257	29		286	330
1650	3'-3" long		10	.800		270	29		299	345
1660	3'-11" long		10	.800		310	29		339	390
1670	4'-3" long		10	.800		345	29		374	430
1680	5'-3" long		10	.800		410	29		439	505
1690	5'-11" long		10	.800		455	29		484	550
1700	Door blinds, 6'-9" long, each 1'-3" wide		9	.889		500	32		532	605
1710	1'-6" wide		9	.889		455	32		487	560
1720	Cedar, solid raised panel, each 1'-4" wide, 3'-3" long		10	.800		375	29		404	460
1730	3'-11" long		10	.800		375	29		404	465
1740	4'-3" long		10	.800		370	29		399	455
1750	4'-7" long		10	.800		385	29		414	475
1760	4'-11" long		10	.800		420	29		449	510
1770	5'-11" long		10	.800		590	29		619	700
1800	Door blinds, 6'-9" long, each 1'-3" wide		9	.889		515	32		547	620
1900	1'-6" wide		9	.889		770	32		802	905
2500	Polystyrene, solid raised panel, each 1'-4" wide, 3'-3" long		10	.800		89	29		118	146
2600	3'-11" long		10	.800		93.50	29		122.50	151
2700	4'-7" long		10	.800		106	29		135	165
2800	5'-3" long		10	.800		120	29		149	180
2900	6'-8" long		9	.889		153	32		185	222
4500	Polystyrene, louvered, each 1'-2" wide, 3'-3" long		10	.800		37.50	29		66.50	88.50
4600	4'-7" long		10	.800		50	29		79	103
4750	5'-3" long		10	.800		58	29		87	112
4850	6'-8" long		9	.889		72.50	32		104.50	133
6000	Vinyl, louvered, each 1'-2" x 4'-7" long		10	.800		67	29		96	122

# 06 49 Wood Screens and Exterior Wood Shutters

## 06 49 19 – Exterior Wood Shutters

06 49 19.10 Shutters, Exterior	Description	Daily	Labor-Hours	Unit	2020 Bare Costs			Total	Total
		Crew	Output	Pr.	Material	Labor	Equipment		Incl O&P
6200	Each 1'-4" x 6'-8" long	1 Corp	9	.889	Pr.	89	32	121	151
8000	PVC exterior rolling shutters	1 Corp	8	1	Ea.	760	36	796	895
8100	including crank control	"	8	1	"	1,075	36	1,111	1,250
8500	Insulative - 6' x 6'-8" stock unit								

# 06 51 Structural Plastic Shapes and Plates

## 06 51 13 – Plastic Lumber

### 06 51 13.10 Recycled Plastic Lumber

0010	RECYCLED PLASTIC LUMBER	G	2 Corp	1100	.015	S.F.	1.05	.53	1.58	2.02
4000	Sheeting, recycled plastic, black or white, 4' x 8' x 1/8"	G		1100	.015		1.46	.53	1.99	2.47
4010	4' x 8' x 3/16"	G		1100	.015		1.62	.61	2.23	2.78
4020	4' x 8' x 1/4"	G		950	.017		2.80	.61	3.41	4.08
4030	4' x 8' x 3/8"	G		950	.017		3.74	.64	4.38	5.15
4040	4' x 8' x 1/2"	G		900	.018		6.95	.64	7.59	8.70
4050	4' x 8' x 5/8"	G		900	.018		8.10	.68	8.78	10
4060	4' x 8' x 3/4"	G		850	.019					
4070	Add for colors	G				Ea.	5%			
8500	100% recycled plastic, var colors, NLB, 2" x 2"	G				L.F.	1.89		1.89	2.08
8510	2" x 4"	G					3.96		3.96	4.36
8520	2" x 6"	G					6.20		6.20	6.85
8530	2" x 8"	G					8.80		8.80	9.65
8540	2" x 10"	G					12.45		12.45	13.70
8550	5/4" x 4"	G					4.32		4.32	4.75
8560	5/4" x 6"	G					5.90		5.90	6.50
8570	1" x 6"	G					2.90		2.90	3.19
8580	1/2" x 8"	G					3.41		3.41	3.75
8590	2" x 10" T&G	G					12.60		12.60	13.85
8600	3" x 10" T&G	G					19.80		19.80	22
8610	Add for premium colors	G					20%			

### 06 51 13.12 Structural Plastic Lumber

0010	STRUCTURAL PLASTIC LUMBER	2 Corp	390	.041	L.F.	10.95	1.48	12.43	14.50
1320	Plastic lumber, posts or columns, 4" x 4"		275	.058		14.45	2.10	16.55	19.35
1325	4" x 6"		220	.073		21	2.63	23.63	28
1330	4" x 8"		675	.024		10.95	.86	11.81	13.45
1340	Girder, single, 4" x 4"		600	.027		14.45	.96	15.41	17.50
1345	4" x 6"		525	.030		21	1.10	22.10	25.50
1350	4" x 8"		625	.026		9.55	.93	10.48	12.05
1352	Double, 2" x 4"		600	.027		10.45	.96	11.41	13.10
1354	2" x 6"		575	.028		18.30	1.01	19.31	21.50
1356	2" x 8"		550	.029		22.50	1.05	23.55	26.50
1358	2" x 10"		525	.030		26	1.10	27.10	30.50
1360	2" x 12"		575	.028		14.35	1.01	15.36	17.45
1362	Triple, 2" x 4"		550	.029		15.70	1.05	16.75	19
1364	2" x 6"		525	.030		27.50	1.10	28.60	32
1366	2" x 8"		500	.032		34	1.16	35.16	39.50
1368	2" x 10"		475	.034		38.50	1.22	39.72	44.50
1370	2" x 12"		400	.040		4.94	1.45	6.39	7.85
1372	Ledger, bolted 4' OC, 2" x 4"		550	.029		5.30	1.05	6.35	7.60
1374	2" x 6"		390	.041		9.30	1.48	10.78	12.65
1376	2" x 8"		385	.042		11.40	1.50	12.90	15
1378	2" x 10"								

# 06 51 Structural Plastic Shapes and Plates

## 06 51 13 – Plastic Lumber

06 51 13.12 Structural Plastic Lumber		Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
		Crew Output	Hours			Labor	Equipment	Total		
1380	2" x 12"	2 Corp	380	.042	L.F.	13	1.52	14.52	16.80	
1382	Joists, 2" x 4"		1250	.013		4.79	.46	5.25	6	
1384	2" x 6"		1250	.013		5.25	.46	5.71	6.50	
1386	2" x 8"		1100	.015		9.15	.53	9.68	10.90	
1388	2" x 10"		500	.032		11.45	1.16	12.61	14.45	
1390	2" x 12"		875	.018		12.90	.66	13.56	15.30	
1392	Railings and trim, 5/4" x 4"	1 Corp	300	.027		4.90	.96	5.86	7	
1394	2" x 2"		300	.027		2.20	.96	3.16	4	
1396	2" x 4"		300	.027		4.76	.96	5.72	6.85	
1398	2" x 6"		300	.027		5.20	.96	6.16	7.30	

# 06 63 Plastic Railings

## 06 63 10 – Plastic (PVC) Railings

### 06 63 10.10 Plastic Railings

0010	PLASTIC RAILINGS	1 Corp	96	.083	L.F.	30	3.01	33.01	38
0100	Horizontal PVC handrail with balusters, 3-1/2" wide, 36" high		96	.083		29	3.01	32.01	36.50
0150	42" high		96	.083		20.50	4.02	24.52	29
0200	Angled PVC handrail with balusters, 3-1/2" wide, 36" high		72	.111		30.50	4.02	34.52	40
0250	42" high		72	.111		16.45	3.01	19.46	23
0300	Post sleeve for 4 x 4 post		96	.083		15.55	6.05	21.60	27
0400	Post cap for 4 x 4 post, flat profile		48	.167	Ea.	28.50	6.05	34.55	41.50
0450	Newel post style profile		48	.167		35	6.05	41.05	49
0500	Raised corbeled profile		48	.167		20.50	3.01	23.51	27.50
0550	Post base trim for 4 x 4 post		96	.083					

# 06 65 Plastic Trim

## 06 65 10 – PVC Trim

### 06 65 10.10 PVC Trim, Exterior

0010	PVC TRIM, EXTERIOR	1 Corp	240	.033	L.F.	8.50	1.20	9.70	11.35
0100	Cornerboards, 5/4" x 6" x 6"		200	.040		2.09	1.45	3.54	4.68
0110	Door/window casing, 1" x 4"		200	.040		2.60	1.45	4.05	5.25
0120	1" x 6"		195	.041		3.43	1.48	4.91	6.20
0130	1" x 8"		195	.041		4.50	1.48	5.98	7.40
0140	1" x 10"		190	.042		5.10	1.52	6.62	8.10
0150	1" x 12"		195	.041		2.48	1.48	3.96	5.15
0160	5/4" x 4"		195	.041		3.74	1.48	5.22	6.55
0170	5/4" x 6"		190	.042		4.75	1.52	6.27	7.70
0180	5/4" x 8"		190	.042		5.95	1.52	7.47	9.05
0190	5/4" x 10"		190	.042		6.75	1.56	8.31	9.95
0200	5/4" x 12"		185	.043		2.09	1.16	3.25	4.20
0210	Fascia, 1" x 4"		250	.032		2.60	1.16	3.76	4.76
0220	1" x 6"		225	.036		3.43	1.29	4.72	5.90
0230	1" x 8"		225	.036		4.50	1.29	5.79	7.05
0240	1" x 10"		225	.036		5.10	1.45	6.55	8
0250	1" x 12"		200	.040		2.48	1.20	3.68	4.71
0260	5/4" x 4"		240	.033		3.74	1.20	4.94	6.10
0270	5/4" x 6"		240	.033		4.75	1.35	6.10	7.40
0280	5/4" x 8"		215	.037		5.95	1.35	7.30	8.75
0290	5/4" x 10"		215	.037					

# 06 65 Plastic Trim

## 06 65 10 – PVC Trim

06 65 10.10 PVC Trim, Exterior		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
						Material	Labor	Equipment		
0300	5/4" x 12"	1 Corp	190	.042	L.F.	6.75	1.52		8.27	9.90
0310	Frieze, 1" x 4"		250	.032		2.09	1.16		3.25	4.20
0320	1" x 6"		250	.032		2.60	1.16		3.76	4.76
0330	1" x 8"		225	.036		3.43	1.29		4.72	5.90
0340	1" x 10"		225	.036		4.50	1.29		5.79	7.05
0350	1" x 12"		200	.040		5.10	1.45		6.55	8
0360	5/4" x 4"		240	.033		2.48	1.20		3.68	4.71
0370	5/4" x 6"		240	.033		3.74	1.20		4.94	6.10
0380	5/4" x 8"		215	.037		4.75	1.35		6.10	7.40
0390	5/4" x 10"		215	.037		5.95	1.35		7.30	8.75
0400	5/4" x 12"		190	.042		6.75	1.52		8.27	9.90
0410	Rake, 1" x 4"		200	.040		2.09	1.45		3.54	4.68
0420	1" x 6"		200	.040		2.60	1.45		4.05	5.25
0430	1" x 8"		190	.042		3.43	1.52		4.95	6.25
0440	1" x 10"		190	.042		4.50	1.52		6.02	7.45
0450	1" x 12"		180	.044		5.10	1.61		6.71	8.25
0460	5/4" x 4"		195	.041		2.48	1.48		3.96	5.15
0470	5/4" x 6"		195	.041		3.74	1.48		5.22	6.55
0480	5/4" x 8"		185	.043		4.75	1.56		6.31	7.75
0490	5/4" x 10"		185	.043		5.95	1.56		7.51	9.10
0500	5/4" x 12"		175	.046		6.75	1.65		8.40	10.10
0510	Rake trim, 1" x 4"		225	.036		2.09	1.29		3.38	4.41
0520	1" x 6"		225	.036		2.60	1.29		3.89	4.97
0560	5/4" x 4"		220	.036		2.48	1.31		3.79	4.89
0570	5/4" x 6"		220	.036		3.74	1.31		5.05	6.25
0610	Soffit, 1" x 4"	2 Corp	420	.038		2.09	1.38		3.47	4.56
0620	1" x 6"		420	.038		2.60	1.38		3.98	5.10
0630	1" x 8"		420	.038		3.43	1.38		4.81	6.05
0640	1" x 10"		400	.040		4.50	1.45		5.95	7.35
0650	1" x 12"		400	.040		5.10	1.45		6.55	8
0660	5/4" x 4"		410	.039		2.48	1.41		3.89	5.05
0670	5/4" x 6"		410	.039		3.74	1.41		5.15	6.45
0680	5/4" x 8"		410	.039		4.75	1.41		6.16	7.50
0690	5/4" x 10"		390	.041		5.95	1.48		7.43	9
0700	5/4" x 12"		390	.041		6.75	1.48		8.23	9.85

# 06 73 Composite Decking

## 06 73 13 – Composite Decking

### 06 73 13.10 Woodgrained Composite Decking

#### 0010 WOODGRAINED COMPOSITE DECKING

0100	Woodgrained composite decking, 1" x 6"	2 Corp	640	.025	L.F.	4.20	.90		5.10	6.10
0110	Grooved edge		660	.024		4.39	.88		5.27	6.25
0120	2" x 6"		640	.025		4.02	.90		4.92	5.90
0130	Enclosed, 1" x 6"		640	.025		4.71	.90		5.61	6.70
0140	Grooved edge		660	.024		4.66	.88		5.54	6.55
0150	2" x 6"		640	.025		5.45	.90		6.35	7.50

# 06 81 Composite Railings

## 06 81 10 – Encased Railings

06 81 10.10 Encased Composite Railings		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	ENCASED COMPOSITE RAILINGS						Labor	Equipment	
0100	Enclosed composite railing, 6' long, 36" high, incl. balusters	1 Corp	16	.500	Ea.	146	18.10	164.10	190
0110	42" high, incl. balusters		16	.500		225	18.10	243.10	277
0120	8' long, 36" high, incl. balusters		12	.667		170	24	194	226
0130	42" high, incl. balusters		12	.667		178	24	202	236
0140	Accessories, post sleeve, 4" x 4", 39" long		32	.250		30	9.05	39.05	48
0150	96" long		24	.333		76	12.05	88.05	104
0160	6" x 6", 39" long		32	.250		53.50	9.05	62.55	73.50
0170	96" long		24	.333		159	12.05	171.05	195
0180	Accessories, post skirt, 4" x 4"		96	.083		5.75	3.01	8.76	11.25
0190	6" x 6"		96	.083		8.05	3.01	11.06	13.80
0200	Post cap, 4" x 4", flat		48	.167		9.15	6.05	15.20	19.95
0210	Pyramid		48	.167		7.95	6.05	14	18.65
0220	Post cap, 6" x 6", flat		48	.167		14.25	6.05	20.30	25.50
0230	Pyramid		48	.167		10.85	6.05	16.90	22

## Division Notes

### Estimating Tips

#### 0710 00 Damproofing and Waterproofing

- Be sure of the job specifications before pricing this subdivision. The difference in cost between waterproofing and damproofing can be great. Waterproofing will hold back standing water. Damproofing prevents the transmission of water vapor. Also included in this section are vapor retarding membranes.

#### 0720 00 Thermal Protection

- Insulation and fireproofing products are measured by area, thickness, volume, or R-value. Specifications may give only what the specific R-value should be in a certain situation. The estimator may need to choose the type of insulation to meet that R-value.

#### 0730 00 Steep Slope Roofing

#### 0740 00 Roofing and Siding Panels

- Many roofing and siding products are bought and sold by the square. One square is equal to an area that measures 100 square feet. This simple change in unit of measure could create a large error if the estimator is not observant. Accessories necessary for a complete installation must be figured into any calculations for both material and labor.

#### 0750 00 Membrane Roofing

#### 0760 00 Flashing and Sheet Metal

#### 0770 00 Roofing and Wall Specialties and Accessories

- The items in these subdivisions compose a roofing system. No one component completes the installation, and all must be estimated. Built-up or single-ply membrane roofing systems are made up of many products and installation trades. Wood blocking at roof perimeters or penetrations, parapet coverings, reglets, roof drains, gutters, downspouts, sheet metal flashing, skylights, smoke vents, and roof hatches all need to be considered along with the roofing material. Several different installation trades will need to work together on the roofing system. Inherent difficulties in the scheduling and coordination of various trades must be accounted for when estimating labor costs.

#### 0790 00 Joint Protection

- To complete the weather-tight shell, the sealants and caulks must be estimated. Where different materials meet—at expansion joints, at flashing penetrations, and at hundreds of other locations throughout a construction project—caulking and sealants provide another line of defense against water penetration. Often, an entire system

is based on the proper location and placement of caulking or sealants. The detailed drawings that are included as part of a set of architectural plans show typical locations for these materials. When caulking or sealants are shown at typical locations, this means the estimator must include them for all the locations where this detail is applicable. Be careful to keep different types of sealants separate, and remember to consider backer rods and primers if necessary.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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## **07.01 Operation and Maint. of Thermal and Moisture Protection**

07 01 50 – Maintenance of Membrane Roofing

07 01 50.10 Roof Coatings	Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
0010 ROOF COATINGS									
0012 Asphalt, brush grade, material only				Gal.	9.50			9.50	10.45
0800 Glass fibered roof & patching cement, 5 gal.						9.40		9.40	10.35
1100 Roof patch & flashing cement, 5 gal.							8.90	8.90	9.75

## **07 05 Common Work Results for Thermal and Moisture Protection**

07 05 05 – Selective Demolition for Thermal and Moisture Protection

#### **07 05 05.10 Selective Demo., Thermal and Moist. Protection**

SELECTIVE DEMO., THERMAL AND MOISTURE PROTECTION							
0020	Caulking/sealant, to 1" x 1" joint	R024119-10	1 Clab	600	.013	L.F.	.37
0120	Downspouts, including hangers			350	.023	"	.64
0220	Flashing, sheet metal			290	.028	S.F.	.77
0420	Gutters, aluminum or wood, edge hung			240	.033	L.F.	.93
0520	Built-in			100	.080	"	2.22
0620	Insulation, air/vapor barrier			3500	.002	S.F.	.06
0670	Batts or blankets			1400	.006	C.F.	.16
0720	Foamed or sprayed in place		2 Clab	1000	.016	B.F.	.44
0770	Loose fitting		1 Clab	3000	.003	C.F.	.07
0870	Rigid board			3450	.002	B.F.	.06
1120	Roll roofing, cold adhesive			12	.667	Sq.	18.55
1170	Roof accessories, adjustable metal chimney flashing			9	.889	Ea.	24.50
1325	Plumbing vent flashing			32	.250	"	6.95
1375	Ridge vent strip, aluminum			310	.026	L.F.	.72
1620	Skylight to 10 S.F.			8	1	Ea.	28
2120	Roof edge, aluminum soffit and fascia			570	.014	L.F.	.39
2170	Concrete coping, up to 12" wide		2 Clab	160	.100		2.78
2220	Drip edge		1 Clab	1000	.008		.22
2270	Gravel stop			950	.008		.23
2370	Sheet metal coping, up to 12" wide			240	.033		.93
2470	Roof insulation board, over 2" thick		B-2	7800	.005	B.F.	.14
2520	Up to 2" thick			"	.3900	.010	.29
2620	Roof ventilation, louvered gable vent		1 Clab	16	.500	Ea.	13.90
2670	Remove, roof hatch			G-3	15	2.133	71.50
2675	Rafter vents		1 Clab	960	.008		.23
2720	Soffit vent and/or fascia vent			575	.014	L.F.	.39
2775	Soffit vent strip, aluminum, 3" to 4" wide			160	.050		1.39
2820	Roofing accessories, shingle moulding, to 1" x 4"			1600	.005		.14
2870	Cant strip		B-2	2000	.020		.56
2920	Concrete block walkway		1 Clab	230	.035		.97
3070	Roofing, felt paper, #15			70	.114	Sq.	3.18
3125	#30 felt			30	.267	"	7.40
3170	Asphalt shingles, 1 layer		B-2	3500	.011	S.F.	.32
3180	2 layers			1750	.023	"	.64
3370	Modified bitumen			26	1.538	Sq.	43.50
3420	Built-up, no gravel, 3 ply			25	1.600		45
3470	4 ply			21	1.905		53.50
3620	5 ply			1600	.025	S.F.	.71
3720	5 ply, with gravel			890	.045		1.27
3725	Loose gravel removal			5000	.008		.23
3730	Embedded gravel removal			2000	.020		.56
3870	Fiberglass sheet			1200	.033		.94

# 07 05 Common Work Results for Thermal and Moisture Protection

## 07 05 05 – Selective Demolition for Thermal and Moisture Protection

07 05 05.10 Selective Demo., Thermal and Mois. Protection	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
						Labor	Equipment	Total		
4120 Slate shingles	B-2	1900	.021	S.F.		.59		.59	.97	
4170 Ridge shingles, clay or slate		2000	.020	L.F.		.56		.56	.93	
4320 Single ply membrane, attached at seams		52	.769	Sq.		21.50		21.50	35.50	
4370 Ballasted		75	.533			15.05		15.05	24.50	
4420 Fully adhered		39	1.026			.29		.29	47.50	
4550 Roof hatch, 2'-6" x 3'-0"	1 Clab	10	.800	Ea.		.22		.22	36.50	
4670 Wood shingles	B-2	2200	.018	S.F.		.51		.51	.84	
4820 Sheet metal roofing	"	2150	.019			.52		.52	.86	
4970 Siding, horizontal wood clapboards	1 Clab	380	.021			.59		.59	.96	
5025 Exterior insulation finish system	"	120	.067			1.85		1.85	3.04	
5070 Tempered hardboard, remove and reset	1 Carp	380	.021			.76		.76	1.25	
5120 Tempered hardboard sheet siding	"	375	.021			.77		.77	1.27	
5170 Metal, corner strips	1 Clab	850	.009	L.F.		.26		.26	.43	
5225 Horizontal strips		444	.018	S.F.		.50		.50	.82	
5320 Vertical strips		400	.020			.56		.56	.91	
5520 Wood shingles		350	.023			.64		.64	1.04	
5620 Stucco siding		360	.022			.62		.62	1.01	
5670 Textured plywood		725	.011			.31		.31	.50	
5720 Vinyl siding		510	.016			.44		.44	.72	
5770 Corner strips		900	.009	L.F.		.25		.25	.41	
5870 Wood, boards, vertical		400	.020	S.F.		.56		.56	.91	
5880 Steel siding, corrugated/ribbed		402.50	.020	"		.55		.55	.91	
5920 Waterproofing, protection/drain board	2 Clab	3900	.004	B.F.		.11		.11	.19	
5970 Over 1/2" thick		1750	.009	S.F.		.25		.25	.42	
6020 To 1/2" thick		2000	.008	"		.22		.22	.37	

## 07 11 Damproofing

### 07 11 13 – Bituminous Damproofing

#### 07 11 13.10 Bituminous Asphalt Coating

0010 BITUMINOUS ASPHALT COATING										
0030 Brushed on, below grade, 1 coat	1 Rofc	665	.012	S.F.	.24	.37		.61	.93	
0100 2 coat		500	.016		.48	.50		.98	1.41	
0300 Sprayed on, below grade, 1 coat		830	.010		.24	.80		.54	.79	
0400 2 coat		500	.016		.46	.50		.96	1.40	
0500 Asphalt coating, with fibers				Gal.	9.40			9.40	10.35	
0600 Troweled on, asphalt with fibers, 1/16" thick	1 Rofc	500	.016	S.F.	.41	.50		.91	1.34	
0700 1/8" thick		400	.020		.72	.62		1.34	1.90	
1000 1/2" thick		350	.023		2.35	.71		3.06	3.85	

### 07 11 16 – Cementitious Damproofing

#### 07 11 16.20 Cementitious Parging

0010 CEMENTITIOUS PARGING										
0020 Portland cement, 2 coats, 1/2" thick	D-1	250	.064	S.F.	.42	2.09		2.51	3.93	
0100 Waterprooferd Portland cement, 1/2" thick, 2 coats	"	250	.064	"	7.25	2.09		9.34	11.45	

# 07 19 Water Repellents

## 07 19 19 – Silicone Water Repellents

07 19 19.10 Silicone Based Water Repellents		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0010 SILICONE BASED WATER REPELLENTS										
0020 Water base liquid, roller applied		2 Rofc	7000	.002	S.F.	.43	.07		.50	.60
0200 Silicone or stearate, sprayed on CMU, 1 coat		1 Rofc	4000	.002		.40	.06		.46	.55
0300 2 coats		"	3000	.003		.79	.08		.87	1.02

# 07 21 Thermal Insulation

## 07 21 13 – Board Insulation

### 07 21 13.10 Rigid Insulation

0010	RIGID INSULATION, for walls									
0040	Fiberglass, 1.5#/C.F., unfaced, 1" thick, R4.1	G	1 Corp	1000	.008	S.F.	.33	.29	.62	.84
0060	1-1/2" thick, R6.2	G		1000	.008		.43	.29	.72	.95
0080	2" thick, R8.3	G		1000	.008		.49	.29	.78	1.02
0120	3" thick, R12.4	G		800	.010		.56	.36	.92	1.21
0370	3#/C.F., unfaced, 1" thick, R4.3	G		1000	.008		.57	.29	.86	1.11
0390	1-1/2" thick, R6.5	G		1000	.008		.78	.29	1.07	1.34
0400	2" thick, R8.7	G		890	.009		1.09	.33	1.42	1.73
0420	2-1/2" thick, R10.9	G		800	.010		1.12	.36	1.48	1.82
0440	3" thick, R13	G		800	.010		1.65	.36	2.01	2.41
0520	Foil faced, 1" thick, R4.3	G		1000	.008		.85	.29	1.14	1.42
0540	1-1/2" thick, R6.5	G		1000	.008		1.28	.29	1.57	1.89
0560	2" thick, R8.7	G		890	.009		1.62	.33	1.95	2.31
0580	2-1/2" thick, R10.9	G		800	.010		1.91	.36	2.27	2.69
0600	3" thick, R13	G		800	.010		2.01	.36	2.37	2.80
1600	Isocyanurate, 4' x 8' sheet, foil faced, both sides									
1610	1/2" thick	G	1 Corp	800	.010	S.F.	.31	.36	.67	.93
1620	5/8" thick	G		800	.010		.62	.36	.98	1.27
1630	3/4" thick	G		800	.010		.43	.36	.79	1.06
1640	1" thick	G		800	.010		.62	.36	.98	1.27
1650	1-1/2" thick	G		730	.011		.76	.40	1.16	1.49
1660	2" thick	G		730	.011		.74	.40	1.14	1.46
1670	3" thick	G		730	.011		3.11	.40	3.51	4.07
1680	4" thick	G		730	.011		2.58	.40	2.98	3.49
1700	Perlite, 1" thick, R2.77	G		800	.010		.47	.36	.83	1.11
1750	2" thick, R5.55	G		730	.011		.86	.40	1.26	1.60
1900	Extruded polystyrene, 25 psi compressive strength, 1" thick, R5	G		800	.010		.62	.36	.98	1.27
1940	2" thick, R10	G		730	.011		1.22	.40	1.62	1.99
1960	3" thick, R15	G		730	.011		1.67	.40	2.07	2.49
2100	Expanded polystyrene, 1" thick, R3.85	G		800	.010		.29	.36	.65	.91
2120	2" thick, R7.69	G		730	.011		.58	.40	.98	1.29
2140	3" thick, R11.49	G		730	.011		.87	.40	1.27	1.61

### 07 21 13.13 Foam Board Insulation

0010	FOAM BOARD INSULATION									
0600	Polystyrene, expanded, 1" thick, R4	G	1 Corp	680	.012	S.F.	.29	.43	.72	1.02
0700	2" thick, R8	G	"	675	.012	"	.58	.43	1.01	1.34

# 07 21 Thermal Insulation

## 07 21 16 – Blanket Insulation

### 07 21 16.10 Blanket Insulation for Floors/Ceilings

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010	<b>BLANKET INSULATION FOR FLOORS/CEILINGS</b>										
0020	Including spring type wire fasteners										
2000	Fiberglass, blankets or batts, paper or foil backing										
2100	3-1/2" thick, R13	G	1 Corp	700	.011	S.F.	.41	.41		.82	1.13
2150	6-1/4" thick, R19	G		600	.013		.51	.48		.99	1.35
2210	9-1/2" thick, R30	G		500	.016		.86	.58		1.44	1.90
2220	12" thick, R38	G		475	.017		1.04	.61		1.65	2.14
3000	Unfaced, 3-1/2" thick, R13	G		600	.013		.33	.48		.81	1.15
3010	6-1/4" thick, R19	G		500	.016		.39	.58		.97	1.38
3020	9-1/2" thick, R30	G		450	.018		.68	.64		1.32	1.81
3030	12" thick, R38	G		425	.019		.77	.68		1.45	1.97

### 07 21 16.20 Blanket Insulation for Walls

#### 0010 BLANKET INSULATION FOR WALLS

0020	Kraft faced fiberglass, 3-1/2" thick, R11, 15" wide	G	1 Carp	1350	.006	S.F.	.30	.21		.51	.68
0030	23" wide	G		1600	.005		.30	.18		.48	.63
0060	R13, 11" wide	G		1150	.007		.34	.25		.59	.78
0080	15" wide	G		1350	.006		.34	.21		.55	.72
0100	23" wide	G		1600	.005		.34	.18		.52	.67
0110	R15, 11" wide	G		1150	.007		.55	.25		.80	1.02
0120	15" wide	G		1350	.006		.55	.21		.76	.96
0140	6" thick, R19, 11" wide	G		1150	.007		.44	.25		.69	.89
0160	15" wide	G		1350	.006		.44	.21		.65	.83
0180	23" wide	G		1600	.005		.44	.18		.62	.78
0201	9" thick, R30, 15" wide	G		1350	.006		.86	.21		1.07	1.30
0241	12" thick, R38, 15" wide	G		1350	.006		1.04	.21		1.25	1.49
0410	Foil faced fiberglass, 3-1/2" thick, R13, 11" wide	G		1150	.007		.47	.25		.72	.93
0420	15" wide	G		1350	.006		.47	.21		.68	.87
0442	R15, 11" wide	G		1150	.007		.46	.25		.71	.92
0444	15" wide	G		1350	.006		.46	.21		.67	.86
0461	6" thick, R19, 15" wide	G		1600	.005		.63	.18		.81	.99
0482	R21, 11" wide	G		1150	.007		.65	.25		.90	1.13
0501	9" thick, R30, 15" wide	G		1350	.006		1.05	.21		1.26	1.51
0620	Unfaced fiberglass, 3-1/2" thick, R13, 11" wide	G		1150	.007		.33	.25		.58	.77
0821	15" wide	G		1600	.005		.33	.18		.51	.66
0832	R15, 11" wide	G		1150	.007		.46	.25		.71	.92
0834	15" wide	G		1350	.006		.46	.21		.67	.86
0861	6" thick, R19, 15" wide	G		1350	.006		.39	.21		.60	.78
0901	9" thick, R30, 15" wide	G		1150	.007		.68	.25		.93	1.16
0941	12" thick, R38, 15" wide	G		1150	.007		.77	.25		1.02	1.26
1300	Wall or ceiling insulation, mineral wool batts	G	1 Carp	1600	.005	S.F.	.82	.18		1	1.20
1320	3-1/2" thick, R15	G		1600	.005		1.29	.18		1.47	1.72
1340	5-1/2" thick, R23	G		1350	.006		1.70	.21		1.91	2.22
1380	7-1/4" thick, R30	G		1600	.005		1.18	.18		1.36	1.60
1700	Non-rigid insul., recycled blue cotton fiber, unfaced batts, R13, 16" wide	G		1600	.005		1.45	.18		1.63	1.90
1710	R19, 16" wide	G		960	.008	Ea.	.07	.30		.37	.57
1850	Friction fit wire insulation supports, 16" OC										

## 07 21 19 – Foamed In Place Insulation

### 07 21 19.10 Masonry Foamed In Place Insulation

#### 0010 MASONRY FOAMED IN PLACE INSULATION

0100	Amino-plast foam, injected into block core, 6" block	G	G-2A	6000	.004	Ea.	.17	.11	.11	.39	.50
0110	8" block	G		5000	.005		.20	.13	.13	.46	.59

# 07 21 Thermal Insulation

## 07 21 19 – Foamed In Place Insulation

07 21 19.10 Masonry Foamed In Place Insulation			Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
							Material	Labor	Equipment		
0120	10" block		G	G-2A	4000	.006	Ea.	.26	.16	.16	.58
0130	12" block		G		3000	.008		.34	.22	.21	.77
0140	Injected into cavity wall		G		13000	.002	B.F.	.06	.05	.05	.16
0150	Preparation, drill holes into mortar joint every 4 V.L.F., 5/8" diameter			1 Clab	960	.008	Ea.		.23		.23
0160	7/8" diameter				680	.012			.33		.33
0170	Patch drilled holes, 5/8" diameter				1800	.004		.04	.12		.16
0180	7/8" diameter				1200	.007		.05	.19		.24

## 07 21 23 – Loose-Fill Insulation

### 07 21 23.10 Poured Loose-Fill Insulation

0010 Poured Loose-Fill Insulation			Crew	1 Corp	200	.040	C.F.	.70	1.45		2.15	3.15
0020	Cellulose fiber, R3.8 per inch		G		1000	.008	S.F.	.17	.29		.46	.66
0021	4" thick		G		800	.010	"	.28	.36		.64	.90
0022	6" thick		G		200	.040	C.F.	.70	1.45		2.15	3.15
0080	Fiberglass wool, R4 per inch		G		600	.013	S.F.	.24	.48		.72	1.05
0081	4" thick		G		400	.020	"	.34	.72		1.06	1.56
0082	6" thick		G		200	.040	C.F.	.56	1.45		2.01	3
0100	Mineral wool, R3 per inch		G		600	.013	S.F.	.18	.48		.66	.99
0101	4" thick		G		400	.020	"	.28	.72		1	1.50
0102	6" thick		G		200	.040	C.F.	1.56	1.45		3.01	4.10
0300	Polystyrene, R4 per inch		G		600	.013	S.F.	.51	.48		.99	1.36
0301	4" thick		G		400	.020	"	.78	.72		1.50	2.05
0302	6" thick		G		200	.040	C.F.	5.30	1.45		6.75	8.20
0400	Perlite, R2.78 per inch		G		1000	.008	S.F.	1.76	.29		2.05	2.42
0401	4" thick		G		800	.010	"	2.65	.36		3.01	3.50
0402	6" thick		G									

### 07 21 23.20 Masonry Loose-Fill Insulation

0010 Masonry Loose-Fill Insulation, vermiculite or perlite			Crew	D-1	4800	.003	S.F.	.61	.11		.72	.85
0100	In cores of concrete block, 4" thick wall, .115 C.F./S.F.		G	D-1	1035	.023		1.39	.63	.61	2.63	3.30
0700	Foamed in place, urethane in 2-5/8" cavity		G		2372	.010		.53	.28	.27	1.08	1.35
0800	For each 1" added thickness, add		G									

## 07 21 26 – Blown Insulation

### 07 21 26.10 Blown Insulation

0010 BLOWN INSULATION Ceilings, with open access			Crew	G-4	5000	.005	S.F.	.24	.14	.08	.46	.57
0020	Cellulose, 3-1/2" thick, R13		G		3800	.006		.35	.18	.11	.64	.81
0030	5-3/16" thick, R19		G		3000	.008		.45	.23	.13	.81	1.02
0050	6-1/2" thick, R22		G		2600	.009		.61	.26	.15	1.02	1.27
0100	8-11/16" thick, R30		G		1800	.013		.78	.38	.22	1.38	1.72
0120	10-7/8" thick, R38		G		3800	.006		.24	.18	.11	.53	.68
1000	Fiberglass, 5.5" thick, R11		G		3000	.008		.34	.23	.13	.70	.89
1050	6" thick, R12		G		2200	.011		.42	.31	.18	.91	1.17
1100	8.8" thick, R19		G		1800	.013		.49	.38	.22	1.09	1.40
1200	10" thick, R22		G		1500	.016		.58	.46	.27	1.31	1.68
1300	11.5" thick, R26		G		1400	.017		.68	.49	.28	1.45	1.85
1350	13" thick, R30		G		1145	.021		.86	.60	.35	1.81	2.31
1450	16" thick, R38		G		920	.026		1.14	.74	.43	2.31	2.96
1500	20" thick, R49		G									

# 07 21 Thermal Insulation

## 07 21 29 – Sprayed Insulation

07 21 29.10 Sprayed-On Insulation			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Ind O&P
0010	SPRAYED-ON INSULATION										
0300	Closed cell, spray polyurethane foam, 2 lb./C.F. density										
0310	1" thick	G	G-2A	6000	.004	S.F.	.53	.11	.11	.75	.89
0320	2" thick	G		3000	.008		1.06	.22	.21	1.49	1.78
0330	3" thick	G		2000	.012		1.59	.33	.32	2.24	2.67
0335	3-1/2" thick	G		1715	.014		1.86	.38	.37	2.61	3.11
0340	4" thick	G		1500	.016		2.12	.44	.42	2.98	3.57
0350	5" thick	G		1200	.020		2.65	.55	.53	3.73	4.45
0355	5-1/2" thick	G		1090	.022		2.92	.60	.58	4.10	4.90
0360	6" thick	G		1000	.024		3.18	.66	.63	4.47	5.35

## 07 21 53 – Reflective Insulation

### 07 21 53.10 Reflective Insulation Options

0010	REFLECTIVE INSULATION OPTIONS										
0020	Aluminum foil on reinforced scrim	G	1 Carp	19	.421	C.S.F.	15	15.20		30.20	41.50
0100	Reinforced with woven polyolefin	G		19	.421		22.50	15.20		37.70	50
0500	With single bubble air space, R8.8	G		15	.533		26.50	19.30		45.80	60.50
0600	With double bubble air space, R9.8	G		15	.533		32.50	19.30		51.80	67.50

# 07 22 Roof and Deck Insulation

## 07 22 16 – Roof Board Insulation

### 07 22 16.10 Roof Deck Insulation

0010	ROOF DECK INSULATION, fastening excluded										
0016	Asphaltic cover board, fiberglass lined, 1/8" thick	G	1 Rofc	1400	.006	S.F.	.49	.18		.67	.86
0018	1/4" thick			1400	.006		.99	.18		1.17	1.41
0020	Fiberboard low density, 1/2" thick, R1.39	G		1300	.006		.36	.19		.55	.74
0030	1" thick, R2.78	G		1040	.008		.69	.24		.93	1.19
0080	1-1/2" thick, R4.17	G		1040	.008		1.04	.24		1.28	1.57
0100	2" thick, R5.56	G		1040	.008		1.19	.24		1.43	1.74
0110	Fiberboard high density, 1/2" thick, R1.3	G		1300	.006		.28	.19		.47	.65
0120	1" thick, R2.5	G		1040	.008		.64	.24		.88	1.13
0130	1-1/2" thick, R3.8	G		1040	.008		1.24	.24		1.48	1.79
0200	Fiberglass, 3/4" thick, R2.78	G		1300	.006		.63	.19		.82	1.03
0400	15/16" thick, R3.70	G		1300	.006		.84	.19		1.03	1.26
0460	1-1/16" thick, R4.17	G		1300	.006		1.17	.19		1.36	1.63
0600	1-5/16" thick, R5.26	G		1300	.006		1.45	.19		1.64	1.94
0650	2-1/16" thick, R8.33	G		1040	.008		1.63	.24		1.87	2.22
0700	2-7/16" thick, R10	G		1040	.008		1.75	.24		1.99	2.36
0800	Gypsum cover board, fiberglass mat facer, 1/4" thick			1400	.006		.51	.18		.69	.88
0810	1/2" thick			1300	.006		.67	.19		.86	1.08
0820	5/8" thick			1200	.007		.66	.21		.87	1.10
0830	Primed fiberglass mat facer, 1/4" thick			1400	.006		.50	.18		.68	.87
0840	1/2" thick			1300	.006		.58	.19		.77	.98
0850	5/8" thick			1200	.007		.61	.21		.82	1.04
1650	Perlite, 1/2" thick, R1.32	G		1365	.006		.29	.18		.47	.64
1655	3/4" thick, R2.08	G		1040	.008		.39	.24		.63	.86
1660	1" thick, R2.78	G		1040	.008		.57	.24		.81	1.06
1670	1-1/2" thick, R4.17	G		1040	.008		.83	.24		1.07	1.34
1680	2" thick, R5.56	G		910	.009		1.09	.27		1.36	1.69
1685	2-1/2" thick, R6.67	G		910	.009		1.42	.27		1.69	2.05
1690	Tapered for drainage	G		1040	.008	B.F.	1.09	.24		1.33	1.63

# 07 22 Roof and Deck Insulation

## 07 22 16 – Roof Board Insulation

07 22 16.10 Roof Deck Insulation		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
						Material	Labor	Equipment		
1700	Polyisocyanurate, 2#/C.F. density, 3/4" thick	[G]	1 Rofc	1950	.004	S.F.	.52	.13	.65	.80
1705	1" thick	[G]		1820	.004		.45	.14	.59	.74
1715	1-1/2" thick	[G]		1625	.005		.60	.15	.75	.93
1725	2" thick	[G]		1430	.006		.92	.17	1.09	1.32
1735	2-1/2" thick	[G]		1365	.006		1	.18	1.18	1.42
1745	3" thick	[G]		1300	.006		1.13	.19	1.32	1.58
1755	3-1/2" thick	[G]		1300	.006		1.67	.19	1.86	2.18
1765	Tapered for drainage	[G]		1820	.004	B.F.	.53	.14	.67	.82
1900	Extruded polystyrene									
1910	15 psi compressive strength, 1" thick, R5	[G]	1 Rofc	1950	.004	S.F.	.52	.13	.65	.80
1920	2" thick, R10	[G]		1625	.005		.68	.15	.83	1.01
1930	3" thick, R15	[G]		1300	.006		1.35	.19	1.54	1.83
1932	4" thick, R20	[G]		1300	.006		1.82	.19	2.01	2.34
1934	Tapered for drainage	[G]		1950	.004	B.F.	.51	.13	.64	.79
1940	25 psi compressive strength, 1" thick, R5	[G]		1950	.004	S.F.	1.06	.13	1.19	1.40
1942	2" thick, R10	[G]		1625	.005		2.01	.15	2.16	2.49
1944	3" thick, R15	[G]		1300	.006		3.07	.19	3.26	3.72
1946	4" thick, R20	[G]		1300	.006		4.24	.19	4.43	5
1948	Tapered for drainage	[G]		1950	.004	B.F.	.57	.13	.70	.86
1950	40 psi compressive strength, 1" thick, R5	[G]		1950	.004	S.F.	.87	.13	1	1.19
1952	2" thick, R10	[G]		1625	.005		1.65	.15	1.80	2.09
1954	3" thick, R15	[G]		1300	.006		2.39	.19	2.58	2.97
1956	4" thick, R20	[G]		1300	.006		3.13	.19	3.32	3.79
1958	Tapered for drainage	[G]		1820	.004	B.F.	.88	.14	1.02	1.21
1960	60 psi compressive strength, 1" thick, R5	[G]		1885	.004	S.F.	1.09	.13	1.22	1.43
1962	2" thick, R10	[G]		1560	.005		2.07	.16	2.23	2.56
1964	3" thick, R15	[G]		1270	.006		3.38	.20	3.58	4.07
1966	4" thick, R20	[G]		1235	.006		4.20	.20	4.40	4.98
1968	Tapered for drainage	[G]		1820	.004	B.F.	.99	.14	1.13	1.33
2010	Expanded polystyrene, 1#/C.F. density, 3/4" thick, R2.89	[G]		1950	.004	S.F.	.22	.13	.35	.47
2020	1" thick, R3.85	[G]		1950	.004		.29	.13	.42	.55
2100	2" thick, R7.69	[G]		1625	.005		.58	.15	.73	.91
2110	3" thick, R11.49	[G]		1625	.005		.87	.15	1.02	1.23
2120	4" thick, R15.38	[G]		1625	.005		1.16	.15	1.31	1.55
2130	5" thick, R19.23	[G]		1495	.005		1.45	.17	1.62	1.90
2140	6" thick, R23.26	[G]		1495	.005		1.74	.17	1.91	2.21
2150	Tapered for drainage	[G]		1950	.004	B.F.	.51	.13	.64	.79
2400	Composites with 2" EPS									
2410	1" fiberboard	[G]	1 Rofc	1325	.006	S.F.	1.48	.19	1.67	1.96
2420	7/16" oriented strand board	[G]		1040	.008		1.25	.24	1.49	1.81
2430	1/2" plywood	[G]		1040	.008		1.47	.24	1.71	2.05
2440	1" perlite	[G]		1040	.008		1.16	.24	1.40	1.71
2450	Composites with 1-1/2" polyisocyanurate									
2460	1" fiberboard	[G]	1 Rofc	1040	.008	S.F.	1.21	.24	1.45	1.76
2470	1" perlite	[G]		1105	.007		.98	.22	1.20	1.48
2480	7/16" oriented strand board	[G]		1040	.008		.91	.24	1.15	1.43
3000	Fastening alternatives, coated screws, 2" long			3744	.002	Ea.	.06	.07	.13	.19
3010	4" long			3120	.003		.11	.08	.19	.26
3020	6" long			2675	.003		.20	.09	.29	.39
3030	8" long			2340	.003		.28	.11	.39	.50
3040	10" long			1872	.004		.52	.13	.65	.81
3050	Pre-drill and drive wedge spike, 2-1/2"			1248	.006		.40	.20	.60	.80
3060	3-1/2"			1101	.007		.59	.23	.82	1.05

# 07 22 Roof and Deck Insulation

## 07 22 16 – Roof Board Insulation

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
							Material	Labor	Equipment		
3070	4-1/2"			1 Rofc	.936	.009	Ea.	.65	.26	.91	1.19
3075	3" galvanized deck plates				7488	.001		.10	.03	.13	.17
3080	Spot mop asphalt			G-1	.295	.190	Sq.	5.30	5.50	1.92	12.72
3090	Full mop asphalt			"	.192	.292		10.65	8.45	2.95	22.05
3110	Low-rise polyurethane adhesive, 12" OC beads			1 Rofc	.45	.178		41.50	5.50		47
3120	6" OC beads				.32	.250		83	7.75		90.75
3130	4" OC beads				.30	.267		125	8.25		133.25
											153

# 07 24 Exterior Insulation and Finish Systems

## 07 24 13 – Polymer-Based Exterior Insulation and Finish System

### 07 24 13.10 Exterior Insulation and Finish Systems

0010 EXTERIOR INSULATION AND FINISH SYSTEMS											
0095	Field applied, 1" EPS insulation			G	J-1	.390	.103	S.F.	1.80	3.41	.30
0100	With 1/2" cement board sheathing			G		.268	.149		2.58	4.96	.44
0105	2" EPS insulation			G		.390	.103		2.09	3.41	.30
0110	With 1/2" cement board sheathing			G		.268	.149		2.87	4.96	.44
0115	3" EPS insulation			G		.390	.103		2.38	3.41	.30
0120	With 1/2" cement board sheathing			G		.268	.149		3.16	4.96	.44
0125	4" EPS insulation			G		.390	.103		2.67	3.41	.30
0130	With 1/2" cement board sheathing			G		.268	.149		4.22	4.96	.44
0140	Premium finish add				J-1	1265	.032		.45	1.05	.09
0145	Drainage and ventilation cavity, add			2 Plas		1450	.011		.82	.39	
0150	Heavy duty reinforcement add				J-1	914	.044		.59	1.45	.13
0160	2.5#/S.Y. metal lath substrate add			1 Lath		.75	.107	S.Y.	3.80	3.83	
0170	3.4#/S.Y. metal lath substrate add			"		.75	.107	"	4.72	3.83	
0180	Color or texture change				J-1	1265	.032	S.F.	.74	1.05	.09
0190	With substrate leveling base coat			1 Plas		.530	.015		.84	.53	
0210	With substrate sealing base coat			1 Pord		1224	.007		.14	.20	
0370	V groove shape in panel face							L.F.	.70		.70
0380	U groove shape in panel face							"	.86		.86
											.95

# 07 25 Weather Barriers

## 07 25 10 – Weather Barriers or Wraps

### 07 25 10.10 Weather Barriers

0010 WEATHER BARRIERS											
0400	Asphalt felt paper, #15			1 Carp	.37	.216	Sq.	5.25	7.80		13.05
0401	Per square foot			"	3700	.002	S.F.	.05	.08		.13
0450	Housewrap, exterior, spun bonded polypropylene										
0470	Small roll			1 Corp	3800	.002	S.F.	.15	.08		.23
0480	Large roll			"	4000	.002	"	.16	.07		.23
2100	Asphalt felt roof deck vapor barrier, class 1 metal decks			1 Rofc	.37	.216	Sq.	21	6.70		27.70
2200	For all other decks			"	.37	.216		15.90	6.70		22.60
2800	Asphalt felt, 50% recycled content, 15 lb., 4 sq./roll			1 Carp	.36	.222		6.10	8.05		14.15
2810	30 lb., 2 sq./roll			"	.36	.222		10.45	8.05		18.50
3000	Building wrap, spun bonded polyethylene			2 Corp	8000	.002	S.F.	.14	.07		.21
											.27

# 07 26 Vapor Retarders

## 07 26 13 – Above-Grade Vapor Retarders

07 26 13.10 Building Paper			Daily Output	Labor Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0011	BUILDING PAPER, aluminum and kraft laminated, foil 1 side	1 Carp	3700	.002	S.F.	.16	.08	.24	.31	
0101	Foil 2 sides	G		3700	.002	.16	.08	.24	.30	
0601	Polyethylene vapor barrier, standard, 2 mil	G		3700	.002	.02	.08	.10	.15	
0701	4 mil	G		3700	.002	.03	.08	.11	.16	
0901	6 mil	G		3700	.002	.04	.08	.12	.17	
1201	10 mil	G		3700	.002	.10	.08	.18	.24	
1801	Reinf. waterproof, 2 mil polyethylene backing, 1 side			3700	.002	.11	.08	.19	.25	
1901	2 sides		↓	3700	.002	↓ .14	.08	.22	.29	

# 07 27 Air Barriers

## 07 27 13 – Modified Bituminous Sheet Air Barriers

### 07 27 13.10 Modified Bituminous Sheet Air Barrier

0010 MODIFIED BITUMINOUS SHEET AIR BARRIER											
0100	SBS modified sheet laminated to polyethylene sheet, 40 mils, 4" wide	1 Carp	1200	.007	L.F.	.32	.24	.56	.76		
0120	6" wide		1100	.007		.44	.26	.70	.92		
0140	9" wide		1000	.008		.62	.29	.91	1.16		
0160	12" wide	↓	900	.009	↓	.79	.32	1.11	1.40		
0180	18" wide	2 Carp	1700	.009	S.F.	.74	.34	1.08	1.37		
0200	36" wide		"	1800	.009		.72	.32	1.04	1.32	
0220	Adhesive for above	1 Carp	1400	.006	↓	.32	.21	.53	.69		

## 07 27 26 – Fluid-Applied Membrane Air Barriers

### 07 27 26.10 Fluid Applied Membrane Air Barrier

0010 FLUID APPLIED MEMBRANE AIR BARRIER										
0100	Spray applied vapor barrier, 25 S.F./gallon	1 Pord	1375	.006	S.F.	.02	.18	.20	.31	

# 07 31 Shingles and Shakes

## 07 31 13 – Asphalt Shingles

### 07 31 13.10 Asphalt Roof Shingles

0010 ASPHALT ROOF SHINGLES										
0100	Standard strip shingles	1 Rofc	5.50	1.455	Sq.	75	45	120	163	
0150	Inorganic, class A, 25 year		7	1.143		75	35.50	110.50	146	
0155	Pneumatic nailed		5	1.600		111	49.50	160.50	211	
0200	30 year	↓	6.25	1.280	↓	111	39.50	150.50	193	
0205	Pneumatic nailed									
0250	Standard laminated multi-layered shingles	1 Rofc	4.50	1.778	Sq.	103	55	158	212	
0300	Class A, 240-260 lb./square		5.63	1.422		103	44	147	192	
0305	Pneumatic nailed		4	2		103	62	165	224	
0350	Class A, 250-270 lb./square	↓	5	1.600	↓	103	49.50	152.50	202	
0355	Pneumatic nailed									
0400	Premium, laminated multi-layered shingles	1 Rofc	3.50	2.286	Sq.	148	70.50	218.50	290	
0450	Class A, 260-300 lb./square		4.37	1.831		148	56.50	204.50	264	
0455	Pneumatic nailed		3	2.667		310	82.50	392.50	490	
0500	Class A, 300-385 lb./square	↓	3.75	2.133	↓	310	66	376	460	
0505	Pneumatic nailed									
0800	#15 felt underlayment		64	.125		5.25	3.87	9.12	12.75	
0825	#30 felt underlayment		58	.138		10.20	4.27	14.47	18.85	
0850	Self adhering polyethylene and rubberized asphalt underlayment		22	.364	↓	76	11.25	87.25	104	
0900	Ridge shingles		330	.024	L.F.	2.31	.75	3.06	3.88	
0905	Pneumatic nailed	↓	412.50	019	"	2.31	.60	2.91	3.61	

# 07 31 Shingles and Shakes

## 07 31 13 – Asphalt Shingles

07 31 13.10 Asphalt Roof Shingles				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment	Total	
1000	For steep roofs (7 to 12 pitch or greater), add						50%			

## 07 31 26 – Slate Shingles

### 07 31 26.10 Slate Roof Shingles

0010 SLATE ROOF SHINGLES				R073126-20	G	1 Rots	1.75	4.571	Sq.	560	142		702	870
0100 Buckingham Virginia black, 3/16" - 1/4" thick					G					560	142		702	870
0200 1/4" thick					G					560	142		702	870
0900 Pennsylvania black, Bangor, #1 clear					G					500	142		642	805
1200 Vermont, unfading, green, mottled green					G					505	142		647	810
1300 Semi-weathering green & gray					G					405	142		547	700
1400 Purple					G					440	142		582	740
1500 Black or gray					G					485	142		627	790
2700 Ridge shingles, slate						200	.040	L.F.		10.20	1.24		11.44	13.40

## 07 31 29 – Wood Shingles and Shakes

### 07 31 29.13 Wood Shingles

0010 WOOD SHINGLES				1 Corp	2.50	3.200	Sq.	320	116		436	540	
0012 16" No. 1 red cedar shingles, 5" exposure, on roof					3.25	2.462		320	89		409	495	
0015 Pneumatic nailed													
0200 7-1/2" exposure, on walls					2.05	3.902		213	141		354	465	
0205 Pneumatic nailed													
0300 18" No. 1 red cedar perfections, 5-1/2" exposure, on roof					2.75	2.909		286	105		391	490	
0305 Pneumatic nailed													
0500 7-1/2" exposure, on walls					2.25	3.556		210	129		339	440	
0505 Pneumatic nailed													
0600 Resquared and rebutted, 5-1/2" exposure, on roof					3	2.667		280	96.50		376.50	470	
0605 Pneumatic nailed													
0900 7-1/2" exposure, on walls					2.45	3.265		206	118		324	420	
0905 Pneumatic nailed													
1000 Add to above for fire retardant shingles					3.18	2.516		206	91		297	375	
1060 Preformed ridge shingles								60			60	66	
2000 White cedar shingles, 16" long, extras, 5" exposure, on roof				1 Corp	400	.020	L.F.	4.06	.72		4.78	5.65	
2005 Pneumatic nailed													
2050 5" exposure on walls					2	4		194	121		315	410	
2055 Pneumatic nailed													
2100 7-1/2" exposure, on walls					2.60	3.077		194	111		305	395	
2105 Pneumatic nailed													
2150 "B" grade, 5" exposure on walls					2.60	3.077		138	111		249	335	
2155 Pneumatic nailed													
2300 For #15 organic felt underlayment on roof, 1 layer, add					2	4		168	145		313	420	
2400 2 layers, add													
2600 For steep roofs (7/12 pitch or greater), add to above					64	.125		5.25	4.52		9.77	13.25	
2700 Panelized systems, No.1 cedar shingles on 5/16" CDX plywood													
2800 On walls, 8' strips, 7" or 14" exposure				2 Corp	700	.023	S.F.	6.85	.83		7.68	8.90	
3000 Ridge shakes or shingle, wood					1 Corp	280	.029	L.F.	4.99	1.03		6.02	7.20

### 07 31 29.16 Wood Shakes

0010 WOOD SHAKES				1 Corp	2.50	3.200	Sq.	340	116		456	565
1100 Hand-split red cedar shakes, 1/2" thick x 24" long, 10" exp. on roof					3.25	2.462		340	89		429	520
1105 Pneumatic nailed												
1110 3/4" thick x 24" long, 10" exp. on roof					2.25	3.556		340	129		469	585
1115 Pneumatic nailed												
1200 1/2" thick, 18" long, 8-1/2" exp. on roof					2.92	2.740		340	99		439	540
1205 Pneumatic nailed												

# 07 31 Shingles and Shakes

## 07 31 29 – Wood Shingles and Shakes

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
<b>07 31 29.16 Wood Shakes</b>	3/4" thick x 18" long, 8-1/2" exp. on roof	1 Carp	1.80	4.444	Sq.		294	161	455	590
1210	Pneumatic nailed		2.34	3.419			294	124	418	530
1215	10" exposure on walls		2	4			283	145	428	550
1255	10" exposure on walls, pneumatic nailed		2.60	3.077			283	111	394	495
1260	Add to above for fire retardant shakes, 24" long						60		60	66
1700	18" long						60		60	66
1800	Ridge shakes	1 Carp	350	.023	L.F.		5.75	.83	6.58	7.70

# 07 32 Roof Tiles

## 07 32 13 – Clay Roof Tiles

### 07 32 13.10 Clay Tiles

0010	<b>CLAY TILES</b> , including accessories									
0300	Flat shingle, interlocking, 15", 166 pcs./sq., fireflashed blend	3 Rots	6	4	Sq.		535	124	659	810
0500	Terra cotta red		6	4			545	124	669	820
0600	Roman pan and top, 18", 102 pcs./sq., fireflashed blend		5.50	4.364			495	135	630	785
0640	Terra cotta red	1 Rots	2.40	3.333			585	103	688	830
1100	Barrel mission tile, 18", 166 pcs./sq., fireflashed blend	3 Rots	5.50	4.364			460	135	595	745
1140	Terra cotta red		5.50	4.364			465	135	600	750
1700	Scalloped edge flat shingle, 14", 145 pcs./sq., fireflashed blend		6	4			1,125	124	1,249	1,450
1800	Terra cotta red		6	4			1,050	124	1,174	1,375
3010	#15 felt underlayment	1 Rofc	64	.125			5.25	3.87	9.12	12.75
3020	#30 felt underlayment		58	.138			10.20	4.27	14.47	18.85
3040	Polyethylene and rubberized asph. underlayment		22	.364			76	11.25	87.25	104

## 07 32 16 – Concrete Roof Tiles

### 07 32 16.10 Concrete Tiles

0010	<b>CONCRETE TILES</b>									
0020	Corrugated, 13" x 16-1/2", 90 per sq., 950 lb./sq.	1 Rots	1.35	5.926	Sq.		107	184	291	445
0050	Earthtone colors, nailed to wood deck		1.35	5.926			106	184	290	445
0150	Blues		1.35	5.926			117	184	301	460
0200	Greens		1.35	5.926			117	184	301	460
0250	Premium colors		1.35	5.926			117	184	301	460
0500	Shakes, 13" x 16-1/2", 90 per sq., 950 lb./sq.	1 Rots	1.50	5.333	Sq.		153	165	318	465
0600	All colors, nailed to wood deck		1.50	5.333			153	165	318	465
1500	Accessory pieces, ridge & hip, 10" x 16-1/2", 8 lb. each	"	120	.067	Ea.		3.72	2.07	5.79	7.80
1700	Rake, 6-1/2" x 16-3/4", 9 lb. each						3.72		3.72	4.09
1800	Mansard hip, 10" x 16-1/2", 9.2 lb. each						3.72		3.72	4.09
1900	Hip starter, 10" x 16-1/2", 10.5 lb. each						10.65		10.65	11.75
2000	3 or 4 way apex, 10" each side, 11.5 lb. each						12.20		12.20	13.40

# 07 33 Natural Roof Coverings

## 07 33 63 – Vegetated Roofing

07 33 63.10 Green Roof Systems		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P		
0010	GREEN ROOF SYSTEMS											
0020	Soil mixture for green roof 30% sand, 55% gravel, 15% soil											
0100	Hoist and spread soil mixture 4" depth up to 5 stories tall roof	G	B-13B	4000	.014	S.F.	.23	.43	.25	.91	1.23	
0150	6" depth	G		2667	.021		.35	.64	.37	1.36	1.84	
0200	8" depth	G		2000	.028		.47	.85	.49	1.81	2.46	
0250	10" depth	G		1600	.035		.59	1.06	.61	2.26	3.05	
0300	12" depth	G		1335	.042		.70	1.28	.73	2.71	3.67	
0310	Alt. man-made soil mix, hoist & spread, 4" deep up to 5 stories tall roof	G		4000	.014		1.92	.43	.25	2.60	3.08	
0350	Mobilization 55 ton crane to site	G	1 Eqhv	3.60	2.222	Ea.		85.50		85.50	140	
0355	Hoisting cost to 5 stories per day (Avg. 28 picks per day)	G	B-13B	1	.56	Day		1,700	980	2,680	3,875	
0360	Mobilization or demobilization, 100 ton crane to site driver & escort	G	A-3E	2.50	6.400	Ea.		231	70.50	301.50	460	
0365	Hoisting cost 6-10 stories per day (Avg. 21 picks per day)	G	B-13C	1	.56	Day		1,700	2,275	3,975	5,325	
0370	Hoist and spread soil mixture 4" depth 6-10 stories tall roof	G		4000	.014	S.F.	.23	.43	.57	1.23	1.59	
0375	6" depth	G		2667	.021		.35	.64	.86	1.85	2.38	
0380	8" depth	G		2000	.028		.47	.85	1.14	2.46	3.18	
0385	10" depth	G		1600	.035		.59	1.06	1.43	3.08	3.95	
0390	12" depth	G		1335	.042		.70	1.28	1.71	3.69	4.74	
0400	Green roof edging treated lumber 4" x 4", no hoisting included	G	2 Corp	400	.040	L.F.	1.41	1.45		2.86	3.93	
0410	4" x 6"	G		400	.040			2.24	1.45		3.69	4.84
0420	4" x 8"	G		360	.044			4.28	1.61		5.89	7.35
0430	4" x 6" double stacked	G		300	.053			4.48	1.93		6.41	8.10
0500	Green roof edging redwood lumber 4" x 4", no hoisting included	G		400	.040			6.60	1.45		8.05	9.70
0510	4" x 6"	G		400	.040			12.85	1.45		14.30	16.55
0520	4" x 8"	G		360	.044			24	1.61		25.61	29
0530	4" x 6" double stacked	G		300	.053			25.50	1.93		27.43	31.50
0550	Components, not including membrane or insulation:											
0560	Fluid applied rubber membrane, reinforced, 215 mil thick	G	G-5	350	.114	S.F.	.29	3.23	.55	4.07	6.75	
0570	Root barrier	G	2 Rofc	775	.021		.70	.64		1.34	1.91	
0580	Moisture retention barrier and reservoir	G	"	900	.018			2.66	.55		3.21	3.92
0600	Planting sedum, light soil, potted, 2-1/4" diameter, 2 per S.F.	G	1 Clab	420	.019			6.35	.53		6.88	7.85
0610	1 per S.F.	G	"	840	.010			3.18	.26		3.44	3.93
0630	Planting sedum mat per S.F. including shipping (4000 S.F. min)	G	4 Clab	4000	.008			7.65	.22		7.87	8.75
0640	Installation sedum mat system (no soil required) per S.F. (4000 S.F. min)	G	"	4000	.008			10.60	.22		10.82	12.05
0645	Note: pricing of sedum mats shipped in full truck loads (4000-5000 S.F.)											

# 07 41 Roof Panels

## 07 41 13 – Metal Roof Panels

07 41 13.10 Aluminum Roof Panels											
0010	ALUMINUM ROOF PANELS										
0020	Corrugated or ribbed, .0155" thick, natural		G-3	1200	.027	S.F.	1.02	.89		1.91	2.60
0300	Painted		"	1200	.027	"	1.50	.89		2.39	3.13

## 07 41 33 – Plastic Roof Panels

07 41 33.10 Fiberglass Panels											
0010	FIBERGLASS PANELS										
0012	Corrugated panels, roofing, 8 oz./S.F.		G-3	1000	.032	S.F.	2.55	1.07		3.62	4.58
0100	12 oz./S.F.			1000	.032		4.68	1.07		5.75	6.90
0300	Corrugated siding, 6 oz./S.F.			880	.036		2.02	1.22		3.24	4.23
0400	8 oz./S.F.			880	.036		2.55	1.22		3.77	4.82
0500	Fire retardant			880	.036		4.02	1.22		5.24	6.45
0600	12 oz. siding, textured			880	.036		3.78	1.22		5	6.15

# 07 41 Roof Panels

## 07 41 33 – Plastic Roof Panels

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total
				Crew			Material	Labor	Equipment	Incl O&P
<b>07 41 33.10 Fiberglass Panels</b>										
0700	Fire retardant			G-3	880	.036	S.F.	4.74	1.22	5.96
0900	Flat panels, 6 oz./S.F., clear or colors				880	.036		2.78	1.22	4
1100	Fire retardant, class A				880	.036		3.64	1.22	4.86
1300	8 oz./S.F., clear or colors				880	.036		2.41	1.22	3.63
										4.66

# 07 42 Wall Panels

## 07 42 13 – Metal Wall Panels

### 07 42 13.20 Aluminum Siding

<b>0011 ALUMINUM SIDING</b>										
6040	0.024" thick smooth white single 8" wide			2 Corp	515	.031	S.F.	3.10	1.12	4.22
6060	Double 4" pattern				515	.031		2.91	1.12	4.03
6080	Double 5" pattern				550	.029		3.12	1.05	4.17
6120	Embossed white, 8" wide				515	.031		2.73	1.12	3.85
6140	Double 4" pattern				515	.031		2.91	1.12	4.03
6160	Double 5" pattern				550	.029		2.93	1.05	3.98
6170	Vertical, embossed white, 12" wide				590	.027		2.94	.98	3.92
6320	0.019" thick, insulated, smooth white, 8" wide				515	.031		2.57	1.12	3.69
6340	Double 4" pattern				515	.031		2.55	1.12	3.67
6360	Double 5" pattern				550	.029		2.56	1.05	3.61
6400	Embossed white, 8" wide				515	.031		2.96	1.12	4.08
6420	Double 4" pattern				515	.031		2.98	1.12	4.10
6440	Double 5" pattern				550	.029		2.98	1.05	4.03
6500	Shake finish 10" wide white				550	.029		3.22	1.05	4.27
6600	Vertical pattern, 12" wide, white				590	.027		2.42	.98	3.40
6640	For colors add							.14		.14
6700	Accessories, white									.15
6720	Starter strip 2-1/8"			2 Corp	610	.026	L.F.	.49	.95	1.44
6740	Sill trim				450	.036		.67	1.29	1.96
6760	Inside corner				610	.026		1.74	.95	2.69
6780	Outside corner post				610	.026		3.72	.95	4.67
6800	Door & window trim				440	.036		.65	1.31	1.96
6820	For colors add							.14		.15
6900	Soffit & fascia 1' overhang solid			2 Corp	110	.145		4.57	5.25	9.82
6920	Vented				110	.145		4.60	5.25	9.85
6940	2' overhang solid				100	.160		6.65	5.80	12.45
6960	Vented				100	.160		6.65	5.80	12.45
										16.80

### 07 42 13.30 Steel Siding

<b>0010 STEEL SIDING</b>										
0020	Beveled, vinyl coated, 8" wide			1 Corp	265	.030	S.F.	1.87	1.09	2.96
0050	10" wide			"	275	.029		1.95	1.05	3
0081	Galv., corrugated or ribbed, on steel frame, 30 ga.			G-3	775	.041		1.20	1.38	2.58
0101	28 ga.				775	.041		1.30	1.38	2.68
0301	26 ga.				775	.041		1.69	1.38	3.07
0401	24 ga.				775	.041		2.22	1.38	3.60
0601	22 ga.				775	.041		2.31	1.38	3.69
0701	Colored, corrugated/ribbed, on steel frame, 10 yr. finish, 28 ga.				775	.041		2.33	1.38	3.71
0901	26 ga.				775	.041		2.01	1.38	3.39
1001	24 ga.				775	.041		2.24	1.38	3.62
										4.75

# 07 46 Siding

## 07 46 23 – Wood Siding

07 46 23.10 Wood Board Siding		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment	Total	
0010	WOOD BOARD SIDING								
2000	Board & batten, cedar, "B" grade, 1" x 10"	1 Carp	375	.021	S.F.	6.85	.77	7.62	8.80
2200	Redwood, clear, vertical grain, 1" x 10"		375	.021		5.45	.77	6.22	7.25
2400	White pine, #2 & better, 1" x 10"		375	.021		4.16	.77	4.93	5.85
2410	White pine, #2 & better, 1" x 12"		420	.019		4.16	.69	4.85	5.70
3200	Wood, cedar bevel, A grade, 1/2" x 6"		295	.027		4.46	.98	5.44	6.50
3300	1/2" x 8"		330	.024		8.50	.88	9.38	10.80
3500	3/4" x 10", clear grade		375	.021		8.45	.77	9.22	10.55
3600	"B" grade		375	.021		4.16	.77	4.93	5.85
3800	Cedar, rough sawn, 1" x 4", A grade, natural		220	.036		7.90	1.31	9.21	10.85
3900	Stained		220	.036		8	1.31	9.31	10.95
4100	1" x 12", board & batten, #3 & Btr., natural		420	.019		4.77	.69	5.46	6.40
4200	Stained		420	.019		5.20	.69	5.89	6.85
4400	1" x 8" channel siding, #3 & Btr., natural		330	.024		5.15	.88	6.03	7.10
4500	Stained		330	.024		5.05	.88	5.93	7
4700	Redwood, clear, beveled, vertical grain, 1/2" x 4"		220	.036		5	1.31	6.31	7.65
4750	1/2" x 6"		295	.027		5.35	.98	6.33	7.45
4800	1/2" x 8"		330	.024		5.45	.88	6.33	7.40
5000	3/4" x 10"		375	.021		5.35	.77	6.12	7.10
5200	Channel siding, 1" x 10", B grade		375	.021		4.87	.77	5.64	6.60
5250	Redwood, T&G boards, B grade, 1" x 4"		220	.036		7.10	1.31	8.41	9.95
5270	1" x 8"		330	.024		8.35	.88	9.23	10.60
5400	White pine, rough sawn, 1" x 8", natural		330	.024		2.55	.88	3.43	4.25
5500	Stained		330	.024		2.41	.88	3.29	4.09
5600	T&G, 1" x 8"		330	.024		2.56	.88	3.44	4.26

## 07 46 29 – Plywood Siding

### 07 46 29.10 Plywood Siding Options

0010 PLYWOOD SIDING OPTIONS		2 Carp	750	.021	S.F.	1.35	.77	2.12	2.76
0900	Plywood, medium density overlaid, 3/8" thick		700	.023		1.58	.83	2.41	3.10
1000	1/2" thick		650	.025		2.29	.89	3.18	3.98
1100	3/4" thick								
1600	Texture 1-11, cedar, 5/8" thick, natural		675	.024		2.59	.86	3.45	4.26
1700	Factory stained		675	.024		2.93	.86	3.79	4.63
1900	Texture 1-11, fir, 5/8" thick, natural		675	.024		1.21	.86	2.07	2.74
2000	Factory stained		675	.024		2.05	.86	2.91	3.67
2050	Texture 1-11, S.Y.P., 5/8" thick, natural		675	.024		1.44	.86	2.30	2.99
2100	Factory stained		675	.024		1.54	.86	2.40	3.10
2200	Rough sawn cedar, 3/8" thick, natural		675	.024		1.28	.86	2.14	2.82
2300	Factory stained		675	.024		1.59	.86	2.45	3.16
2500	Rough sawn fir, 3/8" thick, natural		675	.024		.97	.86	1.83	2.48
2600	Factory stained		675	.024		1.10	.86	1.96	2.62
2800	Redwood, textured siding, 5/8" thick		675	.024		2.05	.86	2.91	3.67

## 07 46 33 – Plastic Siding

### 07 46 33.10 Vinyl Siding

0010 VINYL SIDING		2 Carp	495	.032	S.F.	1.09	1.17	2.26	3.12
3995	Clapboard profile, woodgrain texture, .048 thick, double 4		550	.029		1.09	1.05	2.14	2.93
4000	Double 5		495	.032		1.65	1.17	2.82	3.74
4005	Single 8		550	.029		1.98	1.05	3.03	3.91
4010	Single 10		495	.032		1.08	1.17	2.25	3.11
4015	.044 thick, double 4		550	.029		1.10	1.05	2.15	2.95
4020	Double 5		495	.032		1.08	1.17	2.25	3.11
4025	.042 thick, double 4								

# 07 46 Siding

## 07 46 33 – Plastic Siding

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
<b>07 46 33.10 Vinyl Siding</b>										
4030	Double 5			2 Carp	550	.029	S.F.	1.08	1.05	2.13
4035	Cross sawn texture, .040 thick, double 4				495	.032		.72	1.17	1.89
4040	Double 5				550	.029		.65	1.05	1.70
4045	Smooth texture, .042 thick, double 4				495	.032		.91	1.17	2.08
4050	Double 5				550	.029		.80	1.05	1.85
4055	Single 8				495	.032		.80	1.17	1.97
4060	Cedar texture, .044 thick, double 4				495	.032		1.18	1.17	2.35
4065	Double 6				600	.027		1.31	.96	2.27
4070	Dutch lap profile, woodgrain texture, .048 thick, double 5				550	.029		1.15	1.05	2.20
4075	.044 thick, double 4.5				525	.030		1.09	1.10	2.19
4080	.042 thick, double 4.5				525	.030		.92	1.10	2.02
4085	.040 thick, double 4.5				525	.030		.72	1.10	1.82
4100	Shake profile, 10" wide				400	.040		4.04	1.45	5.49
4105	Vertical pattern, .046 thick, double 5				550	.029		1.77	1.05	2.82
4110	.044 thick, triple 3				550	.029		1.77	1.05	2.82
4115	.040 thick, triple 4				550	.029		1.72	1.05	2.77
4120	.040 thick, triple 2.66				550	.029		1.88	1.05	2.93
4125	Insulation, fan folded extruded polystyrene, 1/4"				2000	.008		.29	.29	.58
4130	3/8"				2000	.008		.32	.29	.61
4135	Accessories, J channel, 5/8" pocket				700	.023	L.F.	.57	.83	1.40
4140	3/4" pocket				695	.023		.63	.83	1.46
4145	1-1/4" pocket				680	.024		1.15	.85	2
4150	Flexible, 3/4" pocket				600	.027		2.85	.96	3.81
4155	Under sill finish trim				500	.032		.59	1.16	1.75
4160	Vinyl starter strip				700	.023		.73	.83	1.56
4165	Aluminum starter strip				700	.023		.31	.83	1.14
4170	Window casing, 2-1/2" wide, 3/4" pocket				510	.031		1.78	1.13	2.91
4175	Outside corner, woodgrain finish, 4" face, 3/4" pocket				700	.023		2.35	.83	3.18
4180	5/8" pocket				700	.023		2.29	.83	3.12
4185	Smooth finish, 4" face, 3/4" pocket				700	.023		2.36	.83	3.19
4190	7/8" pocket				690	.023		1.91	.84	2.75
4195	1-1/4" pocket				700	.023		1.35	.83	2.18
4200	Soffit and fascia, 1' overhang, solid				120	.133		5.15	4.82	9.97
4205	Vented				120	.133		5.15	4.82	9.97
4207	18" overhang, solid				110	.145		6.05	5.25	11.30
4208	Vented				110	.145		6.05	5.25	11.30
4210	2' overhang, solid				100	.160		6.90	5.80	12.70
4215	Vented				100	.160		6.90	5.80	12.70
4217	3' overhang, solid				100	.160		8.70	5.80	14.50
4218	Vented				100	.160		8.70	5.80	14.50
4220	Colors for siding and soffits, add						S.F.	.15		.15
4225	Colors for accessories and trim, add						L.F.	.31		.31

## 07 46 33.20 Polypropylene Siding

### 0010 POLYPROPYLENE SIDING

4090	Shingle profile, random grooves, double 7	2 Carp	400	.040	S.F.	3.51	1.45		4.96	6.25
4092	Cornerpost for above	1 Carp	365	.022	L.F.	12.85	.79		13.64	15.45
4095	Triple 5	2 Carp	400	.040	S.F.	3.72	1.45		5.17	6.50
4097	Cornerpost for above	1 Carp	365	.022	L.F.	12.40	.79		13.19	14.95
5000	Staggered butt, double 7"	2 Carp	400	.040	S.F.	3.64	1.45		5.09	6.40
5002	Cornerpost for above	1 Carp	365	.022	L.F.	13.35	.79		14.14	16
5010	Half round, double 6-1/4"	2 Carp	360	.044	S.F.	4.27	1.61		5.88	7.35
5020	Shake profile, staggered butt, double 9"	"	510	.031	"	3.80	1.13		4.93	6.05

# 07 46 Siding

## 07 46 33 – Plastic Siding

### 07 46 33.20 Polypropylene Siding

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew			Labor	Equipment		
5022	Cornerpost for above	1 Carp	.365	.022	L.F.	10	.79	10.79
5030	Straight butt, double 7"	2 Carp	.400	.040	S.F.	4.27	1.45	5.72
5032	Cornerpost for above	1 Carp	.365	.022	L.F.	14.55	.79	15.34
6000	Accessories, J channel, 5/8" pocket	2 Carp	.700	.023		.57	.83	1.40
6010	3/4" pocket		.695	.023		.63	.83	1.46
6020	1-1/4" pocket		.680	.024		1.15	.85	2
6030	Aluminum starter strip		.700	.023		.31	.83	1.14

## 07 46 46 – Fiber Cement Siding

### 07 46 46.10 Fiber Cement Siding

#### 0010 FIBER CEMENT SIDING

0020	Lap siding, 5/16" thick, 6" wide, 4-3/4" exposure, smooth texture	2 Carp	.415	.039	S.F.	1.41	1.39	2.80	3.84
0025	Woodgrain texture		.415	.039		1.41	1.39	2.80	3.84
0030	7-1/2" wide, 6-1/4" exposure, smooth texture		.425	.038		2	1.36	3.36	4.44
0035	Woodgrain texture		.425	.038		2	1.36	3.36	4.44
0040	8" wide, 6-3/4" exposure, smooth texture		.425	.038		1.31	1.36	2.67	3.69
0045	Rough sawn texture		.425	.038		1.31	1.36	2.67	3.69
0050	9-1/2" wide, 8-1/4" exposure, smooth texture		.440	.036		1.19	1.31	2.50	3.47
0055	Woodgrain texture		.440	.036		1.19	1.31	2.50	3.47
0060	12" wide, 10-3/8" exposure, smooth texture		.455	.035		2.18	1.27	3.45	4.48
0065	Woodgrain texture		.455	.035		2.18	1.27	3.45	4.48
0070	Panel siding, 5/16" thick, smooth texture		.750	.021		1.22	.77	1.99	2.61
0075	Stucco texture		.750	.021		1.22	.77	1.99	2.61
0080	Grooved woodgrain texture		.750	.021		1.22	.77	1.99	2.61
0088	Shingle siding, 48" x 15-1/4" panels, 7" exposure		.700	.023		4.31	.83	5.14	6.10
0090	Wood starter strip		.400	.040	L.F.	.47	1.45	1.92	2.90
0200	Fiber cement siding, accessories, fascia, 5/4" x 3-1/2"		.275	.058		.87	2.10	2.97	4.42
0210	5/4" x 5-1/2"		.250	.064		2.02	2.31	4.33	6
0220	5/4" x 7-1/2"		.225	.071		2.80	2.57	5.37	7.30
0230	5/4" x 9-1/2"		.210	.076		3.36	2.75	6.11	8.25

## 07 46 73 – Soffit

### 07 46 73.10 Soffit Options

#### 0010 SOFFIT OPTIONS

0012	Aluminum, residential, .020" thick	1 Carp	.210	.038	S.F.	2.25	1.38	3.63	4.74
0100	Baked enamel on steel, 16 or 18 ga.		.105	.076		6.45	2.75	9.20	11.65
0300	Polyvinyl chloride, white, solid		.230	.035		2.24	1.26	3.50	4.53
0400	Perforated		.230	.035		2.24	1.26	3.50	4.53
0500	For colors, add					.15		.15	.17

# 07 51 Built-Up Bituminous Roofing

## 07 51 13 – Built-Up Asphalt Roofing

### 07 51 13.10 Built-Up Roofing Components

#### 0010 BUILT-UP ROOFING COMPONENTS

0012	Asphalt saturated felt, #30, 2 sq./roll	1 Rofc	.58	.138	Sq.	10.20	4.27	14.47	18.85
0200	#15, 4 sq./roll, plain or perforated, not mopped		.58	.138		5.25	4.27	9.52	13.45
0250	Perforated		.58	.138		5.25	4.27	9.52	13.45
0300	Roll roofing, smooth, #65		.15	.533		10.30	16.50	26.80	41
0500	#90		.12	.667		37.50	20.50	58	78
0520	Mineralized		.12	.667		36	20.50	56.50	76.50
0540	D.C. (double coverage), 19" selvage edge		.10	.800		48	25	73	97
0580	Adhesive (lap cement)				Gal.	8.50		8.50	9.35

# 07 51 Built-Up Bituminous Roofing

## 07 51 13 – Built-Up Asphalt Roofing

07 51 13.20 Built-Up Roofing Systems			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010	BUILT-UP ROOFING SYSTEMS											
0120	Asphalt flood coat with gravel/slag surfacing, not including insulation, flashing or wood nailers											
0140												
0200	Asphalt base sheet, 3 plies #15 asphalt felt, mopped	G-1	22	2.545	Sq.		108	74	26	208	280	
0350	On nailable decks		21	2.667			100	77.50	27	204.50	280	
0500	4 plies #15 asphalt felt, mopped		20	2.800			133	81.50	28.50	243	320	
0550	On nailable decks		19	2.947			118	85.50	30	233.50	315	
2000	Asphalt flood coat, smooth surface											
2200	Asphalt base sheet & 3 plies #15 asphalt felt, mopped	G-1	24	2.333	Sq.		102	67.50	23.50	193	260	
2400	On nailable decks		23	2.435			95	70.50	24.50	190	258	
2600	4 plies #15 asphalt felt, mopped		24	2.333			120	67.50	23.50	211	279	
2700	On nailable decks		23	2.435			113	70.50	24.50	208	278	
4500	Cool tar pitch with gravel/slag surfacing											
4600	4 plies #15 tarred felt, mopped	G-1	21	2.667	Sq.		204	77.50	27	308.50	395	
4800	3 plies glass fiber felt (type IV), mopped	"	19	2.947	"		168	85.50	30	283.50	370	

## 07 51 13.30 Cants

0010 CANTS												
0012	Lumber, treated, 4" x 4" cut diagonally	1 Rofc	325	.025	L.F.		1.89	.76		2.65	3.44	
0300	Mineral or fiber, trapezoidal, 1" x 4" x 48"		325	.025			.31	.76		1.07	1.70	
0400	1-1/2" x 5-5/8" x 48"		325	.025			.48	.76		1.24	1.89	

# 07 52 Modified Bituminous Membrane Roofing

## 07 52 13 – Atactic-Polypropylene-Modified Bituminous Membrane Roofing

### 07 52 13.10 APP Modified Bituminous Membrane

0010 APP MODIFIED BITUMINOUS MEMBRANE			R075213-30									
0020	Base sheet, #15 glass fiber felt, nailed to deck	1 Rofc	58	.138	Sq.		11.85	4.27		16.12	20.50	
0030	Spot mopped to deck	G-1	295	.190			15.55	5.50	1.92	22.97	29	
0040	Fully mopped to deck	"	192	.292			21	8.45	2.95	32.40	41.50	
0050	#15 organic felt, nailed to deck	1 Rofc	58	.138			6.90	4.27		11.17	15.25	
0060	Spot mopped to deck	G-1	295	.190			10.60	5.50	1.92	18.02	23.50	
0070	Fully mopped to deck	"	192	.292			15.90	8.45	2.95	27.30	36	
2100	APP mod., smooth surf. cap sheet, poly. reinf., torched, 160 mils	G-5	2100	.019	S.F.		.84	.54	.09	1.47	1.98	
2150	170 mils		2100	.019			.76	.54	.09	1.39	1.90	
2200	Granule surface cap sheet, poly. reinf., torched, 180 mils		2000	.020			.96	.57	.10	1.63	2.18	
2250	Smooth surface flashing, torched, 160 mils		1260	.032			.84	.90	.15	1.89	2.70	
2300	170 mils		1260	.032			.76	.90	.15	1.81	2.62	
2350	Granule surface flashing, torched, 180 mils		1260	.032			.96	.90	.15	2.01	2.84	
2400	Fibrated aluminum coating	1 Rofc	3800	.002			.09	.07		.16	.22	
2450	Seam heat welding	"	205	.039	L.F.		.09	1.21		1.30	2.26	

## 07 52 16 – Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing

### 07 52 16.10 SBS Modified Bituminous Membrane

0010 SBS MODIFIED BITUMINOUS MEMBRANE												
0080	Mod. bit. rfgng., SBS mod, gran surf. cap sheet, poly. reinf.	G-1	2000	.028	S.F.		1.36	.81	.28	2.45	3.26	
0650	120 to 149 mils thick		2000	.028			.80	.81	.28	2.89	3.74	
0750	150 to 160 mils		2100	.027			.83	.77	.27	1.87	2.60	
1600	Smooth surface cap sheet, mopped, 145 mils		2100	.027			.29	.77	.27	1.33	2.01	
1620	Lightweight base sheet, fiberglass reinforced, 35 to 47 mil		2100	.027			.93	.77	.27	1.97	2.71	
1625	Heavyweight base/ply sheet, reinforced, 87 to 120 mil thick		2100	.027			1.86	.62		2.48	3.16	
1650	Granulated walkpad, 180 to 220 mils	1 Rofc	400	.020			.83	1.29	.45	2.57	3.72	
1700	Smooth surface flashing, 145 mils	G-1	1260	.044								

# 07 52 Modified Bituminous Membrane Roofing

## 07 52 16 – Styrene-Butadiene-Styrene Modified Bituminous Membrane Roofing

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
				G-1	1260	.044	S.F.	Labor	Equipment			
1800	150 mils						.51	1.29	.45	2.25	3.37	
1900	Granular surface flashing, 150 mils						.69	1.29	.45	2.43	3.57	
2000	160 mils						.78	1.29	.45	2.52	3.67	
2010	Elastomeric asphalt primer			1 Rofc	2600	.003		.17	.10		.27	
2015	Roofing asphalt, 30 lb./square			G-1	19000	.003		.13	.09	.03	.25	
2020	Cold process adhesive, 20 to 30 mils thick			1 Rofc	750	.011		.26	.33		.59	
2025	Self adhering vapor retarder, 30 to 45 mils thick			G-5	2150	.019		1.07	.53	.09	1.69	
2050	Seam heat welding			1 Rofc	205	.039	L.F.	.09	1.21		1.30	
											2.26	

# 07 57 Coated Foamed Roofing

## 07 57 13 – Sprayed Polyurethane Foam Roofing

### 07 57 13.10 Sprayed Polyurethane Foam Roofing (S.P.F.)

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
				G-2A	3000	.008	S.F.	Labor	Equipment			
0100	Primer for metal substrate (when required)						.51	.22	.21	.94	1.17	
0200	Primer for non-metal substrate (when required)						.19	.22	.21	.62	.81	
0300	Closed cell spray, polyurethane foam, 3 lb./C.F. density, 1", R6.7						.64	.04	.04	.72	.84	
0400	2", R13.4			13125	.002		1.29	.05	.05	1.39	1.56	
0500	3", R18.6			11485	.002		1.93	.06	.06	2.05	2.29	
0550	4", R24.8			10080	.002		2.58	.07	.06	2.71	3.01	
0700	Spray-on silicone coating						1.28	.26	.25	1.79	2.15	

# 07 58 Roll Roofing

## 07 58 10 – Asphalt Roll Roofing

### 07 58 10.10 Roll Roofing

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
				G-1	27	2.074	Sq.	Labor	Equipment			
0100	Asphalt, mineral surface											
0200	1 ply #15 organic felt, 1 ply mineral surfaced											
0300	Selvage roofing, lap 19", nailed & mopped											
0400	3 plies glass fiber felt (type IV), 1 ply mineral surfaced											
0500	Selvage roofing, lapped 19", mopped											
0600	Coated glass fiber base sheet, 2 plies of glass fiber											
0700	Felt (type IV), 1 ply mineral surfaced selvage											
0800	Roofing, lapped 19", mopped			G-1	25	2.240	Sq.	130	65	22.50	217.50	
0900	On nailable decks			"	24	2.333	"	119	67.50	23.50	210	
1000	3 plies glass fiber felt (type III), 1 ply mineral surfaced											
1100	Selvage roofing, lapped 19", mopped			G-1	25	2.240	Sq.	121	65	22.50	208.50	

# 07 61 Sheet Metal Roofing

## 07 61 13 – Standing Seam Sheet Metal Roofing

### 07 61 13.10 Standing Seam Sheet Metal Roofing, Field Fab.

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
				G-Shee	1.30	6.154	Sq.	Labor	Equipment			
0400	Copper standing seam roofing, over 10 squares, 16 oz., 125 lb./sq.						1,025	242		1,267	1,525	
0600	18 oz., 140 lb./sq.						1,150	262		1,412	1,675	
1200	For abnormal conditions or small areas, add							25%	100%			
1300	For lead-coated copper, add							25%				

# 07 61 Sheet Metal Roofing

## 07 61 16 – Batten Seam Sheet Metal Roofing

07 61 16.10 Batten Seam Sheet Metal Roofing, Field Fab.				Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs Labor	Equipment Total	Total Incl O&P
<b>0010 BATTEN SEAM SHEET METAL ROOFING, FIELD FABRICATED</b>									
0012 Copper batten seam roofing, over 10 sq., 16 oz., 130 lb./sq.	1 Shee	1.10	7.273	Sq.		1,300	285		1,585
0100 Zinc/copper alloy batten seam roofing, .020" thick		1.20	6.667			1,550	262		1,812
0200 Copper roofing, batten seam, over 10 sq., 18 oz., 145 lb./sq.		1	8			1,450	315		1,765
0800 Zinc, copper alloy roofing, batten seam, .027" thick		1.15	6.957			1,900	273		2,173
0900 .032" thick		1.10	7.273			2,025	285		2,310
1000 .040" thick		1.05	7.619			2,675	299		2,974

## 07 61 19 – Flat Seam Sheet Metal Roofing

### 07 61 19.10 Flat Seam Sheet Metal Roofing, Field Fabricated

0010 FLAT SEAM SHEET METAL ROOFING, FIELD FABRICATED				Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs Labor	Equipment Total	Total Incl O&P
0900 Copper flat seam roofing, over 10 squares, 16 oz., 115 lb./sq.	1 Shee	1.20	6.667	Sq.		945	262		1,207
0950 18 oz., 130 lb./sq.		1.15	6.957			1,050	273		1,323
1000 20 oz., 145 lb./sq.		1.10	7.273			1,225	285		1,510
1008 Zinc flat seam roofing, .020" thick		1.20	6.667			1,325	262		1,587
1010 .027" thick		1.15	6.957			1,625	273		1,898
1020 .032" thick		1.12	7.143			1,725	280		2,005
1030 .040" thick		1.05	7.619			2,300	299		2,599
1100 Lead flat seam roofing, 5 lb./S.F.		1.30	6.154			1,450	242		1,692

# 07 62 Sheet Metal Flashing and Trim

## 07 62 10 – Sheet Metal Trim

### 07 62 10.10 Sheet Metal Cladding

0010 SHEET METAL CLADDING				Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs Labor	Equipment Total	Total Incl O&P
0100 Aluminum, up to 6 bends, .032" thick, window casing	1 Corp	180	.044	S.F.		1.95	1.61		3.56
0200 Window sill		72	.111	L.F.		1.95	4.02		5.97
0300 Door casing		180	.044	S.F.		1.95	1.61		3.56
0400 Fascia		250	.032			1.95	1.16		3.11
0500 Rake trim		225	.036			1.95	1.29		3.24
0700 .024" thick, window casing		180	.044			1.47	1.61		3.08
0800 Window sill		72	.111	L.F.		1.47	4.02		5.49
0900 Door casing		180	.044	S.F.		1.47	1.61		3.08
1000 Fascia		250	.032			1.47	1.16		2.63
1100 Rake trim		225	.036			1.47	1.29		2.76
1200 Vinyl coated aluminum, up to 6 bends, window casing		180	.044			1.94	1.61		3.55
1300 Window sill		72	.111	L.F.		1.94	4.02		5.96
1400 Door casing		180	.044	S.F.		1.94	1.61		3.55
1500 Fascia		250	.032			1.94	1.16		3.10
1600 Rake trim		225	.036			1.94	1.29		3.23

# 07 65 Flexible Flashing

## 07 65 10 – Sheet Metal Flashing

07 65 10.10 Sheet Metal Flashing and Counter Flashing		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
						Labor	Equipment		
0010	SHEET METAL FLASHING AND COUNTER FLASHING								
0011	Including up to 4 bends								
0020	Aluminum, mill finish, .013" thick	1 Rofc	145	.055	S.F.	1.01	1.71	2.72	4.17
0030	.016" thick		145	.055		1.15	1.71	2.86	4.33
0060	.019" thick		145	.055		1.50	1.71	3.21	4.71
0100	.032" thick		145	.055		1.38	1.71	3.09	4.58
0200	.040" thick		145	.055		2.33	1.71	4.04	5.60
0300	.050" thick		145	.055		3.22	1.71	4.93	6.60
0325	Mill finish 5" x 7" step flashing, .016" thick		1920	.004	Ea.	.15	.13	.28	.40
0350	Mill finish 12" x 12" step flashing, .016" thick		1600	.005	"	.60	.15	.75	.94
0400	Painted finish, add				S.F.	.34		.34	.37
1600	Copper, 16 oz. sheets, under 1000 lb.	1 Rofc	115	.070		8.15	2.15	10.30	12.85
1900	20 oz. sheets, under 1000 lb.		110	.073		10.45	2.25	12.70	15.55
2200	24 oz. sheets, under 1000 lb.		105	.076		15.30	2.36	17.66	21
2500	32 oz. sheets, under 1000 lb.		100	.080		21	2.48	23.48	27.50
2700	W shape for valleys, 16 oz., 24" wide		100	.080	L.F.	16.65	2.48	19.13	22.50
5800	Lead, 2.5 lb./S.F., up to 12" wide		135	.059	S.F.	6.10	1.83	7.93	10
5900	Over 12" wide		135	.059		4.05	1.83	5.88	7.75
8900	Stainless steel sheets, 32 ga.		155	.052		3.51	1.60	5.11	6.70
9000	28 ga.		155	.052		5	1.60	6.60	8.35
9100	26 ga.		155	.052		5.10	1.60	6.70	8.45
9200	24 ga.		155	.052		5.85	1.60	7.45	9.25
9290	For mechanically keyed flashing, add					40%			
9320	Steel sheets, galvanized, 20 ga.	1 Rofc	130	.062	S.F.	1.22	1.90	3.12	4.75
9322	22 ga.		135	.059		1.27	1.83	3.10	4.68
9324	24 ga.		140	.057		.97	1.77	2.74	4.24
9326	26 ga.		148	.054		.85	1.67	2.52	3.93
9328	28 ga.		155	.052		.73	1.60	2.33	3.67
9340	30 ga.		160	.050		.62	1.55	2.17	3.45
9400	Terne coated stainless steel, .015" thick, 28 ga.		155	.052		8.20	1.60	9.80	11.85
9500	.018" thick, 26 ga.		155	.052		9.15	1.60	10.75	12.90
9600	Zinc and copper alloy (brass), .020" thick		155	.052		10.10	1.60	11.70	13.95
9700	.027" thick		155	.052		12.25	1.60	13.85	16.35
9800	.032" thick		155	.052		15.45	1.60	17.05	19.85
9900	.040" thick		155	.052		20.50	1.60	22.10	25.50

## 07 65 13 – Laminated Sheet Flashing

### 07 65 13.10 Laminated Sheet Flashing

0010	LAMINATED SHEET FLASHING, Including up to 4 bends								
8550	Shower pan, 3 ply copper and fabric, 3 oz.	1 Rofc	155	.052	S.F.	4.12	1.60	5.72	7.40
8600	7 oz.	"	155	.052	"	5.45	1.60	7.05	8.80

## 07 65 19 – Plastic Sheet Flashing

### 07 65 19.10 Plastic Sheet Flashing and Counter Flashing

07 65 19.10 Plastic Sheet Flashing and Counter Flashing		1 Rofc	285	.028	S.F.	.27	.87	1.14	1.86
7300	Polyvinyl chloride, black, 10 mil								
7400	20 mil		285	.028		.26	.87	1.13	1.85
7600	30 mil		285	.028		.33	.87	1.20	1.92
7700	60 mil		285	.028		.88	.87	1.75	2.53
8060	PVC tape, 5" x 45 mils, for joint covers, 100 L.F./roll				Ea.	183		183	201

# 07 65 Flexible Flashing

## 07 65 23 – Rubber Sheet Flashing

07 65 23.10 Rubber Sheet Flashing and Counter Flashing				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010 RUBBER SHEET FLASHING AND COUNTER FLASHING											
4810 EPDM 90 mils, 1" diameter pipe flashing	1 Rofc	32	.250	Ea.	21	7.75			28.75	37	
4820 2" diameter		30	.267		21	8.25			29.25	38	
4830 3" diameter		28	.286		24	8.85			32.85	42.50	
4840 4" diameter		24	.333		29.50	10.30			39.80	51	
4850 6" diameter		22	.364		29.50	11.25			40.75	52	
8100 Rubber, butyl, 1/32" thick		285	.028	S.F.	2.56	.87			3.43	4.38	
8200 1/16" thick		285	.028		3.83	.87			4.70	5.75	
8300 Neoprene, cured, 1/16" thick		285	.028		2.77	.87			3.64	4.61	
8400 1/8" thick		285	.028		6.15	.87			7.02	8.35	

## 07 65 26 – Self-Adhering Sheet Flashing

### 07 65 26.10 Self-Adhering Sheet or Roll Flashing

0010 SELF-ADHERING SHEET OR ROLL FLASHING				1 Rofc	960	.008	L.F.	.20	.26	.46	.68
0020 Self-adhered flashing, 25 mil cross laminated HDPE, 4" wide					896	.009		.31	.28	.59	.83
0040 6" wide					832	.010		.46	.30	.76	1.03
0060 9" wide					768	.010		.61	.32	.93	1.25
0080 12" wide											

# 07 71 Roof Specialties

## 07 71 19 – Manufactured Gravel Stops and Fasciae

### 07 71 19.10 Gravel Stop

0010 GRAVEL STOP				1 Shee	145	.055	L.F.	6.95	2.17	9.12	11.25
0020 Aluminum, .050" thick, 4" face height, mill finish					145	.055		8.25	2.17	10.42	12.65
0080 Duranodic finish					145	.055		7.60	2.17	9.77	11.95
0100 Painted					145	.055		28.50	2.17	30.67	35
1200 Copper, 16 oz., 3" face height					135	.059		37	2.33	39.33	44.50
1300 6" face height					145	.055		6.60	2.17	8.77	10.90
1350 Galv steel, 24 ga., 4" leg, plain, with continuous cleat, 4" face					145	.055		6.95	2.17	9.12	11.25
1360 6" face height					135	.059		5.85	2.33	8.18	10.25
1500 Polyvinyl chloride, 6" face height					135	.059		17	2.33	19.33	22.50
1800 Stainless steel, 24 ga., 6" face height											

### 07 71 19.30 Fascia

0010 FASCIA				1 Shee	145	.055	S.F.	7.20	2.17	9.37	11.55	
0100 Aluminum, reverse board and batten, .032" thick, colored, no furring incl.					1 Carp	200	.040	L.F.	2.15	1.45	3.60	4.75
0200 Residential type, aluminum					"	200	.040	"	2.43	1.45	3.88	5.05
0220 Vinyl					1 Shee	145	.055	S.F.	5.65	2.17	7.82	9.80
0300 Steel, galv and enameled, stock, no furring, long panels					"	115	.070	"	5.35	2.73	8.08	10.45
0600 Short panels												

## 07 71 23 – Manufactured Gutters and Downspouts

### 07 71 23.10 Downspouts

0010 DOWNSPOUTS				1 Shee	190	.042	L.F.	.95	1.65	2.60	3.79
0020 Aluminum, embossed, .020" thick, 2" x 3"					190	.042		1.37	1.65	3.02	4.25
0100 Enamelled					180	.044		2.17	1.74	3.97	5.30
0300 .024" thick, 2" x 3"					140	.057		2.29	2.24	4.53	6.25
0400 3" x 4"					190	.042		2.13	1.65	3.78	5.10
0600 Round, corrugated aluminum, 3" diameter, .020" thick					140	.057		3.21	2.24	5.45	7.25
0700 4" diameter, .025" thick					155	.052	Ea.	2.05	2.03	4.08	5.60
0900 Wire strainer, round, 2" diameter											
1000 4" diameter											

# 07 71 Roof Specialties

## 07 71 23 - Manufactured Gutters and Downspouts

### 07 71 23.10 Downspouts

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
						Labor	Equipment		
1200	Rectangular, perforated, 2" x 3"	1 Shee	145	.055	Ea.	2.36	2.17	4.53	6.20
1300	3" x 4"		145	.055	▼	3.42	2.17	5.59	7.35
1500	Copper, round, 16 oz., stock, 2" diameter		190	.042	L.F.	8	1.65	9.65	11.55
1600	3" diameter		190	.042		9	1.65	10.65	12.65
1800	4" diameter		145	.055		10.65	2.17	12.82	15.35
1900	5" diameter		130	.062		14.85	2.42	17.27	20.50
2100	Rectangular, corrugated copper, stock, 2" x 3"		190	.042		9.20	1.65	10.85	12.90
2200	3" x 4"		145	.055		9.40	2.17	11.57	13.90
2400	Rectangular, plain copper, stock, 2" x 3"		190	.042		13.25	1.65	14.90	17.35
2500	3" x 4"		145	.055	▼	13.85	2.17	16.02	18.80
2700	Wire strainers, rectangular, 2" x 3"		145	.055	Ea.	17.15	2.17	19.32	22.50
2800	3" x 4"		145	.055		20	2.17	22.17	25.50
3000	Round, 2" diameter		145	.055		7.65	2.17	9.82	12.05
3100	3" diameter		145	.055		10.40	2.17	12.57	15.05
3300	4" diameter		145	.055		12	2.17	14.17	16.80
3400	5" diameter		115	.070	▼	23	2.73	25.73	29.50
3600	Lead-coated copper, round, stock, 2" diameter		190	.042	L.F.	25.50	1.65	27.15	30.50
3700	3" diameter		190	.042		24.50	1.65	26.15	29.50
3900	4" diameter		145	.055		27.50	2.17	29.67	34
4000	5" diameter, corrugated		130	.062		26	2.42	28.42	32.50
4200	6" diameter, corrugated		105	.076		32	2.99	34.99	40
4300	Rectangular, corrugated, stock, 2" x 3"		190	.042		15.25	1.65	16.90	19.50
4500	Plain, stock, 2" x 3"		190	.042		27.50	1.65	29.15	33
4600	3" x 4"		145	.055		40.50	2.17	42.67	48
4800	Steel, galvanized, round, corrugated, 2" or 3" diameter, 28 ga.		190	.042		2.30	1.65	3.95	5.25
4900	4" diameter, 28 ga.		145	.055		2.19	2.17	4.36	6
5700	Rectangular, corrugated, 28 ga., 2" x 3"		190	.042		2.38	1.65	4.03	5.35
5800	3" x 4"		145	.055		1.96	2.17	4.13	5.75
6000	Rectangular, plain, 28 ga., galvanized, 2" x 3"		190	.042		3.98	1.65	5.63	7.10
6100	3" x 4"		145	.055		4.83	2.17	7	8.90
6300	Epoxy painted, 24 ga., corrugated, 2" x 3"		190	.042		2.53	1.65	4.18	5.50
6400	3" x 4"		145	.055	▼	2.99	2.17	5.16	6.90
6600	Wire strainers, rectangular, 2" x 3"		145	.055	Ea.	20.50	2.17	22.67	26
6700	3" x 4"		145	.055		19.30	2.17	21.47	24.50
6900	Round strainers, 2" or 3" diameter		145	.055		4.50	2.17	6.67	8.55
7000	4" diameter		145	.055	▼	6.55	2.17	8.72	10.80
8200	Vinyl, rectangular, 2" x 3"		210	.038	L.F.	2.17	1.50	3.67	4.87
8300	Round, 2-1/2"		220	.036	"	1.41	1.43	2.84	3.92

### 07 71 23.20 Downspout Elbows

#### 0010 DOWNSPOUT ELBOWS

0020	Aluminum, embossed, 2" x 3", .020" thick	1 Shee	100	.080	Ea.	1	3.14	4.14	6.30
0100	Enameling		100	.080		2.45	3.14	5.59	7.90
0200	Embossed, 3" x 4", .025" thick		100	.080		2.96	3.14	6.10	8.45
0300	Enameling		100	.080		3.81	3.14	6.95	9.40
0400	Embossed, corrugated, 3" diameter, .020" thick		100	.080		3.15	3.14	6.29	8.65
0500	4" diameter, .025" thick		100	.080		7	3.14	10.14	12.90
0600	Copper, 16 oz., 2" diameter		100	.080		10.90	3.14	14.04	17.20
0700	3" diameter		100	.080		10.30	3.14	13.44	16.55
0800	4" diameter		100	.080		12.95	3.14	16.09	19.40
1000	Rectangular, 2" x 3" corrugated		100	.080		10.20	3.14	13.34	16.45
1100	3" x 4" corrugated		100	.080		15.15	3.14	18.29	22
1300	Vinyl, 2-1/2" diameter, 45 or 75 degree bend		100	.080	▼	4.04	3.14	7.18	9.65

# 07 71 Roof Specialties

## 07 71 23 – Manufactured Gutters and Downspouts

07 71 23.20 Downspout Elbows		Daily Crew Output	Labor-Hours	Unit	2020 Bare Costs			Total	Incl O&P	
		1 Shee	75	.107	Ea.	Material	Labor	Equipment	Total	
1400	Tee Y junction					13.10	4.19		17.29	21.50
<b>07 71 23.30 Gutters</b>										
0010	<b>GUTTERS</b>									
0012	Aluminum, stock units, 5" K type, .027" thick, plain	1 Shee	125	.064	L.F.	2.85	2.51		5.36	7.30
0100	Enameling		125	.064		2.94	2.51		5.45	7.40
0300	5" K type, .032" thick, plain		125	.064		3.79	2.51		6.30	8.35
0400	Enameling		125	.064		3.58	2.51		6.09	8.10
0700	Copper, half round, 16 oz., stock units, 4" wide		125	.064		8.60	2.51		11.11	13.65
0900	5" wide		125	.064		7.65	2.51		10.16	12.60
1000	6" wide		118	.068		10.90	2.66		13.56	16.35
1200	K type, 16 oz., stock, 5" wide		125	.064		8.75	2.51		11.26	13.75
1300	6" wide		125	.064		8.45	2.51		10.96	13.45
1500	Lead coated copper, 16 oz., half round, stock, 4" wide		125	.064		17.55	2.51		20.06	23.50
1600	6" wide		118	.068		20	2.66		22.66	26.50
1800	K type, stock, 5" wide		125	.064		18.55	2.51		21.06	24.50
1900	6" wide		125	.064		21	2.51		23.51	27
2100	Copper clad stainless steel, K type, 5" wide		125	.064		7.60	2.51		10.11	12.50
2200	6" wide		125	.064		10.30	2.51		12.81	15.50
2400	Steel, galv, half round or box, 28 ga., 5" wide, plain		125	.064		2.40	2.51		4.91	6.80
2500	Enameling		125	.064		2.24	2.51		4.75	6.60
2700	26 ga., stock, 5" wide		125	.064		2.66	2.51		5.17	7.10
2800	6" wide	↓	125	.064		2.64	2.51		5.15	7.05
3000	Vinyl, O.G., 4" wide	1 Carp	115	.070		1.39	2.52		3.91	5.65
3100	5" wide		115	.070		1.51	2.52		4.03	5.80
3200	4" half round, stock units	↓	115	.070	↓ Ea.	1.42	2.52		3.94	5.70
3250	Joint connectors				Ea.	3.10			3.10	3.41
3300	Wood, clear treated cedar, fir or hemlock, 3" x 4"	1 Carp	100	.080	L.F.	12.70	2.89		15.59	18.70
3400	4" x 5"	"	100	.080	"	24.50	2.89		27.39	32
5000	Accessories, end cap, K type, aluminum 5"	1 Shee	625	.013	Ea.	.74	.50		1.24	1.64
5010	6"		625	.013		1.49	.50		1.99	2.47
5020	Copper, 5"		625	.013		3.41	.50		3.91	4.58
5030	6"		625	.013		3.59	.50		4.09	4.78
5040	Lead coated copper, 5"		625	.013		13.20	.50		13.70	15.35
5050	6"		625	.013		14.10	.50		14.60	16.35
5060	Copper clad stainless steel, 5"		625	.013		3.58	.50		4.08	4.77
5070	6"		625	.013		3.58	.50		4.08	4.77
5080	Galvanized steel, 5"		625	.013		1.57	.50		2.07	2.56
5090	6"	▼	625	.013		2.72	.50		3.22	3.82
5100	Vinyl, 4"	1 Carp	625	.013		6.50	.46		6.96	7.90
5110	5"	"	625	.013		6.85	.46		7.31	8.30
5120	Half round, copper, 4"	1 Shee	625	.013		4.65	.50		5.15	5.95
5130	5"		625	.013		5.25	.50		5.75	6.60
5140	6"		625	.013		8.50	.50	9	10.20	
5150	Lead coated copper, 5"		625	.013		14.85	.50		15.35	17.20
5160	6"		625	.013		22	.50		22.50	25.50
5170	Copper clad stainless steel, 5"		625	.013		5	.50		5.50	6.35
5180	6"		625	.013		4.62	.50		5.12	5.95
5190	Galvanized steel, 5"		625	.013		2.80	.50		3.30	3.91
5200	6"		625	.013		3.47	.50		3.97	4.65
5210	Outlet, aluminum, 2" x 3"		420	.019		.72	.75		1.47	2.03
5220	3" x 4"		420	.019		1.18	.75		1.93	2.54
5230	2-3/8" round		420	.019		.66	.75		1.41	1.97

# 07 71 Roof Specialties

## 07 71 23 – Manufactured Gutters and Downspouts

### 07 71 23.30 Gutters

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
5240	Copper, 2" x 3"	1 Shee	420	.019	Ea.	7.80	.75	8.55	9.85
5250	3" x 4"		420	.019		8.80	.75	9.55	10.95
5260	2-3/8" round		420	.019		4.87	.75	5.62	6.60
5270	Lead coated copper, 2" x 3"		420	.019		26	.75	26.75	30
5280	3" x 4"		420	.019		30	.75	30.75	34
5290	2-3/8" round		420	.019		26.50	.75	27.25	30
5300	Copper clad stainless steel, 2" x 3"		420	.019		7.30	.75	8.05	9.30
5310	3" x 4"		420	.019		8.35	.75	9.10	10.40
5320	2-3/8" round		420	.019		4.87	.75	5.62	6.60
5330	Galvanized steel, 2" x 3"		420	.019		3.81	.75	4.56	5.45
5340	3" x 4"		420	.019		6.10	.75	6.85	7.95
5350	2-3/8" round		420	.019		4.95	.75	5.70	6.70
5360	K type mitres, aluminum			.123		4.94	4.83	9.77	13.45
5370	Copper			.123		17.45	4.83	22.28	27
5380	Lead coated copper			.123		56	4.83	60.83	69.50
5390	Copper clad stainless steel			.123		28	4.83	32.83	38.50
5400	Galvanized steel			.123		28	4.83	32.83	39
5420	Half round mitres, copper			.123		70.50	4.83	75.33	85.50
5430	Lead coated copper			.123		91.50	4.83	96.33	109
5440	Copper clad stainless steel			.123		57.50	4.83	62.33	71
5450	Galvanized steel			.123		33.50	4.83	38.33	45
5460	Vinyl mitres and outlets			.123		11	4.83	15.83	20
5470	Sealant		940	.009	L.F.	.01	.33	.34	.56
5480	Soldering			.083	"	.29	3.27	3.56	5.70

### 07 71 23.35 Gutter Guard

0010	GUTTER GUARD								
0020	6" wide strip, aluminum mesh	1 Corp	500	.016	L.F.	2.46	.58	3.04	3.66
0100	Vinyl mesh	"	500	.016	"	2.89	.58	3.47	4.13

### 07 71 43 – Drip Edge

#### 07 71 43.10 Drip Edge, Rake Edge, Ice Belts

##### 0010 DRIP EDGE, RAKE EDGE, ICE BELTS

0020	Aluminum, .016" thick, 5" wide, mill finish	1 Corp	400	.020	L.F.	.59	.72	1.31	1.84
0100	White finish		400	.020		.65	.72	1.37	1.91
0200	8" wide, mill finish		400	.020		1.48	.72	2.20	2.82
0300	Ice belt, 28" wide, mill finish		100	.080		8	2.89	10.89	13.55
0310	Vented, mill finish		400	.020		2.29	.72	3.01	3.71
0320	Painted finish		400	.020		2.54	.72	3.26	3.98
0400	Galvanized, 5" wide		400	.020		.62	.72	1.34	1.87
0500	8" wide, mill finish		400	.020		.84	.72	1.56	2.11
0510	Rake edge, aluminum, 1-1/2" x 1-1/2"		400	.020		.35	.72	1.07	1.58
0520	3-1/2" x 1-1/2"		400	.020		.51	.72	1.23	1.75

# 07 72 Roof Accessories

## 07 72 23 – Relief Vents

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
<b>07 72 23.20 Vents</b>										
0010	<b>VENTS</b>									
0100	Soffit or eave, aluminum, mill finish, strips, 2-1/2" wide			1 Corp	200	.040	L.F.	.49	1.45	1.94
0200	3" wide				200	.040		.47	1.45	1.92
0300	Enamel finish, 3" wide				200	.040		.54	1.45	1.99
0400	Mill finish, rectangular, 4" x 16"				72	.111	Ea.	1.53	4.02	5.55
0500	8" x 16"				72	.111		2.60	4.02	6.62
2420	Roof ventilator			Q-9	16	1		54	35.50	89.50
2500	Vent, roof vent			1 Rofc	24	.333		27	10.30	37.30
										48

## 07 72 26 – Ridge Vents

### 07 72 26.10 Ridge Vents and Accessories

0010	<b>RIDGE VENTS AND ACCESSORIES</b>									
0100	Aluminum strips, mill finish			1 Rofc	160	.050	L.F.	2.67	1.55	4.22
0150	Painted finish				160	.050	"	4.23	1.55	5.78
0200	Connectors				48	.167	Ea.	5.20	5.15	10.35
0300	End caps				48	.167	"	2.49	5.15	7.64
0400	Galvanized strips				160	.050	L.F.	3.81	1.55	5.36
0430	Molded polyethylene, shingles not included				160	.050	"	2.85	1.55	4.40
0440	End plugs				48	.167	Ea.	2.49	5.15	7.64
0450	Flexible roll, shingles not included				160	.050	L.F.	2.54	1.55	4.09
2300	Ridge vent strip, mill finish			1 Shee	155	.052	"	3.95	2.03	5.98
										7.70

## 07 72 53 – Snow Guards

### 07 72 53.10 Snow Guard Options

0010	<b>SNOW GUARD OPTIONS</b>									
0100	Slate & asphalt shingle roofs, fastened with nails			1 Rofc	160	.050	Ea.	12.45	1.55	14
0200	Standing seam metal roofs, fastened with set screws				48	.167		17.75	5.15	22.90
0300	Surface mount for metal roofs, fastened with solder				48	.167		7.75	5.15	12.90
0400	Double rail pipe type, including pipe				130	.062	L.F.	35	1.90	36.90
										42

## 07 72 80 – Vent Options

### 07 72 80.30 Vent Options

0010	<b>VENT OPTIONS</b>									
0800	Polystyrene baffles, 12" wide for 16" OC rafter spacing			1 Corp	90	.089	Ea.	.53	3.21	3.74
0900	For 24" OC rafter spacing			"	110	.073	"	.88	2.63	3.51

# 07 76 Roof Pavers

## 07 76 16 – Roof Decking Pavers

### 07 76 16.10 Roof Pavers and Supports

0010	<b>ROOF PAVERS AND SUPPORTS</b>									
1000	Roof decking pavers, concrete blocks, 2" thick, natural			1 Club	115	.070	S.F.	3.58	1.93	5.51
1100	Colors				115	.070	"	3.71	1.93	5.64
1200	Support pedestal, bottom cap				960	.008	Ea.	2.66	.23	2.89
1300	Top cap				960	.008		4.88	.23	5.11
1400	Leveling shims, 1/16"				1920	.004		1.22	.12	1.34
1500	1/8"				1920	.004		1.22	.12	1.34
1600	Buffer pad				960	.008		2.54	.23	2.77
1700	PVC legs (4" SDR 35)				2880	.003	Inch	.14	.08	.22
2000	Alternate pricing method, system in place				101	.079	S.F.	7.20	2.20	9.40
										11.50

# 07 91 Preformed Joint Seals

## 07 91 13 - Compression Seals

07 91 13.10 Compression Seals				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
								Labor	Equipment		
0010	COMPRESSION SEALS										
4900	O-ring type cord, 1/4"			1 Bric	472	.017	L.F.	.40	.60	1	1.43
4910	1/2"				440	.018		1.01	.64		1.65
4920	3/4"				424	.019		2	.67		2.67
4930	1"				408	.020		3.93	.69		4.62
4940	1-1/4"				384	.021		9.40	.74		10.14
4950	1-1/2"				368	.022		11.50	.77		12.27
4960	1-3/4"				352	.023		13.50	.80		14.30
4970	2"				344	.023		22.50	.82		23.32
											26.50

## 07 91 16 - Joint Gaskets

### 07 91 16.10 Joint Gaskets

07 91 16.10 Joint Gaskets				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
								Labor	Equipment		
0010	JOINT GASKETS										
4400	Joint gaskets, neoprene, closed cell w/adh, 1/8" x 3/8"			1 Bric	240	.033	L.F.	.36	1.18	1.54	2.35
4500	1/4" x 3/4"				215	.037		.66	1.32	1.98	2.91
4700	1/2" x 1"				200	.040		1.71	1.42	3.13	4.22
4800	3/4" x 1-1/2"				165	.048		1.85	1.72	3.57	4.88

## 07 91 23 - Backer Rods

### 07 91 23.10 Backer Rods

07 91 23.10 Backer Rods				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
								Labor	Equipment		
0010	BACKER RODS										
0030	Backer rod, polyethylene, 1/4" diameter			1 Bric	4.60	1.739	C.L.F.	2.78	61.50	64.28	105
0050	1/2" diameter				4.60	1.739		4.10	61.50	65.60	107
0070	3/4" diameter				4.60	1.739		6.70	61.50	68.20	109
0090	1" diameter				4.60	1.739		14.80	61.50	76.30	118

## 07 91 26 - Joint Fillers

### 07 91 26.10 Joint Fillers

07 91 26.10 Joint Fillers				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
								Labor	Equipment		
0010	JOINT FILLERS										
4360	Butyl rubber filler, 1/4" x 1/4"			1 Bric	290	.028	L.F.	.23	.98	1.21	1.87
4365	1/2" x 1/2"				250	.032		.92	1.13	2.05	2.89
4370	1/2" x 3/4"				210	.038		1.38	1.35	2.73	3.74
4375	3/4" x 3/4"				230	.035		2.06	1.23	3.29	4.31
4380	1" x 1"				180	.044		2.75	1.57	4.32	5.65
4390	For coloring, add							12%			
4980	Polyethylene joint backing, 1/4" x 2"			1 Bric	2.08	3.846	C.L.F.	14.25	136	150.25	241
4990	1/4" x 6"				1.28	6.250	"	32.50	221	253.50	400
5600	Silicone, room temp vulcanizing foam seal, 1/4" x 1/2"				1312	.006	L.F.	.46	.22	.68	.86
5610	1/2" x 1/2"				656	.012		.92	.43	1.35	1.72
5620	1/2" x 3/4"				442	.018		1.37	.64	2.01	2.57
5630	3/4" x 3/4"				328	.024		2.06	.86	2.92	3.70
5640	1/8" x 1"				1312	.006		.46	.22	.68	.86
5650	1/8" x 3"				442	.018		1.37	.64	2.01	2.57
5670	1/4" x 3"				295	.027		2.75	.96	3.71	4.61
5680	1/4" x 6"				148	.054		5.50	1.91	7.41	9.20
5690	1/2" x 6"				82	.098		11	3.45	14.45	17.80
5700	1/2" x 9"				52.50	.152		16.50	5.40	21.90	27
5710	1/2" x 12"				33	.242		22	8.60	30.60	38

# 07 92 Joint Sealants

## 07 92 13 – Elastomeric Joint Sealants

07 92 13.20 Caulking and Sealant Options		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
<b>0010 CAULKING AND SEALANT OPTIONS</b>										
0050 Latex acrylic based, bulk					Gal.	31			31	34
0055 Bulk in place 1/4" x 1/4" bead		1 Bric	300	.027	L.F.	.10	.94		1.04	1.67
0060 1/4" x 3/8"			294	.027		.16	.96		1.12	1.77
0065 1/4" x 1/2"			288	.028		.22	.98		1.20	1.87
0075 3/8" x 3/8"			284	.028		.24	1		1.24	1.92
0080 3/8" x 1/2"			280	.029		.32	1.01		1.33	2.03
0085 3/8" x 5/8"			276	.029		.40	1.03		1.43	2.15
0095 3/8" x 3/4"			272	.029		.48	1.04		1.52	2.25
0100 1/2" x 1/2"			275	.029		.43	1.03		1.46	2.18
0105 1/2" x 5/8"			269	.030		.54	1.05		1.59	2.33
0110 1/2" x 3/4"			263	.030		.65	1.08		1.73	2.49
0115 1/2" x 7/8"			256	.031		.76	1.11		1.87	2.66
0120 1/2" x 1"			250	.032		.87	1.13		2	2.83
0125 3/4" x 3/4"			244	.033		.97	1.16		2.13	2.99
0130 3/4" x 1"			225	.036		1.30	1.26		2.56	3.51
0135 1" x 1"			200	.040		1.73	1.42		3.15	4.24
0190 Cartridges					Gal.	33.50			33.50	37
0200 11 fl. oz. cartridge					Ea.	2.89			2.89	3.18
0500 1/4" x 1/2"		1 Bric	288	.028	L.F.	.24	.98		1.22	1.89
0600 1/2" x 1/2"			275	.029		.47	1.03		1.50	2.22
0800 3/4" x 3/4"			244	.033		1.06	1.16		2.22	3.09
0900 3/4" x 1"			225	.036		1.42	1.26		2.68	3.64
1000 1" x 1"			200	.040		1.77	1.42		3.19	4.29
1400 Butyl based, bulk					Gal.	43.50			43.50	48
1500 Cartridges					"	43.50			43.50	48
1700 1/4" x 1/2", 154 L.F./gal.		1 Bric	288	.028	L.F.	.28	.98		1.26	1.94
1800 1/2" x 1/2", 77 L.F./gal.		"	275	.029	"	.57	1.03		1.60	2.32
2300 Polysulfide compounds, 1 component, bulk					Gal.	88.50			88.50	97.50
2400 Cartridges					"	145			145	159
2600 1 or 2 component, in place, 1/4" x 1/4", 308 L.F./gal.		1 Bric	300	.027	L.F.	.29	.94		1.23	1.88
2700 1/2" x 1/4", 154 L.F./gal.			288	.028		.57	.98		1.55	2.26
2900 3/4" x 3/8", 68 L.F./gal.			272	.029		1.30	1.04		2.34	3.15
3000 1" x 1/2", 38 L.F./gal.			250	.032		2.33	1.13		3.46	4.44
3200 Polyurethane, 1 or 2 component					Gal.	54			54	59.50
3300 Cartridges					"	67.50			67.50	74.50
3500 Bulk, in place, 1/4" x 1/4"		1 Bric	300	.027	L.F.	.18	.94		1.12	1.75
3655 1/2" x 1/4"			288	.028		.35	.98		1.33	2.02
3800 3/4" x 3/8"			272	.029		.80	1.04		1.84	2.59
3900 1" x 1/2"			250	.032		1.40	1.13		2.53	3.42
4100 Silicone rubber, bulk					Gal.	68.50			68.50	75.50
4200 Cartridges					"	51.50			51.50	56.50

## 07 92 19 – Acoustical Joint Sealants

### 07 92 19.10 Acoustical Sealant

0010 ACOUSTICAL SEALANT										
0020 Acoustical sealant, elastomeric, cartridges					Ea.	8.65			8.65	9.55
0025 In place, 1/4" x 1/4"		1 Bric	300	.027	L.F.	.35	.94		1.29	1.95
0030 1/4" x 1/2"			288	.028		.71	.98		1.69	2.41
0035 1/2" x 1/2"			275	.029		1.41	1.03		2.44	3.26
0040 1/2" x 3/4"			263	.030		2.12	1.08		3.20	4.11
0045 3/4" x 3/4"			244	.033		3.18	1.16		4.34	5.40
0050 1" x 1"			200	.040		5.65	1.42		7.07	8.60

### Estimating Tips

#### 08 10 00 Doors and Frames

All exterior doors should be addressed for their energy conservation (insulation and seals).

- Most metal doors and frames look alike, but there may be significant differences among them. When estimating these items, be sure to choose the line item that most closely compares to the specification or door schedule requirements regarding:

- type of metal
- metal gauge
- door core material
- fire rating
- finish

- Wood and plastic doors vary considerably in price. The primary determinant is the veneer material. Lauan, birch, and oak are the most common veneers. Other variables include the following:

- hollow or solid core
- fire rating
- flush or raised panel
- finish

- Door pricing includes bore for cylindrical locksets and mortise for hinges.

#### 08 30 00 Specialty Doors and Frames

- There are many varieties of special doors, and they are usually priced per each. Add frames, hardware, or operators required for a complete installation.

#### 08 40 00 Entrances, Storefronts, and Curtain Walls

- Glazed curtain walls consist of the metal tube framing and the glazing material. The cost data in this subdivision is presented for the metal tube framing alone or the composite wall. If your estimate requires a detailed takeoff of the framing, be sure to add the glazing cost and any tints.

#### 08 50 00 Windows

- Steel windows are unglazed and aluminum can be glazed or unglazed. Some metal windows are priced without glass. Refer to 08 80 00 Glazing for glass pricing. The grade C indicates commercial grade windows, usually ASTM C-35.
- All wood windows and vinyl are priced preglazed. The glazing is insulating glass. Add the cost of screens and grills if required and not already included.

#### 08 70 00 Hardware

- Hardware costs add considerably to the cost of a door. The most efficient method to determine the hardware requirements for a project is to review the door and hardware schedule together. One type of door may have different hardware, depending on the door usage.
- Door hinges are priced by the pair, with most doors requiring 1-1/2 pairs per door. The hinge prices do not include installation labor because it is included in door installation.

Hinges are classified according to the frequency of use, base material, and finish.

#### 08 80 00 Glazing

- Different openings require different types of glass. The most common types are:
  - float
  - tempered
  - insulating
  - impact-resistant
  - ballistic-resistant
- Most exterior windows are glazed with insulating glass. Entrance doors and window walls, where the glass is less than 18" from the floor, are generally glazed with tempered glass. Interior windows and some residential windows are glazed with float glass.
- Coastal communities require the use of impact-resistant glass, dependent on wind speed.
- The insulation or 'u' value is a strong consideration, along with solar heat gain, to determine total energy efficiency.

#### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 08 01 Operation and Maintenance of Openings

## 08 01 53 – Operation and Maintenance of Plastic Windows

08 01 53.81 Solid Vinyl Replacement Windows		R085313-20	Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
			Crew Output				Labor			
0010	SOLID VINYL REPLACEMENT WINDOWS									
0020	Double-hung, insulated glass, up to 83 united inches	G	2 Carp	8	2	Ea.	183	72.50	255.50	320
0040	84 to 93	G		8	2		195	72.50	267.50	335
0060	94 to 101	G		6	2.667		195	96.50	291.50	370
0080	102 to 111	G		6	2.667		207	96.50	303.50	385
0100	112 to 120	G		6	2.667	↓	223	96.50	319.50	405
0120	For each united inch over 120, add	G		800	.020	Inch	2.92	.72	3.64	4.40
0140	Casement windows, one operating sash, 42 to 60 united inches	G		8	2	Ea.	282	72.50	354.50	430
0160	61 to 70	G		8	2		305	72.50	377.50	460
0180	71 to 80	G		8	2		340	72.50	412.50	490
0200	81 to 96	G		8	2		370	72.50	442.50	525
0220	Two operating sash, 58 to 78 united inches	G		8	2		655	72.50	727.50	840
0240	79 to 88	G		8	2		755	72.50	827.50	950
0260	89 to 98	G		8	2		950	72.50	1,022.50	1,175
0280	99 to 108	G		6	2.667		780	96.50	876.50	1,025
0300	109 to 121	G		6	2.667		855	96.50	951.50	1,100
0320	Two operating, one fixed sash, 73 to 108 united inches	G		8	2		620	72.50	692.50	800
0340	109 to 118	G		8	2		675	72.50	747.50	860
0360	119 to 128	G		6	2.667		770	96.50	866.50	1,000
0380	129 to 138	G		6	2.667		800	96.50	896.50	1,050
0400	139 to 156	G		6	2.667		990	96.50	1,086.50	1,225
0420	Four operating sash, 98 to 118 united inches	G		8	2		1,325	72.50	1,397.50	1,575
0440	119 to 128	G		8	2		1,375	72.50	1,447.50	1,650
0460	129 to 138	G		6	2.667		1,425	96.50	1,521.50	1,700
0480	139 to 148	G		6	2.667		1,475	96.50	1,571.50	1,775
0500	149 to 168	G		6	2.667		1,575	96.50	1,671.50	1,900
0520	169 to 178	G		6	2.667		1,625	96.50	1,721.50	1,950
0560	Fixed picture window, up to 63 united inches	G		8	2		181	72.50	253.50	320
0580	64 to 83	G		8	2		219	72.50	291.50	360
0600	84 to 101	G		8	2	↓	273	72.50	345.50	420
0620	For each united inch over 101, add	G	↓	900	.018	Inch	3.39	.64	4.03	4.79
0800	Cellulose fiber insulation, poured into sash balance cavity	G	1 Carp	36	.222	C.F.	.70	8.05	8.75	13.95
0820	Silicone caulking at perimeter	G	"	800	.010	L.F.	.17	.36	.53	.77
2000	Impact resistant replacement windows									
2005	Laminated glass, 120 MPH rating, measure in united inches									
2010	Installation labor does not cover any rework of the window opening									
2020	Double-hung, insulated glass, up to 101 united inches	2 Carp	8	2	Ea.	555	72.50		627.50	730
2025	For each united inch over 101, add		80	.200	Inch	3.48	7.25		10.73	15.75
2100	Casement windows, impact resistant, up to 60 united inches		8	2	Ea.	515	72.50		587.50	685
2120	61 to 70		8	2		545	72.50		617.50	715
2130	71 to 80		8	2		570	72.50		642.50	750
2140	81 to 100		8	2		590	72.50		662.50	765
2150	For each united inch over 100, add		80	.200	Inch	5.30	7.25		12.55	17.70
2200	Awning windows, impact resistant, up to 60 united inches		8	2	Ea.	525	72.50		597.50	700
2220	61 to 70		8	2		550	72.50		622.50	725
2230	71 to 80		8	2	↓	560	72.50		632.50	740
2240	For each united inch over 80, add		80	.200	Inch	4.99	7.25		12.24	17.40
2300	Picture windows, impact resistant, up to 63 united inches		8	2	Ea.	380	72.50		452.50	540
2320	63 to 83		8	2		410	72.50		482.50	570
2330	84 to 101		8	2		450	72.50		522.50	615
2340	For each united inch over 101, add		80	.200	Inch	3.35	7.25		10.60	15.60

# 08 05 Common Work Results for Openings

## 08 05 05 – Selective Demolition for Openings

08 05 05.10 Selective Demolition Doors		R024119-10	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
0010	SELECTIVE DEMOLITION DOORS		Crew Output	Hours			Labor	Equipment	Total		
0200	Doors, exterior, 1-3/4" thick, single, 3' x 7' high		1 Clab	16	.500	Ea.		13.90	13.90	23	
0210	3' x 8' high			10	.800			22	22	36.50	
0215	Double, 3' x 8' high			6	1.333			37	37	61	
0220	Double, 6' x 7' high			12	.667			18.55	18.55	30.50	
0500	Interior, 1-3/8" thick, single, 3' x 7' high			20	.400			11.10	11.10	18.25	
0520	Double, 6' x 7' high			16	.500			13.90	13.90	23	
0700	Bifolding, 3' x 6'-8" high			20	.400			11.10	11.10	18.25	
0720	6' x 6'-8" high			18	.444			12.35	12.35	20.50	
0900	Bi-passing, 3' x 6'-8" high			16	.500			13.90	13.90	23	
0940	6' x 6'-8" high			14	.571			15.90	15.90	26	
0960	Interior metal door 1-3/4" thick, 3'-0" x 6'-8"			18	.444			12.35	12.35	20.50	
0980	Interior metal door 1-3/4" thick, 3'-0" x 7'-0"			18	.444			12.35	12.35	20.50	
1000	Interior wood door 1-3/4" thick, 3'-0" x 6'-8"			20	.400			11.10	11.10	18.25	
1020	Interior wood door 1-3/4" thick, 3'-0" x 7'-0"			20	.400			11.10	11.10	18.25	
1100	Door demo, floor door	12 Sswk	5	3.200				129	129	221	
1500	Remove and reset, hollow core	1 Corp	8	1				36	36	59.50	
1520	Solid		6	1.333				48	48	79	
2000	Frames, including trim, metal		8	1				36	36	59.50	
2200	Wood	2 Corp	32	.500				18.10	18.10	29.50	
2201	Alternate pricing method	1 Corp	200	.040	L.F.			1.45	1.45	2.38	
3000	Special doors, counter doors	2 Corp	6	2.667	Ea.			96.50	96.50	158	
3300	Glass, sliding, including frames		12	1.333				48	48	79	
3400	Overhead, commercial, 12' x 12' high		4	4				145	145	238	
3500	Residential, 9' x 7' high		8	2				72.50	72.50	119	
3540	16' x 7' high		7	2.286				82.50	82.50	136	
3600	Remove and reset, small		4	4				145	145	238	
3620	Large		2.50	6.400				231	231	380	
3660	Remove and reset elec. garage door opener	1 Corp	8	1				36	36	59.50	
4000	Residential lockset, exterior		28	.286				10.35	10.35	16.95	
4010	Residential lockset, exterior w/deadbolt		26	.308				11.10	11.10	18.30	
4020	Residential lockset, interior		30	.267				9.65	9.65	15.85	
4200	Deadbolt lock		32	.250				9.05	9.05	14.85	
4224	Pocket door, no frame		8	1				36	36	59.50	
5590	Remove mail slot	1 Clab	45	.178				4.94	4.94	8.10	
5600	Remove door sidelight	1 Corp	6	1.333				48	48	79	

## 08 05 05.20 Selective Demolition of Windows

08 05 05.20 Selective Demolition of Windows		R024119-10	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
0010	SELECTIVE DEMOLITION OF WINDOWS		Crew Output	Hours			Labor	Equipment	Total		
0200	Aluminum, including trim, to 12 S.F.		1 Clab	16	.500	Ea.		13.90	13.90	23	
0240	To 25 S.F.			11	.727			20	20	33	
0280	To 50 S.F.			5	1.600			44.50	44.50	73	
0320	Storm windows/screens, to 12 S.F.			27	.296			8.25	8.25	13.55	
0360	To 25 S.F.			21	.381			10.60	10.60	17.40	
0400	To 50 S.F.			16	.500			13.90	13.90	23	
0500	Screens, incl. aluminum frame, small			20	.400			11.10	11.10	18.25	
0510	Large			16	.500			13.90	13.90	23	
0600	Glass, up to 10 S.F./window			200	.040	S.F.		1.11	1.11	1.83	
0620	Over 10 S.F./window			150	.053	"		1.48	1.48	2.43	
2000	Wood, including trim, to 12 S.F.			22	.364	Ea.		10.10	10.10	16.60	
2020	To 25 S.F.			18	.444			12.35	12.35	20.50	
2060	To 50 S.F.			13	.615			17.10	17.10	28	
2065	To 180 S.F.			8	1			28	28	45.50	

# 08 05 Common Work Results for Openings

## 08 05 05 – Selective Demolition for Openings

08 05 05.20 Selective Demolition of Windows			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
			Crew				Labor	Equipment	
4300	Remove bay/bow window		2 Corp	6	2.667	Ea.	96.50		96.50
4410	Remove skylight, plstc domes, flush/curb mtd	"	395	.041	S.F.		1.46		1.46
4420	Remove skylight, plstc/glass up to 2' x 3'	1 Corp	15	.533	Ea.		19.30		19.30
4440	Remove skylight, plstc/glass up to 4' x 6'	2 Corp	10	1.600			58		58
4480	Remove roof window up to 3' x 4'	1 Corp	8	1			36		36
4500	Remove roof window up to 4' x 6'	2 Corp	6	2.667			96.50		96.50
5020	Remove and reset window, up to a 2' x 2' window	1 Corp	6	1.333			48		48
5040	Up to a 3' x 3' window		4	2			72.50		72.50
5080	Up to a 4' x 5' window		2	4			145		145
6000	Screening only	1 Clab	4000	.002	S.F.		.06		.06
9100	Window awning, residential	"	80	.100	L.F.		2.78		2.78
									4.57

# 08 11 Metal Doors and Frames

## 08 11 63 – Metal Screen and Storm Doors and Frames

### 08 11 63.23 Aluminum Screen and Storm Doors and Frames

0010 ALUMINUM SCREEN AND STORM DOORS AND FRAMES									
0020	Combination storm and screen								
0420	Clear anodic coating, 2'-8" wide	2 Corp	14	1.143	Ea.	238	41.50		279.50
0440	3'-0" wide	"	14	1.143	"	192	41.50		233.50
0500	For 7'-0" door height, add					8%			279.50
1020	Mill finish, 2'-8" wide	2 Corp	14	1.143	Ea.	249	41.50		290.50
1040	3'-0" wide	"	14	1.143		268	41.50		309.50
1100	For 7'-0" door, add					8%			365
1520	White painted, 2'-8" wide	2 Corp	14	1.143		269	41.50		310.50
1540	3'-0" wide		14	1.143		315	41.50		356.50
1541	Storm door, painted, alum., insul., 6'-8" x 2'-6" wide		14	1.143		238	41.50		279.50
1545	2'-8" wide		14	1.143		290	41.50		331.50
1600	For 7'-0" door, add					8%			390
1800	Aluminum screen door, 6'-8" x 2'-8" wide	2 Corp	14	1.143		244	41.50		285.50
1810	3'-0" wide	"	14	1.143		284	41.50		325.50
2000	Wood door & screen, see Section 08 14 33.20								380

# 08 12 Metal Frames

## 08 12 13 – Hollow Metal Frames

### 08 12 13.13 Standard Hollow Metal Frames

0010 STANDARD HOLLOW METAL FRAMES									
0020	16 ga., up to 5-3/4" jamb depth								
0025	3'-0" x 6'-8" single	G	2 Corp	16	1	Ea.	217	36	
0028	3'-6" wide, single	G		16	1		270	36	253
0030	4'-0" wide, single	G		16	1		305	36	355
0040	6'-0" wide, double	G		14	1.143		256	41.50	297.50
0045	8'-0" wide, double	G		14	1.143		248	41.50	350
0100	3'-0" x 7'-0" single	G		16	1		214	36	289.50
0110	3'-6" wide, single	G		16	1		221	36	257
0112	4'-0" wide, single	G		16	1		252	36	305
0140	6'-0" wide, double	G		14	1.143		268	41.50	335
0145	8'-0" wide, double	G		14	1.143		236	41.50	365
1000	16 ga., up to 4-7/8" deep, 3'-0" x 7'-0" single	G		16	1		202	36	277.50
1140	6'-0" wide, double	G		14	1.143		215	41.50	282

# 08 12 Metal Frames

## 08 12 13 – Hollow Metal Frames

### 08 12 13.13 Standard Hollow Metal Frames

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
1200	16 ga., 8'-3/4" deep, 3'-0" x 7'-0" single		G	2 Carp	16	1	Ea.	206	36	242	286
1240	6'-0" wide, double		G		14	1.143		310	41.50	351.50	410
2800	14 ga., up to 3'-7/8" deep, 3'-0" x 7'-0" single		G		16	1		251	36	287	335
2840	6'-0" wide, double		G		14	1.143		360	41.50	401.50	465
3000	14 ga., up to 5-3/4" deep, 3'-0" x 6'-8" single		G		16	1		159	36	195	235
3002	3'-6" wide, single		G		16	1		267	36	303	355
3005	4'-0" wide, single		G		16	1		158	36	194	234
3600	up to 5-3/4" jamb depth, 4'-0" x 7'-0" single		G		15	1.067		256	38.50	294.50	345
3620	6'-0" wide, double		G		12	1.333		201	48	249	300
3640	8'-0" wide, double		G		12	1.333		300	48	348	410
3700	8'-0" high, 4'-0" wide, single		G		15	1.067		305	38.50	343.50	400
3740	8'-0" wide, double		G		12	1.333		345	48	393	460
4000	6-3/4" deep, 4'-0" x 7'-0" single		G		15	1.067		310	38.50	348.50	405
4020	6'-0" wide, double		G		12	1.333		360	48	408	475
4040	8'-0" wide, double		G		12	1.333		258	48	306	365
4100	8'-0" high, 4'-0" wide, single		G		15	1.067		188	38.50	226.50	270
4140	8'-0" wide, double		G		12	1.333		450	48	498	575
4400	8-3/4" deep, 4'-0" x 7'-0", single		G		15	1.067		430	38.50	468.50	540
4440	8'-0" wide, double		G		12	1.333		455	48	503	580
4500	4'-0" x 8'-0", single		G		15	1.067		480	38.50	518.50	590
4540	8'-0" wide, double		G		12	1.333		490	48	538	615
4900	For welded frames, add							59.50		59.50	65.50
5400	14 ga., "B" label, up to 5-3/4" deep, 4'-0" x 7'-0" single		G	2 Carp	15	1.067		190	38.50	228.50	273
5440	8'-0" wide, double		G		12	1.333		243	48	291	345
5800	6-3/4" deep, 7'-0" high, 4'-0" wide, single		G		15	1.067		169	38.50	207.50	250
5840	8'-0" wide, double		G		12	1.333		335	48	383	450
6200	8-3/4" deep, 4'-0" x 7'-0" single		G		15	1.067		269	38.50	307.50	360
6240	8'-0" wide, double		G		12	1.333		370	48	418	490
6300	For "A" label use same price as "B" label							30%	15%		
6400	For baked enamel finish, add										
6500	For galvanizing, add							20%			
6600	For hospital stop, add						Ea.	251		251	276
6620	For hospital stop, stainless steel, add						"	118		118	130
7900	Transom lite frames, fixed, add		2 Carp		155	.103	S.F.	49	3.73	52.73	60
8000	Movable, add				"	130	.123	"	64	4.45	68.45
											78

# 08 13 Metal Doors

## 08 13 13 – Hollow Metal Doors

### 08 13 13.15 Metal Fire Doors

0010	METAL FIRE DOORS	R081313-20								
0015	Steel, flush, "B" label, 90 minutes									
0020	Full panel, 20 ga., 2'-0" x 6'-8"	2 Carp	20	.800	Ea.	420	29		449	510
0040	2'-8" x 6'-8"		18	.889		435	32		467	535
0060	3'-0" x 6'-8"		17	.941		435	34		469	535
0080	3'-0" x 7'-0"		17	.941		450	34		484	550
0140	18 ga., 3'-0" x 6'-8"		16	1		530	36		566	645
0160	2'-8" x 7'-0"		17	.941		560	34		594	675
0180	3'-0" x 7'-0"		16	1		510	36		546	620
0200	4'-0" x 7'-0"		15	1.067		645	38.50		683.50	775
0220	For "A" label, 3 hour, 18 ga., use same price as "B" label									
0240	For vision lite, add				Ea.	183			183	201

# 08 13 Metal Doors

## 08 13 13 – Hollow Metal Doors

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
		Crew						Labor			
0520	Flush, "B" label, 90 minutes, egress core, 20 ga., 2'-0" x 6'-8"	2 Corp	18	.889	Ea.		680	32		712	805
0540	2'-8" x 6'-8"		17	.941			685	34		719	805
0560	3'-0" x 6'-8"		16	1			685	36		721	815
0580	3'-0" x 7'-0"		16	1			715	36		751	845
0640	Flush, "A" label, 3 hour, egress core, 18 ga., 3'-0" x 6'-8"		15	1.067			740	38.50		778.50	880
0660	2'-8" x 7'-0"		16	1			780	36		816	915
0680	3'-0" x 7'-0"		15	1.067			410	38.50		448.50	520
0700	4'-0" x 7'-0"		14	1.143			945	41.50		986.50	1,125

## 08 13 13.20 Residential Steel Doors

0010	RESIDENTIAL STEEL DOORS										
0020	Prehung, insulated, exterior										
0030	Embossed, full panel, 2'-8" x 6'-8"	G	2 Corp	17	.941	Ea.	410	34		444	505
0040	3'-0" x 6'-8"	G		15	1.067		300	38.50		338.50	395
0060	3'-0" x 7'-0"	G		15	1.067		355	38.50		393.50	455
0070	5'-4" x 6'-8", double	G		8	2		590	72.50		662.50	770
0220	Half glass, 2'-8" x 6'-8"	G		17	.941		330	34		364	420
0240	3'-0" x 6'-8"	G		16	1		330	36		366	425
0260	3'-0" x 7'-0"	G		16	1		400	36		436	500
0270	5'-4" x 6'-8", double	G		8	2		985	72.50		1,057.50	1,200
1320	Flush face, full panel, 2'-8" x 6'-8"	G		16	1		335	36		371	430
1340	3'-0" x 6'-8"	G		15	1.067		335	38.50		373.50	435
1360	3'-0" x 7'-0"	G		15	1.067		315	38.50		353.50	410
1380	5'-4" x 6'-8", double	G		8	2		810	72.50		882.50	1,025
1420	Half glass, 2'-8" x 6'-8"	G		17	.941		350	34		384	440
1440	3'-0" x 6'-8"	G		16	1		350	36		386	445
1460	3'-0" x 7'-0"	G		16	1		455	36		491	565
1480	5'-4" x 6'-8", double	G		8	2		680	72.50		752.50	865
1500	Sidelight, full lite, 1'-0" x 6'-8" with grille	G					395			395	435
1510	1'-0" x 6'-8", low E	G					410			410	450
1520	1'-0" x 6'-8", half lite	G					299			299	330
1530	1'-0" x 6'-8", half lite, low E	G					300			300	330
2300	Interior, residential, closet, bi-fold, 2'-0" x 6'-8"	G	2 Corp	16	1		251	36		287	335
2330	3'-0" wide	G		16	1		284	36		320	375
2360	4'-0" wide	G		15	1.067		293	38.50		331.50	385
2400	5'-0" wide	G		14	1.143		370	41.50		411.50	475
2420	6'-0" wide	G		13	1.231		300	44.50		344.50	405
2510	Bi-passing closet, incl. hardware, no frame or trim incl.										
2511	Mirrored, metal frame, 4'-0" x 6'-8"	2 Corp	10	1.600	Opng.		268	58		326	390
2512	5'-0" wide			10	1.600		271	58		329	395
2513	6'-0" wide			10	1.600		299	58		357	425
2514	7'-0" wide			9	1.778		289	64.50		353.50	425
2515	8'-0" wide			9	1.778		475	64.50		539.50	625
2611	Mirrored, metal, 4'-0" x 8'-0"			10	1.600		320	58		378	445
2612	5'-0" wide			10	1.600		325	58		383	455
2613	6'-0" wide			10	1.600		330	58		388	455
2614	7'-0" wide			9	1.778		355	64.50		419.50	495
2615	8'-0" wide			9	1.778		455	64.50		519.50	610

# 08 14 Wood Doors

## 08 14 13 – Carved Wood Doors

08 14 13.10 Types of Wood Doors, Carved		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Ind O&P
0010	TYPES OF WOOD DOORS, CARVED					Labor	Equipment	Total		
3000	Solid wood, 1-3/4" thick stile and rail									
3020	Mahogany, 3'-0" x 7'-0", six panel	2 Carp	14	1.143	Ea.	1,125	41.50	1,166.50	1,325	
3030	With two lites			10	1.600	3,475	58	3,533	3,925	
3040	3'-6" x 8'-0", six panel			10	1.600	1,800	58	1,858	2,075	
3050	With two lites			8	2	3,050	72.50	3,122.50	3,500	
3100	Pine, 3'-0" x 7'-0", six panel			14	1.143	655	41.50	696.50	790	
3110	With two lites			10	1.600	880	58	938	1,075	
3120	3'-6" x 8'-0", six panel			10	1.600	1,125	58	1,183	1,350	
3130	With two lites			8	2	2,000	72.50	2,072.50	2,350	
3200	Red oak, 3'-0" x 7'-0", six panel			14	1.143	1,325	41.50	1,366.50	1,550	
3210	With two lites			10	1.600	2,675	58	2,733	3,050	
3220	3'-6" x 8'-0", six panel			10	1.600	2,825	58	2,883	3,200	
3230	With two lites			8	2	3,575	72.50	3,647.50	4,075	
4000	Hand carved door, mahogany									
4020	3'-0" x 7'-0", simple design	2 Carp	14	1.143	Ea.	1,875	41.50	1,916.50	2,150	
4030	Intricate design			11	1.455	3,825	52.50	3,877.50	4,275	
4040	3'-6" x 8'-0", simple design			10	1.600	2,875	58	2,933	3,275	
4050	Intricate design			8	2	3,875	72.50	3,947.50	4,400	
4400	For custom finish, add					640		640	705	
4600	Side light, mahogany, 7'-0" x 1'-6" wide, 4 lites	2 Carp	18	.889		1,200	32	1,232	1,350	
4610	6 lites			14	1.143	2,800	41.50	2,841.50	3,150	
4620	8'-0" x 1'-6" wide, 4 lites			14	1.143	2,225	41.50	2,266.50	2,525	
4630	6 lites			10	1.600	2,375	58	2,433	2,725	
4640	Side light, oak, 7'-0" x 1'-6" wide, 4 lites			18	.889	1,425	32	1,457	1,600	
4650	6 lites			14	1.143	2,475	41.50	2,516.50	2,800	
4660	8'-0" x 1'-6" wide, 4 lites			14	1.143	1,325	41.50	1,366.50	1,550	
4670	6 lites			10	1.600	2,475	58	2,533	2,825	

## 08 14 16 – Flush Wood Doors

### 08 14 16.09 Smooth Wood Doors

0010 SMOOTH WOOD DOORS										
0015	Flush, interior, hollow core									
0025	Lauan face, 1-3/8", 3'-0" x 6'-8"	2 Carp	17	.941	Ea.	53.50	34	87.50	115	
0030	4'-0" x 6'-8"			16	1	134	36	170	207	
0140	Birch face, 1-3/8", 2'-6" x 6'-8"			17	.941	122	34	156	190	
0180	3'-0" x 6'-8"			17	.941	101	34	135	167	
0200	4'-0" x 6'-8"			16	1	167	36	203	244	
0202	1-3/4", 2'-0" x 6'-8"			17	.941	69	34	103	132	
0204	2'-4" x 7'-0"			16	1	133	36	169	207	
0206	2'-6" x 7'-0"			16	1	137	36	173	211	
0208	2'-8" x 7'-0"			16	1	155	36	191	230	
0210	3'-0" x 7'-0"			16	1	174	36	210	252	
0212	3'-4" x 7'-0"			15	1.067	223	38.50	261.50	310	
0214	Pair of 3'-0" x 7'-0"			9	1.778	Pr.	64.50	338.50	405	
0480	For prefinishing, clear, add					Ea.	57	57	63	
0500	For prefinishing, stain, add					"	67.50	67.50	74	
0620	For dutch door with shelf, add						140%			
1320	M.D. overlay on hardboard, 1-3/8", 2'-0" x 6'-8"	2 Carp	17	.941	Ea.	134	34	168	203	
1340	2'-6" x 6'-8"			17	.941	135	34	169	205	
1380	3'-0" x 6'-8"			17	.941	136	34	170	206	
1400	4'-0" x 6'-8"			16	1	231	36	267	315	
1720	H.P. plastic laminate, 1-3/8", 2'-0" x 6'-8"			16	1	286	36	322	375	

# 08 14 Wood Doors

## 08 14 16 – Flush Wood Doors

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
							Labor	Equipment			
<b>08 14 16.09 Smooth Wood Doors</b>											
1740	2'-6" x 6'-8"		2 Carp	16	1	Ea.	282	36		318	370
1780	3'-0" x 6'-8"			15	1.067		305	38.50		343.50	400
1785	Door, plastic laminate, 3'-0" x 6'-8"						305			305	335
1800	4'-0" x 6'-8"		2 Carp	14	1.143		405	41.50		446.50	515
2020	Particle core, lauan face, 1-3/8", 2'-6" x 6'-8"			15	1.067		105	38.50		143.50	180
2040	3'-0" x 6'-8"			14	1.143		108	41.50		149.50	187
2120	Birch face, 1-3/8", 2'-6" x 6'-8"			15	1.067		120	38.50		158.50	196
2140	3'-0" x 6'-8"			14	1.143		130	41.50		171.50	211
3320	M.D. overlay on hardboard, 1-3/8", 2'-6" x 6'-8"			14	1.143		189	41.50		230.50	276
3340	3'-0" x 6'-8"			13	1.231		213	44.50		257.50	310
4000	Exterior, flush, solid core, birch, 1-3/4" x 2'-6" x 7'-0"			15	1.067		165	38.50		203.50	246
4020	2'-8" wide			15	1.067		239	38.50		277.50	325
4040	3'-0" wide			14	1.143		182	41.50		223.50	268
4045	3'-0" x 8'-0"		1 Carp	8	1		530	36		566	640
4100	Oak faced 1-3/4" x 2'-6" x 7'-0"		2 Carp	15	1.067		238	38.50		276.50	325
4120	2'-8" wide			15	1.067		264	38.50		302.50	355
4140	3'-0" wide			14	1.143		255	41.50		296.50	350
4160	Walnut faced, 1-3/4" x 3'-0" x 6'-8"		1 Carp	17	.471		470	17		487	545
4180	3'-6" wide			"	.471		640	17		657	735
4200	Walnut faced, 1-3/4" x 2'-6" x 7'-0"		2 Carp	15	1.067		340	38.50		378.50	440
4220	2'-8" wide			15	1.067		375	38.50		413.50	475
4240	3'-0" wide			14	1.143		315	41.50		356.50	415
4250	3'-6" wide		1 Carp	14	.571		825	20.50		845.50	940
4260	3'-0" x 8'-0"			8	1		675	36		711	800
4270	3'-6" wide			8	1		740	36		776	875
4285	Cherry faced, flush, sc, 1-3/4" x 3'-0" x 8'-0" wide			8	1		520	36		556	630

## 08 14 16.10 Wood Doors Decorator

<b>0010 WOOD DOORS DECORATOR</b>											
1800	Exterior, flush, solid wood core, birch 1-3/4" x 2'-6" x 7'-0"		2 Carp	15	1.067	Ea.	370	38.50		408.50	470
1820	2'-8" wide			15	1.067		360	38.50		398.50	460
1840	3'-0" wide			14	1.143		360	41.50		401.50	470
1900	Oak faced, 1-3/4" x 2'-6" x 7'-0"			15	1.067		189	38.50		227.50	272
1920	2'-8" wide			15	1.067		495	38.50		533.50	610
1940	3'-0" wide			14	1.143		465	41.50		506.50	580
2100	Walnut faced, 1-3/4" x 2'-6" x 7'-0"			15	1.067		475	38.50		513.50	585
2120	2'-8" wide			15	1.067		510	38.50		548.50	625
2140	3'-0" wide			14	1.143		475	41.50		516.50	595

## 08 14 33 – Stile and Rail Wood Doors

<b>08 14 33.10 Wood Doors Paneled</b>											
<b>0010 WOOD DOORS PANELED</b>											
0020	Interior, six panel, hollow core, 1-3/8" thick										
0040	Molded hardboard, 2'-0" x 6'-8"		2 Carp	17	.941	Ea.	65.50	34		99.50	129
0060	2'-6" x 6'-8"			17	.941		69	34		103	132
0070	2'-8" x 6'-8"			17	.941		72	34		106	135
0080	3'-0" x 6'-8"			17	.941		89.50	34		123.50	155
0140	Embossed print, molded hardboard, 2'-0" x 6'-8"			17	.941		69	34		103	132
0160	2'-6" x 6'-8"			17	.941		69	34		103	132
0180	3'-0" x 6'-8"			17	.941		89.50	34		123.50	155
0540	Six panel, solid, 1-3/8" thick, pine, 2'-0" x 6'-8"			15	1.067		166	38.50		204.50	247
0560	2'-6" x 6'-8"			14	1.143		164	41.50		205.50	249
0580	3'-0" x 6'-8"			13	1.231		150	44.50		194.50	238
1020	Two panel, bored rail, solid, 1-3/8" thick, pine, 1'-6" x 6'-8"			16	1		257	36		293	345

# 08 14 Wood Doors

## 08 14 33 – Stile and Rail Wood Doors

08 14 33.10 Wood Doors Paneled		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment	Total	
1040	2'-0" x 6'-8"	2 Corp	15	1.067	Ea.	335	38.50	373.50	435
1060	2'-6" x 6'-8"		14	1.143		380	41.50	421.50	490
1340	Two panel, solid, 1-3/8" thick, fir, 2'-0" x 6'-8"		15	1.067		173	38.50	211.50	254
1360	2'-6" x 6'-8"		14	1.143		230	41.50	271.50	320
1380	3'-0" x 6'-8"		13	1.231		420	44.50	464.50	535
1740	Five panel, solid, 1-3/8" thick, fir, 2'-0" x 6'-8"		15	1.067		310	38.50	348.50	410
1760	2'-6" x 6'-8"		14	1.143		400	41.50	441.50	510
1780	3'-0" x 6'-8"		13	1.231		400	44.50	444.50	515
4190	Exterior, Knotty pine, paneled, 1-3/4", 3'-0" x 6'-8"		16	1		880	36	916	1,025
4195	Double 1-3/4", 3'-0" x 6'-8"		16	1		1,750	36	1,786	1,975
4200	Ash, paneled, 1-3/4", 3'-0" x 6'-8"		16	1		1,000	36	1,036	1,150
4205	Double 1-3/4", 3'-0" x 6'-8"		16	1		2,000	36	2,036	2,250
4210	Cherry, paneled, 1-3/4", 3'-0" x 6'-8"		16	1		1,150	36	1,186	1,325
4215	Double 1-3/4", 3'-0" x 6'-8"		16	1		2,300	36	2,336	2,575
4230	Ash, paneled, 1-3/4", 3'-0" x 8'-0"		16	1		1,350	36	1,386	1,525
4235	Double 1-3/4", 3'-0" x 8'-0"		16	1		2,675	36	2,711	3,000
4240	Hard maple, paneled, 1-3/4", 3'-0" x 8'-0"		16	1		1,350	36	1,386	1,525
4245	Double 1-3/4", 3'-0" x 8'-0"		16	1		2,675	36	2,711	3,000
4250	Cherry, paneled, 1-3/4", 3'-0" x 8'-0"		16	1		1,350	36	1,386	1,525
4255	Double 1-3/4", 3'-0" x 8'-0"		16	1		2,675	36	2,711	3,000

## 08 14 33.20 Wood Doors Residential

0010 WOOD DOORS RESIDENTIAL									
0200	Exterior, combination storm & screen, pine								
0260	2'-8" wide	2 Corp	10	1.600	Ea.	330	58	388	455
0280	3'-0" wide		9	1.778		345	64.50	409.50	485
0300	7'-1" x 3'-0" wide		9	1.778		365	64.50	429.50	505
0400	Full lite, 6'-9" x 2'-6" wide		11	1.455		355	52.50	407.50	475
0420	2'-8" wide		10	1.600		345	58	403	475
0440	3'-0" wide		9	1.778		355	64.50	419.50	495
0500	7'-1" x 3'-0" wide		9	1.778		385	64.50	449.50	525
0604	Door, screen, plain full		12	1.333		315	48	363	430
0614	Divided		12	1.333		470	48	518	595
0634	Decor full		12	1.333		555	48	603	690
0700	Dutch door, pine, 1-3/4" x 2'-8" x 6'-8", 6 panel		12	1.333		740	48	788	895
0720	Half glass		10	1.600		1,025	58	1,083	1,225
0800	3'-0" wide, 6 panel		12	1.333		660	48	708	810
0820	Half glass		10	1.600		1,050	58	1,108	1,250
1000	Entrance door, colonial, 1-3/4" x 6'-8" x 2'-8" wide		16	1		625	36	661	750
1020	6 panel pine, 3'-0" wide		15	1.067		610	38.50	648.50	735
1100	8 panel pine, 2'-8" wide		16	1		735	36	771	870
1120	3'-0" wide		15	1.067		670	38.50	708.50	805
1200	For tempered safety glass lites (min. of 2), add					92.50		92.50	102
1300	Flush, birch, solid core, 1-3/4" x 6'-8" x 2'-8" wide	2 Corp	16	1		169	36	205	246
1320	3'-0" wide		15	1.067		153	38.50	191.50	233
1350	7'-0" x 2'-8" wide		16	1		141	36	177	215
1360	3'-0" wide		15	1.067		149	38.50	187.50	228
1420	6'-8" x 3'-0" wide, fir		16	1		540	36	576	655
1720	Carved mahogany 3'-0" x 6'-8"		15	1.067		1,600	38.50	1,638.50	1,825
1760	Mahogany, 3'-0" x 6'-8"		15	1.067		730	38.50	768.50	870
1930	For dutch door with shelf, add					140%			
2700	Interior, closet, bi-fold, w/hardware, no frame or trim incl.	2 Corp	13	1.231	Ea.	80.50	44.50	125	162
2720	Flush, birch, 2'-6" x 6'-8"								

# 08 14 Wood Doors

## 08 14 33 – Stile and Rail Wood Doors

08 14 33.20 Wood Doors Residential		Crew	Daily	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total
			Output	Eo.			Labor			Incl O&P
2740	3'-0" wide	2 Corp	13	1.231	Eo.	78	44.50		122.50	159
2760	4'-0" wide		12	1.333		123	48		171	214
2780	5'-0" wide		11	1.455		121	52.50		173.50	220
2800	6'-0" wide		10	1.600		137	58		195	246
2804	Flush lauan 2'-0" x 6'-0"		14	1.143		57	41.50		98.50	131
2810	8'-0" wide		9	1.778		214	64.50		278.50	340
2817	6'-0" wide		9	1.778		180	64.50		244.50	305
2820	Flush, hardboard, primed, 6'-8" x 2'-6" wide		13	1.231		77.50	44.50		122	159
2840	3'-0" wide		13	1.231		95.50	44.50		140	178
2860	4'-0" wide		12	1.333		156	48		204	251
2880	5'-0" wide		11	1.455		206	52.50		258.50	315
2900	6'-0" wide		10	1.600		193	58		251	305
2920	Hardboard, primed 7'-0" x 4'-0" wide		12	1.333		200	48		248	299
2930	6'-0" wide		10	1.600		195	58		253	310
3000	Raised panel pine, 6'-6" or 6'-8" x 2'-6" wide		13	1.231		207	44.50		251.50	300
3020	3'-0" wide		13	1.231		305	44.50		349.50	410
3040	4'-0" wide		12	1.333		330	48		378	445
3060	5'-0" wide		11	1.455		425	52.50		477.50	555
3080	6'-0" wide		10	1.600		470	58		528	610
3180	Louvered, pine, 6'-6" or 6'-8" x 1'-6" wide		13	1.231		212	44.50		256.50	305
3190	2'-0" wide		14	1.143		209	41.50		250.50	297
3200	Louvered, pine, 6'-6" or 6'-8" x 2'-6" wide		13	1.231		170	44.50		214.50	260
3220	3'-0" wide		13	1.231		284	44.50		328.50	390
3225	Door, interior louvered bi-fold, pine, 3'-0" x 6'-8"					284			284	315
3240	4'-0" wide	2 Corp	12	1.333		256	48		304	360
3260	5'-0" wide		11	1.455		276	52.50		328.50	390
3280	6'-0" wide		10	1.600		335	58		393	460
3290	8'-0" wide		10	1.600		520	58		578	665
3300	7'-0" x 3'-0" wide		12	1.333		305	48		353	415
3320	6'-0" wide		10	1.600		390	58		448	520
4400	Bi-passing closet, incl. hardware and frame, no trim incl.									
4420	Flush, lauan, 6'-8" x 4'-0" wide	2 Corp	12	1.333	Opng.	178	48		226	274
4440	5'-0" wide		11	1.455		196	52.50		248.50	305
4460	6'-0" wide		10	1.600		177	58		235	290
4600	Flush, birch, 6'-8" x 4'-0" wide		12	1.333		270	48		318	375
4620	5'-0" wide		11	1.455		227	52.50		279.50	335
4640	6'-0" wide		10	1.600		360	58		418	490
4800	Louvered, pine, 6'-8" x 4'-0" wide		12	1.333		525	48		573	655
4820	5'-0" wide		11	1.455		740	52.50		792.50	900
4840	6'-0" wide		10	1.600		770	58		828	940
4900	Mirrored, 6'-8" x 4'-0" wide		12	1.333	Eo.	335	48		383	450
5000	Panelized, pine, 6'-8" x 4'-0" wide		12	1.333	Opng.	505	48		553	635
5020	5'-0" wide		11	1.455		760	52.50		812.50	920
5040	6'-0" wide		10	1.600		900	58		958	1,075
5042	8'-0" wide		12	1.333		1,000	48		1,048	1,175
5061	Hardboard, 6'-8" x 4'-0" wide		10	1.600		203	58		261	320
5062	5'-0" wide		10	1.600		243	58		301	360
5063	6'-0" wide		10	1.600		228	58		286	345
6100	Folding accordion, closet, including track and frame									
6200	Rigid PVC	2 Corp	10	1.600	Eo.	124	58		182	232
7310	Passage doors, flush, no frame included									
7320	Hardboard, hollow core, 1-3/8" x 6'-8" x 1'-6" wide	2 Corp	18	.889	Eo.	43	32		75	101
7330	2'-0" wide		18	.889		48	32		80	106

# 08 14 Wood Doors

## 08 14 33 – Stile and Rail Wood Doors

08 14 33.20 Wood Doors Residential		Crew	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours			Labor	Equipment	Total		
7340	2'-6" wide	2 Carp	18	.889	Ea.	55	32		87	114	
7350	2'-8" wide		18	.889		57	32		89	116	
7360	3'-0" wide		17	.941		58	34		92	120	
7420	Luan, hollow core, 1-3/8" x 6'-8" x 1'-6" wide		18	.889		59.50	32		91.50	119	
7440	2'0" wide		18	.889		63	32		95	123	
7450	2'-4" wide		18	.889		71.50	32		103.50	132	
7460	2'-6" wide		18	.889		71.50	32		103.50	132	
7480	2'-8" wide		18	.889		74	32		106	135	
7500	3'-0" wide		17	.941		90.50	34		124.50	156	
7540	2'-6" wide		16	1		88.50	36		124.50	157	
7560	2'-8" wide		16	1		90.50	36		126.50	159	
7580	3'-0" wide		16	1		94.50	36		130.50	164	
7595	Pair of 3'-0" wide		9	1.778	Pr.	188	64.50		252.50	315	
7700	Birch, hollow core, 1-3/8" x 6'-8" x 1'-6" wide		18	.889	Ea.	78	32		110	139	
7720	2'-0" wide		18	.889		86	32		118	148	
7740	2'-6" wide		18	.889		87.50	32		119.50	150	
7760	2'-8" wide		18	.889		91	32		123	153	
7780	3'-0" wide		17	.941		94.50	34		128.50	160	
7790	2'-6" ash/oak door with hinges		18	.889		104	32		136	167	
7910	2'-8" wide		16	1		78	36		114	146	
7920	3'-0" wide		16	1		185	36		221	263	
7940	Pair of 3'-0" wide		9	1.778	Pr.	405	64.50		469.50	550	
8000	Pine louvered, 1-3/8" x 6'-8" x 1'-6" wide		19	.842	Ea.	160	30.50		190.50	226	
8020	2'-0" wide		18	.889		177	32		209	247	
8040	2'-6" wide		18	.889		200	32		232	273	
8060	2'-8" wide		18	.889		220	32		252	295	
8080	3'-0" wide		17	.941		233	34		267	315	
8300	Pine paneled, 1-3/8" x 6'-8" x 1'-6" wide		19	.842		201	30.50		231.50	271	
8320	2'-0" wide		18	.889		251	32		283	330	
8330	2'-4" wide		18	.889		252	32		284	330	
8340	2'-6" wide		18	.889		265	32		297	345	
8360	2'-8" wide		18	.889		271	32		303	350	
8380	3'-0" wide		17	.941		291	34		325	375	
8450	French door, pine, 15 lites, 1-3/8" x 6'-8" x 2'-6" wide		18	.889		270	32		302	350	
8470	2'-8" wide		18	.889		266	32		298	345	
8490	3'-0" wide		17	.941		277	34		311	360	
8804	Pocket door, 6 panel pine, 2'-6" x 6'-8" with frame		10.50	1.524		395	55		450	525	
8814	2'-8" x 6'-8"		10.50	1.524		390	55		445	515	
8824	3'-0" x 6'-8"		10.50	1.524		400	55		455	530	
9000	Passage doors, flush, no frame, birch, solid core, 1-3/8" x 2'-4" x 7'-0"		16	1		133	36		169	206	
9020	2'-8" wide		16	1		135	36		171	208	
9040	3'-0" wide		16	1		167	36		203	244	
9060	3'-4" wide		15	1.067		320	38.50		358.50	415	
9080	Pair of 3'-0" wide		9	1.778	Pr.	296	64.50		360.50	430	
9100	Luan, solid core, 1-3/8" x 7'-0" x 2'-4" wide		16	1	Ea.	171	36		207	248	
9120	2'-8" wide		16	1		152	36		188	228	
9140	3'-0" wide		16	1		201	36		237	282	
9160	3'-4" wide		15	1.067		218	38.50		256.50	305	
9180	Pair of 3'-0" wide		9	1.778	Pr.	425	64.50		489.50	570	
9200	Hardboard, solid core, 1-3/8" x 7'-0" x 2'-4" wide		16	1	Ea.	177	36		213	254	
9220	2'-8" wide		16	1		180	36		216	258	
9240	3'-0" wide		16	1		186	36		222	265	
9260	3'-4" wide		15	1.067		375	38.50		413.50	475	

# 08 14 Wood Doors

## 08 14 35 – Torrified Doors

08 14 35.10 Torrified Exterior Doors		Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Incl O&P
<b>0010 TORRIFIED EXTERIOR DOORS</b>										
0020	Wood doors made from torrified wood, exterior									
0030	All doors require a finish be applied, all glass is insulated									
0040	All doors require pilot holes for all fasteners									
0100	6 panel, paint grade poplar, 1-3/4" x 3'-0" x 6'-8"	2 Corp	12	1.333	Ea.	1,425	48		1,473	1,650
0120	Half glass 3'-0" x 6'-8"	"	12	1.333		1,550	48		1,598	1,775
0200	Side lite, full glass, 1-3/4" x 1'-2" x 6'-8"					1,025			1,025	1,125
0220	Side lite, half glass, 1-3/4" x 1'-2" x 6'-8"					995			995	1,100
0300	Raised face, 2 panel, paint grade poplar, 1-3/4" x 3'-0" x 7'-0"	2 Corp	12	1.333		1,425	48		1,473	1,650
0320	Side lite, raised face, half glass, 1-3/4" x 1'-2" x 7'-0"					1,150			1,150	1,275
0500	6 panel, Fir, 1-3/4" x 3'-0" x 6'-8"	2 Corp	12	1.333		2,050	48		2,098	2,325
0520	Half glass 3'-0" x 6'-8"	"	12	1.333		2,025	48		2,073	2,300
0600	Side lite, full glass, 1-3/4" x 1'-2" x 6'-8"					1,025			1,025	1,125
0620	Side lite, half glass, 1-3/4" x 1'-2" x 6'-8"					1,050			1,050	1,175
0700	6 panel, Mahogany, 1-3/4" x 3'-0" x 6'-8"	2 Corp	12	1.333		2,525	48		2,573	2,850
0800	Side lite, full glass, 1-3/4" x 1'-2" x 6'-8"					1,150			1,150	1,250
0820	Side lite, half glass, 1-3/4" x 1'-2" x 6'-8"					1,150			1,150	1,275

## 08 14 40 – Interior Cafe Doors

### 08 14 40.10 Cafe Style Doors

0010 CAFE STYLE DOORS		Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Incl O&P
6520	Interior cafe doors, 2'-6" opening, stock, panel pine	2 Corp	16	1	Ea.	430	36		466	535
6540	3'-0" opening	"	16	1	"	455	36		491	560
6550	Louvered pine									
6560	2'-6" opening	2 Corp	16	1	Ea.	345	36		381	435
8000	3'-0" opening	"	16	1	"	370	36		406	470
8010	2'-6" opening, hardwood		16	1		375	36		411	475
8020	3'-0" opening	↓	16	1	↓	425	36		461	525

# 08 16 Composite Doors

## 08 16 13 – Fiberglass Doors

### 08 16 13.10 Entrance Doors, Fibrous Glass

0010 ENTRANCE DOORS, FIBROUS GLASS		Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Incl O&P	
0020	Exterior, fiberglass, door, 2'-8" wide x 6'-8" high	G	2 Corp	15	1.067	Ea.	276	38.50		314.50	370
0040	3'-0" wide x 6'-8" high	G		15	1.067		279	38.50		317.50	370
0060	3'-0" wide x 7'-0" high	G		15	1.067		520	38.50		558.50	635
0080	3'-0" wide x 6'-8" high, with two lites	G		15	1.067		345	38.50		383.50	445
0100	3'-0" wide x 8'-0" high, with two lites	G		15	1.067		535	38.50		573.50	655
0110	Half glass, 3'-0" wide x 6'-8" high	G		15	1.067		485	38.50		523.50	600
0120	3'-0" wide x 6'-8" high, low E	G		15	1.067		525	38.50		563.50	645
0130	3'-0" wide x 8'-0" high	G		15	1.067		605	38.50		643.50	730
0140	3'-0" wide x 8'-0" high, low E	G		15	1.067		685	38.50		723.50	820
0150	Side lights, 1'-0" wide x 6'-8" high	G					284			284	310
0160	1'-0" wide x 6'-8" high, low E	G					305			305	335
0180	1'-0" wide x 6'-8" high, full glass	G				↓	340			340	375
0190	1'-0" wide x 6'-8" high, low E	G				↓	385			385	420

# 08 16 Composite Doors

## 08 16 14 – French Doors

08 16 14.10 Exterior Doors With Glass Lites		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	EXTERIOR DOORS WITH GLASS LITES						Labor	Equipment	
0020	French, Fir, 1-3/4", 3'-0" wide x 6'-8" high	2 Carp	12	1.333	Ea.	650	48	698	795
0025	Double		12	1.333		1,300	48	1,348	1,500
0030	Maple, 1-3/4", 3'-0" wide x 6'-8" high		12	1.333		725	48	773	880
0035	Double		12	1.333		1,450	48	1,498	1,675
0040	Cherry, 1-3/4", 3'-0" wide x 6'-8" high		12	1.333		850	48	898	1,025
0045	Double		12	1.333		1,700	48	1,748	1,950
0100	Mahogany, 1-3/4", 3'-0" wide x 8'-0" high		10	1.600		875	58	933	1,050
0105	Double		10	1.600		1,750	58	1,808	2,025
0110	Fir, 1-3/4", 3'-0" wide x 8'-0" high		10	1.600		1,300	58	1,358	1,525
0115	Double		10	1.600		2,625	58	2,683	2,975
0120	Oak, 1-3/4", 3'-0" wide x 8'-0" high		10	1.600		1,975	58	2,033	2,250
0125	Double	▼	10	1.600	▼	3,925	58	3,983	4,425

# 08 17 Integrated Door Opening Assemblies

## 08 17 23 – Integrated Wood Door Opening Assemblies

### 08 17 23.10 Pre-Hung Doors

0010	PRE-HUNG DOORS	2 Carp	15	1.067	Ea.	262	38.50	300.50	350
0300	Exterior, wood, comb. storm & screen, 6'-9" x 2'-6" wide		15	1.067		350	38.50	388.50	450
0320	2'-8" wide		15	1.067		330	38.50	368.50	430
0340	3'-0" wide		15	1.067		45.50		45.50	50
0360	For 7'-0" high door, add								
1600	Entrance door, flush, birch, solid core								
1620	4-5/8" solid jamb, 1-3/4" x 6'-8" x 2'-8" wide	2 Carp	16	1	Ea.	299	36	335	390
1640	3'-0" wide		16	1		405	36	441	510
1642	5-5/8" jamb		16	1		350	36	386	445
1680	For 7'-0" high door, add					25.50		25.50	28
2000	Entrance door, colonial, 6 panel pine								
2020	4-5/8" solid jamb, 1-3/4" x 6'-8" x 2'-8" wide	2 Carp	16	1	Ea.	670	36	706	800
2040	3'-0" wide	"	16	1		705	36	741	835
2060	For 7'-0" high door, add					57		57	63
2200	For 5-5/8" solid jamb, add					44		44	48.50
2230	French style, exterior, 1 lite, 1-3/4" x 3'-0" x 6'-8"	1 Carp	14	.571		755	20.50	775.50	865
2235	9 lites	"	14	.571		755	20.50	775.50	865
2245	15 lites	2 Carp	14	1.143		815	41.50	856.50	965
2250	Double, 15 lites, 2'-0" x 6'-8", 4'-0" opening		7	2.286	Pr.	1,300	82.50	1,382.50	1,550
2260	2'-6" x 6'-8", 5'-0" opening		7	2.286		1,425	82.50	1,507.50	1,700
2280	3'-0" x 6'-8", 6'-0" opening		7	2.286	▼	1,700	82.50	1,782.50	2,000
2430	3'-0" x 7'-0", 15 lites		14	1.143	Ea.	1,000	41.50	1,041.50	1,175
2432	Two 3'-0" x 7'-0"		7	2.286	Pr.	2,075	82.50	2,157.50	2,400
2435	3'-0" x 8'-0"		14	1.143	Ea.	1,075	41.50	1,116.50	1,250
2437	Two, 3'-0" x 8'-0"		7	2.286	Pr.	2,200	82.50	2,282.50	2,550
2500	Exterior, metal face, insulated, incl. jamb, brickmold and threshold, flush, 2'-8" x 6'-8"	2 Carp	16	1	Ea.	298	36	334	390
2550	3'-0" x 6'-8"		16	1		294	36	330	385
3500	Embossed, 6 panel, 2'-8" x 6'-8"		16	1		340	36	376	435
3550	3'-0" x 6'-8"		16	1		345	36	381	440
3600	2 narrow lites, 2'-8" x 6'-8"		16	1		320	36	356	410
3650	3'-0" x 6'-8"		16	1		325	36	361	420
3700	Half glass, 2'-8" x 6'-8"		16	1	▼	335	36	371	425

# 08 17 Integrated Door Opening Assemblies

## 08 17 23 – Integrated Wood Door Opening Assemblies

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				2 Corp	16	1	Ea.	Labor	Equipment	
08 17 23.10 Pre-Hung Doors										
3750	3'-0" x 6'-8"			2 Corp	16	1	Ea.	380	36	416 475
3800	2 top lites, 2'-8" x 6'-8"				16	1		340	36	376 435
3850	3'-0" x 6'-8"			2 Corp	16	1		375	36	411 470
4000	Interior, passage door, 4-5/8" solid jamb									
4370	Pine, louvered, 2'-8" x 6'-8"			2 Corp	17	.941	Ea.	209	34	243 286
4380	3'-0"				17	.941		222	34	256 300
4400	Lauan, flush, solid core, 1-3/8" x 6'-8" x 2'-6" wide				17	.941		194	34	228 270
4420	2'-8" wide				17	.941		194	34	228 270
4440	3'-0" wide				16	1		212	36	248 293
4600	Hollow core, 1-3/8" x 6'-8" x 2'-6" wide				17	.941		136	34	170 206
4620	2'-8" wide				17	.941		136	34	170 205
4640	3'-0" wide			2 Corp	16	1		145	36	181 220
4700	For 7'-0" high door, add							41		41 45
5000	Birch, flush, solid core, 1-3/8" x 6'-8" x 2'-6" wide			2 Corp	17	.941		315	34	349 400
5020	2'-8" wide				17	.941		210	34	244 287
5040	3'-0" wide				16	1		315	36	351 405
5200	Hollow core, 1-3/8" x 6'-8" x 2'-6" wide				17	.941		260	34	294 340
5220	2'-8" wide				17	.941		273	34	307 355
5240	3'-0" wide			2 Corp	16	1		277	36	313 365
5280	For 7'-0" high door, add							35		35 38.50
5500	Hardboard paneled, 1-3/8" x 6'-8" x 2'-6" wide			2 Corp	17	.941		156	34	190 228
5520	2'-8" wide				17	.941		163	34	197 235
5540	3'-0" wide				16	1		165	36	201 241
6000	Pine paneled, 1-3/8" x 6'-8" x 2'-6" wide				17	.941		278	34	312 360
6020	2'-8" wide				17	.941		294	34	328 380
6040	3'-0" wide			2 Corp	16	1		305	36	341 395
7200	Prehung, bifold, mirrored, 6'-8" x 5'-0"				9	.889		450	32	482 550
7220	6'-8" x 6'-0"				9	.889		450	32	482 550
7240	6'-8" x 8'-0"				6	1.333		760	48	808 915
7600	Oak, 6 panel, 1-3/4" x 6'-8" x 3'-0"				17	.471		900	17	917 1,025
8500	Pocket door frame with lauan, flush, hollow core, 1-3/8" x 3'-0" x 6'-8"			2 Corp	17	.471		320	17	337 385

# 08 31 Access Doors and Panels

## 08 31 13 – Access Doors and Frames

### 08 31 13.20 Bulkhead/Cellar Doors

#### 0010 BULKHEAD/CELLAR DOORS

0020	Steel, not incl. sides, 44" x 62"	1 Corp	5.50	1.455	Ea.	705	52.50	757.50	860
0100	52" x 73"		5.10	1.569		865	56.50	921.50	1,050
0500	With sides and foundation plates, 57" x 45" x 24"		4.70	1.702		895	61.50	956.50	1,075
0600	42" x 49" x 51"		4.30	1.860		600	67.50	667.50	770

### 08 31 13.40 Kennel Doors

#### 0010 KENNEL DOORS

0020	2 way, swinging type, 13" x 19" opening	2 Corp	11	1.455	Opng.	88.50	52.50	141	184
0100	17" x 29" opening		11	1.455		132	52.50	184.50	232
0200	9" x 9" opening, electronic with accessories		11	1.455		153	52.50	205.50	255

# 08 32 Sliding Glass Doors

## 08 32 13 – Sliding Aluminum-Framed Glass Doors

08 32 13.10 Sliding Aluminum Doors		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
0010	SLIDING ALUMINUM DOORS						Labor	Equipment		
0350	Aluminum, 5/8" tempered insulated glass, 6' wide									
0400	Premium	2 Carp	4	4	Ea.	1,600	145		1,745	2,025
0450	Economy		4	4		890	145		1,035	1,225
0500	8' wide, premium		3	5.333		1,775	193		1,968	2,275
0550	Economy		3	5.333		1,575	193		1,768	2,050
0600	12' wide, premium		2.50	6.400		3,100	231		3,331	3,800
0650	Economy		2.50	6.400		1,675	231		1,906	2,200
4000	Aluminum, baked on enamel, temp glass, 6'-8" x 10'-0" wide		4	4		1,200	145		1,345	1,550
4020	Insulating glass, 6'-8" x 6'-0" wide		4	4		975	145		1,120	1,325
4040	8'-0" wide		3	5.333		1,175	193		1,368	1,625
4060	10'-0" wide		2	8		1,450	289		1,739	2,075
4080	Anodized, temp glass, 6'-8" x 6'-0" wide		4	4		495	145		640	785
4100	8'-0" wide		3	5.333		605	193		798	980
4120	10'-0" wide		2	8		710	289		999	1,250

## 08 32 19 – Sliding Wood-Framed Glass Doors

### 08 32 19.10 Sliding Wood Doors

0010	SLIDING WOOD DOORS	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
0020	Wood, tempered insul. glass, 6' wide, premium	2 Carp	4	4	Ea.	1,525	145		1,670	1,925
0100	Economy		4	4		1,250	145		1,395	1,625
0150	8' wide, wood, premium		3	5.333		1,950	193		2,143	2,475
0200	Economy		3	5.333		1,600	193		1,793	2,075
0235	10' wide, wood, premium		2.50	6.400		2,875	231		3,106	3,525
0240	Economy		2.50	6.400		2,450	231		2,681	3,050
0250	12' wide, wood, premium		2.50	6.400		3,275	231		3,506	3,975
0300	Economy		2.50	6.400		2,675	231		2,906	3,300

## 08 32 19.15 Sliding Glass Vinyl-Clad Wood Doors

0010	SLIDING GLASS VINYL-CLAD WOOD DOORS	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P	
0020	Glass, sliding vinyl-clad, insul. glass, 6'-0" x 6'-8"	G	2 Carp	4	4	Opng.	1,575	145		1,720	2,000
0025	6'-0" x 6'-10" high	G		4	4		1,775	145		1,920	2,200
0030	6'-0" x 8'-0" high	G		4	4		2,175	145		2,320	2,650
0050	5'-0" x 6'-8" high	G		4	4		1,625	145		1,770	2,050
0100	8'-0" x 6'-10" high	G		4	4		2,125	145		2,270	2,575
0104	8'-0" x 6'-8" high	G		4	4		2,075	145		2,220	2,550
0150	8'-0" x 8'-0" high	G		4	4		2,475	145		2,620	2,975
0500	4 leaf, 9'-0" x 6'-10" high	G		3	5.333		3,675	193		3,868	4,375
0550	9'-0" x 8'-0" high	G		3	5.333		4,050	193		4,243	4,775
0600	12'-0" x 6'-10" high	G		3	5.333		4,350	193		4,543	5,100

# 08 36 Panel Doors

## 08 36 13 – Sectional Doors

### 08 36 13.20 Residential Garage Doors

0010	RESIDENTIAL GARAGE DOORS	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
0050	Hinged, wood, custom, double door, 9' x 7'	2 Carp	4	4	Ea.	935	145		1,080	1,275
0070	16' x 7'		3	5.333		1,300	193		1,493	1,750
0200	Overhead, sectional, incl. hardware, fiberglass, 9' x 7', standard	5	3.200			975	116		1,091	1,275
0220	Deluxe		5	3.200		1,200	116		1,316	1,525
0300	16' x 7', standard		6	2.667		1,950	96.50		2,046.50	2,300
0320	Deluxe		6	2.667		2,325	96.50		2,421.50	2,725
0500	Hardboard, 9' x 7', standard		8	2		750	72.50		822.50	945

# 08 36 Panel Doors

## 08 36 13 – Sectional Doors

08 36 13.20 Residential Garage Doors		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
						Material	Labor	Equipment		
0520	Deluxe	2 Carp	8	2	Ea.	905	72.50		977.50	1,125
0600	16' x 7', standard		6	2.667		1,325	96.50		1,421.50	1,600
0620	Deluxe		6	2.667		1,600	96.50		1,696.50	1,925
0700	Metal, 9' x 7', standard		8	2		1,000	72.50		1,072.50	1,225
0720	Deluxe		6	2.667		1,025	96.50		1,121.50	1,275
0800	16' x 7', standard		6	2.667		1,200	96.50		1,296.50	1,475
0820	Deluxe		5	3.200		1,450	116		1,566	1,800
0900	Wood, 9' x 7', standard		8	2		1,075	72.50		1,147.50	1,300
0920	Deluxe		8	2		2,325	72.50		2,397.50	2,675
1000	16' x 7', standard		6	2.667		1,750	96.50		1,846.50	2,075
1020	Deluxe		6	2.667		3,150	96.50		3,246.50	3,625
1800	Door hardware, sectional	1 Carp	4	2		375	72.50		447.50	535
1810	Door tracks only		4	2		173	72.50		245.50	310
1820	One side only		7	1.143		129	41.50		170.50	209
4000	For electric operator, economy, add		8	1		460	36		496	565
4100	Deluxe, including remote control		8	1		640	36		676	760
4500	For transmitter/receiver control, add to operator				Total	119			119	131
4600	Transmitters, additional				"	67			67	74
6000	Replace section, on sectional door, fiberglass, 9' x 7'	1 Carp	4	2	Ea.	740	72.50		812.50	935
6020	16' x 7'		3.50	2.286		765	82.50		847.50	980
6200	Hardboard, 9' x 7'		4	2		176	72.50		248.50	315
6220	16' x 7'		3.50	2.286		248	82.50		330.50	410
6300	Metal, 9' x 7'		4	2		228	72.50		300.50	370
6320	16' x 7'		3.50	2.286		335	82.50		417.50	505
6500	Wood, 9' x 7'		4	2		125	72.50		197.50	257
6520	16' x 7'		3.50	2.286		249	82.50		331.50	410
7010	Garage doors, row of lites					133			133	146

# 08 51 Metal Windows

## 08 51 13 – Aluminum Windows

### 08 51 13.20 Aluminum Windows

0010	ALUMINUM WINDOWS, incl. frame and glazing, commercial grade									
1000	Stock units, casement, 3'-1" x 3'-2" opening	2 Sswk	10	1.600	Ea.	395	64.50		459.50	540
1040	Insulating glass	"	10	1.600		520	64.50		584.50	680
1050	Add for storms					126			126	138
1600	Projected, with screen, 3'-1" x 3'-2" opening	[2 Sswk]	10	1.600		370	64.50		434.50	520
1650	Insulating glass	"	10	1.600		395	64.50		459.50	545
1700	Add for storms					123			123	135
2000	4'-5" x 5'-3" opening	[2 Sswk]	8	2		410	80.50		490.50	595
2050	Insulating glass	"	8	2		475	80.50		555.50	665
2100	Add for storms					132			132	145
2500	Enamel finish windows, 3'-1" x 3'-2"	[2 Sswk]	10	1.600		380	64.50		444.50	525
2550	Insulating glass		10	1.600		325	64.50		389.50	470
2600	4'-5" x 5'-3"		8	2		425	80.50		505.50	610
2700	Insulating glass		8	2		480	80.50		560.50	665
3000	Single-hung, 2' x 3' opening, enameled, standard glazed		10	1.600		219	64.50		283.50	350
3100	Insulating glass		10	1.600		265	64.50		329.50	400
3300	2'-8" x 6'-8" opening, standard glazed		8	2		375	80.50		455.50	550
3400	Insulating glass		8	2		480	80.50		560.50	670
3700	3'-4" x 5'-0" opening, standard glazed		9	1.778		315	71.50		386.50	475
3800	Insulating glass		9	1.778		345	71.50		416.50	500

# 08 51 Metal Windows

## 08 51 13 – Aluminum Windows

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
4000	Sliding aluminum, 3' x 2' opening, standard glazed		2 Sswk	10	1.600	Ea.	218	64.50	282.50	350
4100	Insulating glass				10	1.600	241	64.50	305.50	375
4300	5' x 3' opening, standard glazed				9	1.778	345	71.50	416.50	505
4400	Insulating glass				9	1.778	385	71.50	456.50	550
4600	8' x 4' opening, standard glazed				6	2.667	365	108	473	585
4700	Insulating glass				6	2.667	590	108	698	835
5000	9' x 5' opening, standard glazed				4	4	550	161	711	880
5100	Insulating glass				4	4	850	161	1,011	1,200
5500	Sliding, with thermal barrier and screen, 6' x 4', 2 track				8	2	725	80.50	805.50	940
5700	4 track				8	2	915	80.50	995.50	1,150
6000	For above units with bronze finish, add							15%		
6200	For installation in concrete openings, add							8%		

## 08 51 13.30 Impact Resistant Aluminum Windows

0010	IMPACT RESISTANT ALUMINUM WINDOWS, incl. frame and glazing									
0100	Single-hung, impact resistant, 2'-8" x 5'-0"		2 Corp	9	1.778	Ea.	1,250	64.50	1,314.50	1,475
0120	3'-0" x 5'-0"			9	1.778		1,350	64.50	1,414.50	1,600
0130	4'-0" x 5'-0"			9	1.778		1,450	64.50	1,514.50	1,700
0250	Horizontal slider, impact resistant, 5'-5" x 5'-2"			9	1.778	↓	1,625	64.50	1,689.50	1,875

## 08 51 23 – Steel Windows

### 08 51 23.40 Basement Utility Windows

0010	BASEMENT UTILITY WINDOWS									
0015	1'-3" x 2'-8"		1 Corp	16	.500	Ea.	156	18.10	174.10	202
1100	1'-7" x 2'-8"			16	.500		151	18.10	169.10	196
1200	1'-11" x 2'-8"			14	.571		155	20.50	175.50	205

## 08 51 66 – Metal Window Screens

### 08 51 66.10 Screens

0010	SCREENS									
0020	For metal sash, aluminum or bronze mesh, flat screen		2 Sswk	1200	.013	S.F.	4.63	.54	5.17	6
0500	Wicket screen, inside window		"	1000	.016	"	6.95	.65	7.60	8.75
0600	Residential, aluminum mesh and frame, 2' x 3'		2 Corp	32	.500	Ea.	19.95	18.10	38.05	51.50
0610	Rescreen			50	.320		13.80	11.55	25.35	34
0620	3' x 5'			32	.500		61	18.10	79.10	96.50
0630	Rescreen			45	.356		36	12.85	48.85	60.50
0640	4' x 8'			25	.640		90	23	113	137
0650	Rescreen			40	.400		54.50	14.45	68.95	84
0660	Patio door			25	.640	↓	208	23	231	267
0680	Rescreening			1600	.010	S.F.	2.56	.36	2.92	3.41
1000	Screens for solar louvers		2 Sswk	160	.100	"	25.50	4.04	29.54	35

# 08 52 Wood Windows

## 08 52 10 – Plain Wood Windows

### 08 52 10.10 Wood Windows

0010	WOOD WINDOWS, including frame, screens and grilles									
0020	Residential, stock units									
0050	Awning type, double insulated glass, 2'-10" x 1'-9" opening		2 Corp	12	1.333	Opng.	246	48	294	350
0100	2'-10" x 6'-0" opening		1 Corp	8	1		570	36	606	690
0200	4'-0" x 3'-6" single pane			10	.800	↓	380	29	409	470
0300	6' x 5' single pane			8	1	Ea.	520	36	556	635
1000	Casement, 2'-0" x 3'-4" high		2 Corp	20	.800	↓	257	29	286	330
1020	2'-0" x 4'-0"			18	.889	↓	272	32	304	355

# 08 52 Wood Windows

## 08 52 10 – Plain Wood Windows

08 52 10.10 Wood Windows		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
						Labor	Equipment		
1040	2'-0" x 5'-0"	2 Corp	17	.941	Ea.	325	34	359	410
1060	2'-0" x 6'-0"		16	1		320	36	356	415
1080	4'-0" x 3'-4"		15	1.067		600	38.50	638.50	725
1100	4'-0" x 4'-0"		15	1.067		675	38.50	713.50	805
1120	4'-0" x 5'-0"		14	1.143		760	41.50	801.50	905
1140	4'-0" x 6'-0"		12	1.333		860	48	908	1,025
1600	Casement units, 8' x 5', with screens, double insulated glass		2.50	6.400	Opng.	1,500	231	1,731	2,025
1700	Low E glass		2.50	6.400		1,675	231	1,906	2,225
2300	Casements, including screens, 2'-0" x 3'-4", double insulated glass		11	1.455		280	52.50	332.50	395
2400	Low E glass		11	1.455		280	52.50	332.50	395
2600	2 lite, 4'-0" x 4'-0", double insulated glass		9	1.778		515	64.50	579.50	670
2700	Low E glass		9	1.778		525	64.50	589.50	685
2900	3 lite, 5'-2" x 5'-0", double insulated glass		7	2.286		780	82.50	862.50	990
3000	Low E glass		7	2.286		825	82.50	907.50	1,050
3200	4 lite, 7'-0" x 5'-0", double insulated glass		6	2.667		1,100	96.50	1,196.50	1,375
3300	Low E glass		6	2.667		1,175	96.50	1,271.50	1,450
3500	5 lite, 8'-6" x 5'-0", double insulated glass		5	3.200		1,475	116	1,591	1,825
3600	Low E glass		5	3.200		1,475	116	1,591	1,800
3800	For removable wood grilles, diamond pattern, add				Leaf	40		40	44
3900	Rectangular pattern, add				"	39		39	42.50
4000	Bow, fixed lites, 8' x 5', double insulated glass	2 Corp	3	5.333	Opng.	1,475	193	1,668	1,950
4100	Low E glass	"	3	5.333	"	1,875	193	2,068	2,375
4150	6'-0" x 5'-0"	1 Corp	8	1	Ea.	1,300	36	1,336	1,475
4300	Fixed lites, 9'-9" x 5'-0", double insulated glass	2 Corp	2	8	Opng.	1,025	289	1,314	1,600
4400	Low E glass	"	2	8	"	1,100	289	1,389	1,700
5000	Bow, casement, 8'-1" x 4'-8" high	3 Carp	8	3	Ea.	1,625	108	1,733	1,950
5020	9'-6" x 4'-8"		8	3		1,750	108	1,858	2,100
5040	8'-1" x 5'-1"		8	3		1,950	108	2,058	2,325
5060	9'-6" x 5'-1"		6	4		1,975	145	2,120	2,425
5080	8'-1" x 6'-0"		6	4		1,950	145	2,095	2,400
5100	9'-6" x 6'-0"		6	4		2,075	145	2,220	2,525
5800	Skylights, hatches, vents, and sky roofs, see Section 08 62 13.00								

## 08 52 10.20 Awning Window

0010	AWNING WINDOW, including frame, screens and grilles								
0100	34" x 22", insulated glass	1 Carp	10	.800	Ea.	300	29	329	380
0200	Low E glass		10	.800		330	29	359	410
0300	40" x 28", insulated glass		9	.889		315	32	347	405
0400	Low E glass		9	.889		350	32	382	440
0500	48" x 36", insulated glass		8	1		480	36	516	585
0600	Low E glass		8	1		505	36	541	615

## 08 52 10.30 Wood Windows

0010	WOOD WINDOWS, double-hung								
0020	Including frame, double insulated glass, screens and grilles								
0040	Double-hung, 2'-2" x 3'-4" high	2 Corp	15	1.067	Ea.	221	38.50	259.50	305
0060	2'-2" x 4'-4"		14	1.143		236	41.50	277.50	330
0080	2'-6" x 3'-4"		13	1.231		233	44.50	277.50	330
0100	2'-6" x 4'-0"		12	1.333		238	48	286	340
0120	2'-6" x 4'-8"		12	1.333		254	48	302	360
0140	2'-10" x 3'-4"		10	1.600		229	58	287	345
0160	2'-10" x 4'-0"		10	1.600		262	58	320	385
0180	3'-7" x 3'-4"		9	1.778		262	64.50	326.50	395
0200	3'-7" x 5'-4"		9	1.778		300	64.50	364.50	435

# 08 52 Wood Windows

## 08 52 10 – Plain Wood Windows

08 52 10.30 Wood Windows				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew	Output			Ea.		Labor	Equipment	
0220	3'-10" x 5'-4"		2 Corp	8	2		525	72.50	597.50	695
3800	Triple glazing for above, add					↓	25%			

## 08 52 10.40 Casement Window

0010	CASEMENT WINDOW, including frame, screen and grilles	R085216-10								
0100	2'-0" x 3'-0" H, double insulated glass		G	1 Corp	10	.800	Ea.	275	29	304
0150	Low E glass		G		10	.800		285	29	314
0200	2'-0" x 4'-6" high, double insulated glass		G		9	.889		390	32	422
0250	Low E glass		G		9	.889		440	32	472
0260	Casement 4'-2" x 4'-2" double insulated glass		G		11	.727		940	26.50	966.50
0270	4'-0" x 4'-0" Low E glass		G		11	.727		575	26.50	601.50
0290	6'-4" x 5'-7" Low E glass		G		9	.889		1,200	32	1,232
0300	2'-4" x 6'-0" high, double insulated glass		G		8	1		470	36	506
0350	Low E glass		G		8	1		450	36	486
0522	Vinyl-clad, premium, double insulated glass, 2'-0" x 3'-0"		G		10	.800		281	29	310
0524	2'-0" x 4'-0"		G		9	.889		335	32	367
0525	2'-0" x 5'-0"		G		8	1		365	36	401
0528	2'-0" x 6'-0"		G		8	1		410	36	446
0600	3'-0" x 5'-0"		G		8	1		685	36	721
0700	4'-0" x 3'-0"		G		8	1		770	36	806
0710	4'-0" x 4'-0"		G		8	1		645	36	681
0720	4'-8" x 4'-0"		G		8	1		710	36	746
0730	4'-8" x 5'-0"		G		6	1.333		830	48	878
0740	4'-8" x 6'-0"		G		6	1.333		920	48	968
0750	6'-0" x 4'-0"		G		6	1.333		835	48	883
0800	6'-0" x 5'-0"		G		6	1.333		1,025	48	1,073
0900	5'-6" x 5'-6"		G	2 Corp	15	1.067	↓	1,500	38.50	1,538.50
2000	Bay, casement units, 8' x 5', w/screens, double insulated glass				2.50	6.400	Opng.	1,675	231	1,906
2100	Low E glass				2.50	6.400	"	1,750	231	1,981
3020	Vinyl-clad, premium, double insulated glass, multiple leaf units									2,300
3080	Single unit, 1'-6" x 5'-0"		G	2 Corp	20	.800	Ea.	330	29	359
3100	2'-0" x 2'-0"		G		20	.800		214	29	243
3140	2'-0" x 2'-6"		G		20	.800		281	29	310
3220	2'-0" x 3'-6"		G		20	.800		283	29	312
3260	2'-0" x 4'-0"		G		19	.842		335	30.50	365.50
3300	2'-0" x 4'-6"		G		19	.842		330	30.50	360.50
3340	2'-0" x 5'-0"		G		18	.889		365	32	397
3460	2'-4" x 3'-0"		G		20	.800		286	29	315
3500	2'-4" x 4'-0"		G		19	.842		355	30.50	385.50
3540	2'-4" x 5'-0"		G		18	.889		420	32	452
3700	Double unit, 2'-8" x 5'-0"		G		18	.889		590	32	622
3740	2'-8" x 6'-0"		G		17	.941		690	34	724
3840	3'-0" x 4'-6"		G		18	.889		535	32	567
3860	3'-0" x 5'-0"		G		17	.941		685	34	719
3880	3'-0" x 6'-0"		G		17	.941		735	34	769
3980	3'-4" x 2'-6"		G		19	.842		450	30.50	480.50
4000	3'-4" x 3'-0"		G		12	1.333		455	48	503
4030	3'-4" x 4'-0"		G		18	.889		555	32	587
4050	3'-4" x 5'-0"		G		12	1.333		685	48	733
4100	3'-4" x 6'-0"		G		11	1.455		735	52.50	787.50
4200	3'-6" x 3'-0"		G		18	.889		545	32	577
4340	4'-0" x 3'-0"		G		18	.889		515	32	547
4380	4'-0" x 3'-6"		G		17	.941	↓	550	34	584

# 08 52 Wood Windows

## 08 52 10 – Plain Wood Windows

08 52 10.40 Casement Window		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
4420	4'-0" x 4'-0"	[G]	2 Carp	16	1 Ea.	645	36		681	770	
4460	4'-0" x 4'-4"	[G]		16	1	650	36		686	775	
4540	4'-0" x 5'-0"	[G]		16	1	705	36		741	835	
4580	4'-0" x 6'-0"	[G]		15	1,067	795	38.50		833.50	940	
4740	4'-8" x 3'-0"	[G]		18	.889	585	32		617	695	
4780	4'-8" x 3'-6"	[G]		17	.941	625	34		659	740	
4820	4'-8" x 4'-0"	[G]		16	1	710	36		746	840	
4860	4'-8" x 5'-0"	[G]		15	1,067	830	38.50		868.50	980	
4900	4'-8" x 6'-0"	[G]		15	1,067	920	38.50		958.50	1,075	
5060	5'-0" x 5'-0"	[G]		15	1,067	1,100	38.50		1,138.50	1,275	
5100	Triple unit, 5'-6" x 3'-0"	[G]		17	.941	740	34		774	870	
5140	5'-6" x 3'-6"	[G]		16	1	835	36		871	975	
5180	5'-6" x 4'-6"	[G]		15	1,067	895	38.50		933.50	1,050	
5220	5'-6" x 5'-6"	[G]		15	1,067	1,175	38.50		1,213.50	1,350	
5300	6'-0" x 4'-6"	[G]		15	1,067	910	38.50		948.50	1,075	
5850	5'-0" x 3'-0"	[G]		12	1.333	625	48		673	765	
5900	5'-0" x 4'-0"	[G]		11	1.455	920	52.50		972.50	1,075	
6100	5'-0" x 5'-6"	[G]		10	1.600	1,100	58		1,158	1,325	
6150	5'-0" x 6'-0"	[G]		10	1.600	1,250	58		1,308	1,475	
6200	6'-0" x 3'-0"	[G]		12	1.333	1,200	48		1,248	1,400	
6250	6'-0" x 3'-4"	[G]		12	1.333	800	48		848	960	
6300	6'-0" x 4'-0"	[G]		11	1.455	865	52.50		917.50	1,050	
6350	6'-0" x 5'-0"	[G]		10	1.600	955	58		1,013	1,150	
6400	6'-0" x 6'-0"	[G]		10	1.600	1,225	58		1,283	1,450	
6500	Quadruple unit, 7'-0" x 4'-0"	[G]		9	1.778	1,100	64.50		1,164.50	1,300	
6700	8'-0" x 4'-6"	[G]		9	1.778	1,450	64.50		1,514.50	1,675	
6950	6'-8" x 4'-0"	[G]		10	1.600	1,100	58		1,158	1,325	
7000	6'-8" x 6'-0"	[G]		10	1.600	1,475	58		1,533	1,725	
8190	For installation, add per leaf						15%				
8200	For multiple leaf units, deduct for stationary sash										
8220	2' high				Ea.	24.50			24.50	27	
8240	4'-6" high					28			28	30.50	
8260	6' high					37			37	41	

## 08 52 10.50 Double-Hung

0010	DOUBLE-HUNG, Including frame, screens and grilles
0100	2'-0" x 3'-0" high, low E insul. glass
0200	3'-0" x 4'-0" high, double insulated glass
0300	4'-0" x 4'-6" high, low E insulated glass

## 08 52 10.55 Picture Window

0010	PICTURE WINDOW, Including frame and grilles
0100	3'-6" x 4'-0" high, double insulated glass
0150	Low E glass
0200	4'-0" x 4'-6" high, double insulated glass
0250	Low E glass
0300	5'-0" x 4'-0" high, double insulated glass
0350	Low E glass
0400	6'-0" x 4'-6" high, double insulated glass
0450	Low E glass

## 08 52 10.65 Wood Sash

0010	WOOD SASH, Including glazing but not trim
0050	Custom, 5'-0" x 4'-0", 1" double glazed, 3/16" thick lites
0100	1/4" thick lites

# 08 52 Wood Windows

## 08 52 10 – Plain Wood Windows

08 52 10.65 Wood Sash		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
		Crew		Unit	Labor	Equipment	Total	
0200	1" thick, triple glazed	2 Corp	5	3.200 Ea.	430	116	546	665
0300	7'-0" x 4'-6" high, 1" double glazed, 3/16" thick lites		4.30	3.721	430	135	565	695
0400	1/4" thick lites		4.30	3.721	495	135	630	760
0500	1" thick, triple glazed		4.30	3.721	560	135	695	840
0600	8'-6" x 5'-0" high, 1" double glazed, 3/16" thick lites		3.50	4.571	585	165	750	915
0700	1/4" thick lites		3.50	4.571	640	165	805	975
0800	1" thick, triple glazed		3.50	4.571	725	165	890	1,075
0900	Window frames only, based on perimeter length			L.F.	4.10		4.10	4.51

## 08 52 10.70 Sliding Windows

0010 SLIDING WINDOWS		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
		Crew		Unit	Labor	Equipment	Total	
0100	3'-0" x 3'-0" high, double insulated	G	1 Corp	10 .800 Ea.	286	29	315	365
0120	Low E glass	G		10 .800	310	29	339	395
0200	4'-0" x 3'-6" high, double insulated	G		9 .889	425	32	457	520
0220	Low E glass	G		9 .889	420	32	452	520
0300	6'-0" x 5'-0" high, double insulated	G		8 1	495	36	531	600
0320	Low E glass	G	↓	8 1	605	36	641	725
6000	Sliding, insulating glass, including screens,							
6100	3'-0" x 3'-0"	2 Corp	6.50	2.462 Ea.	335	89	424	515
6200	4'-0" x 3'-6"		6.30	2.540	345	92	437	525
6300	5'-0" x 4'-0"			6 2.667	425	96.50	521.50	625

## 08 52 13 – Metal-Clad Wood Windows

### 08 52 13.10 Awning Windows, Metal-Clad

0010 AWNING WINDOWS, METAL-CLAD		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
		Crew		Unit	Labor	Equipment	Total	
2000	Metal-clad, awning deluxe, double insulated glass, 34" x 22"	1 Corp	9 .889	Ea.	251	32	283	330
2050	36" x 25"		9 .889		280	32	312	365
2100	40" x 22"		9 .889		297	32	329	380
2150	40" x 30"		9 .889		345	32	377	435
2200	48" x 28"		8 1		355	36	391	450
2250	60" x 36"	↓	8 1	↓	380	36	416	480

### 08 52 13.20 Casement Windows, Metal-Clad

0010 CASEMENT WINDOWS, METAL-CLAD		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
		Crew		Unit	Labor	Equipment	Total	
0100	Metal-clad, deluxe, dbl. insul. glass, 2'-0" x 3'-0" high	G	1 Corp	10 .800 Ea.	300	29	329	380
0120	2'-0" x 4'-0" high	G		9 .889	325	32	357	415
0130	2'-0" x 5'-0" high	G		8 1	360	36	396	455
0140	2'-0" x 6'-0" high	G		8 1	390	36	426	490
0150	Casement window, metal-clad, double insul. glass, 3'-6" x 3'-6"	G	↓	8.90 .899	520	32.50	552.50	625
0300	Metal-clad, casement, bldrs mdly, 6'-0" x 4'-0", dbl. insul. glass, 3 panels	2 Corp	10 1.600		1,250	58	1,308	1,500
0310	9'-0" x 4'-0", 4 panels		8 2		1,600	72.50	1,672.50	1,875
0320	10'-0" x 5'-0", 5 panels		7 2.286		2,175	82.50	2,257.50	2,525
0330	12'-0" x 6'-0", 6 panels	↓	6 2.667	↓	2,750	96.50	2,846.50	3,175

### 08 52 13.30 Double-Hung Windows, Metal-Clad

0010 DOUBLE-HUNG WINDOWS, METAL-CLAD		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
		Crew		Unit	Labor	Equipment	Total	
0100	Metal-clad, deluxe, dbl. insul. glass, 2'-6" x 3'-0" high	G	1 Corp	10 .800 Ea.	294	29	323	375
0120	3'-0" x 3'-6" high	G		10 .800	330	29	359	415
0140	3'-0" x 4'-0" high	G		9 .889	340	32	372	430
0160	3'-0" x 4'-6" high	G		9 .889	365	32	397	455
0180	3'-0" x 5'-0" high	G		8 1	395	36	431	495
0200	3'-6" x 6'-0" high	G	↓	8 1	475	36	511	585

# 08 52 Wood Windows

## 08 52 13 – Metal-Clad Wood Windows

08 52 13.35 Picture and Sliding Windows Metal-Clad				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
0010	PICTURE AND SLIDING WINDOWS METAL-CLAD										
2000	Metal-clad, dlx picture, dbl. insul. glass, 4'-0" x 4'-0" high			2 Corp	12	1,333	Ea.	385	48	433	505
2100	4'-0" x 6'-0" high				11	1,455		575	52.50	627.50	715
2200	5'-0" x 6'-0" high				10	1,600		635	58	693	795
2300	6'-0" x 6'-0" high				10	1,600		725	58	783	895
2400	Metal-clad, dlx sliding, dbl. insul. glass, 3'-0" x 3'-0" high	[G]	1 Corp	10	.800			330	29	359	410
2420	4'-0" x 3'-6" high	[G]		9	.889			400	32	432	495
2440	5'-0" x 4'-0" high	[G]		9	.889			480	32	512	585
2460	6'-0" x 5'-0" high	[G]		8	1			770	36	806	905

## 08 52 13.40 Bow and Bay Windows, Metal-Clad

08 52 13.40 Bow and Bay Windows, Metal-Clad				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
0010	BOW AND BAY WINDOWS, METAL-CLAD										
0100	Metal-clad, deluxe, dbl. insul. glass, 8'-0" x 5'-0" high, 4 panels			2 Corp	10	1,600	Ea.	1,725	58	1,783	2,000
0120	10'-0" x 5'-0" high, 5 panels				8	2		1,875	72.50	1,947.50	2,175
0140	10'-0" x 6'-0" high, 5 panels				7	2.286		2,200	82.50	2,282.50	2,550
0160	12'-0" x 6'-0" high, 6 panels				6	2.667		2,950	96.50	3,046.50	3,400
0400	Double-hung, bldrs. model, bay, 8' x 4' high, dbl. insul. glass				10	1,600		1,375	58	1,433	1,625
0440	Low E glass				10	1,600		1,475	58	1,533	1,725
0460	9'-0" x 5'-0" high, dbl. insul. glass				6	2.667		1,475	96.50	1,571.50	1,775
0480	Low E glass				6	2.667		1,550	96.50	1,646.50	1,875
0500	Metal-clad, deluxe, dbl. insul. glass, 7'-0" x 4'-0" high				10	1,600		1,325	58	1,383	1,550
0520	8'-0" x 4'-0" high				8	2		1,375	72.50	1,447.50	1,625
0540	8'-0" x 5'-0" high				7	2.286		1,400	82.50	1,482.50	1,675
0560	9'-0" x 5'-0" high				6	2.667		1,500	96.50	1,596.50	1,800

## 08 52 16 – Plastic-Clad Wood Windows

### 08 52 16.10 Bow Window

08 52 16.10 Bow Window				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
0010	BOW WINDOW including frames, screens, and grilles										
0020	End panels operable										
1000	Bow type, casement, wood, bldrs. mdl., 8' x 5' dbl. insul. glass, 4 panel			2 Corp	10	1,600	Ea.	1,600	58	1,658	1,850
1050	Low E glass				10	1,600		1,325	58	1,383	1,550
1100	10'-0" x 5'-0", dbl. insul. glass, 6 panels				6	2.667		1,375	96.50	1,471.50	1,675
1200	Low E glass, 6 panels				6	2.667		1,475	96.50	1,571.50	1,775
1300	Vinyl-clad, bldrs. model, dbl. insul. glass, 6'-0" x 4'-0", 3 panel				10	1,600		1,050	58	1,108	1,250
1340	9'-0" x 4'-0", 4 panel				8	2		1,450	72.50	1,522.50	1,725
1380	10'-0" x 6'-0", 5 panels				7	2.286		2,375	82.50	2,457.50	2,725
1420	12'-0" x 6'-0", 6 panels				6	2.667		3,100	96.50	3,196.50	3,575
2000	Bay window, 8' x 5', dbl. insul. glass				10	1,600		1,975	58	2,033	2,250
2050	Low E glass				10	1,600		2,375	58	2,433	2,700
2100	12'-0" x 6'-0", dbl. insul. glass, 6 panels				6	2.667		2,450	96.50	2,546.50	2,850
2200	Low E glass				6	2.667		3,175	96.50	3,271.50	3,650
2280	6'-0" x 4'-0"				11	1,455		1,300	52.50	1,352.50	1,525
2300	Vinyl-clad, premium, dbl. insul. glass, 8'-0" x 5'-0"				10	1,600		1,825	58	1,883	2,100
2340	10'-0" x 5'-0"				8	2		2,500	72.50	2,572.50	2,875
2380	10'-0" x 6'-0"				7	2.286		3,075	82.50	3,157.50	3,500
2420	12'-0" x 6'-0"				6	2.667		3,325	96.50	3,421.50	3,800
2430	14'-0" x 3'-0"				7	2.286		3,125	82.50	3,207.50	3,550
2440	14'-0" x 6'-0"				5	3.200		5,250	116	5,366	5,975
3300	Vinyl-clad, premium, dbl. insul. glass, 7'-0" x 4'-6"				10	1,600		1,400	58	1,458	1,625
3340	8'-0" x 4'-6"				8	2		1,450	72.50	1,522.50	1,725
3380	8'-0" x 5'-0"				7	2.286		1,525	82.50	1,607.50	1,800
3420	9'-0" x 5'-0"				6	2.667		1,550	96.50	1,646.50	1,875

# 08 52 Wood Windows

## 08 52 16 – Plastic-Clad Wood Windows

08 52 16.15 Awning Window Vinyl-Clad				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
								Labor	Equipment		
0010	AWNING WINDOW VINYL-CLAD including frames, screens, and grilles										
0200	Vinyl-clad, premium, double insulated glass, 24" x 17"	1 Corp	12	.667	Ea.			216	24	240	277
0210	24" x 28"		11	.727				269	26.50	295.50	340
0250	36" x 17"		9	.889				267	32	299	345
0280	36" x 28"		9	.889				310	32	342	395
0300	36" x 36"		9	.889				350	32	382	440
0320	36" x 40"		9	.889				405	32	437	500
0340	40" x 22"		10	.800				298	29	327	375
0360	48" x 28"		8	1				375	36	411	470
0380	60" x 36"		8	1				515	36	551	625

## 08 52 16.20 Half Round, Vinyl-Clad

0010	HALF ROUND, VINYL-CLAD, double insulated glass, incl. grille										
0800	14" height x 24" base	2 Corp	9	1.778	Ea.			415	64.50	479.50	560
1040	15" height x 25" base		8	2				385	72.50	457.50	545
1060	16" height x 28" base		7	2.286				430	82.50	512.50	610
1080	17" height x 29" base		7	2.286				445	82.50	527.50	625
2000	19" height x 33" base	1 Corp	6	1.333				465	48	513	590
2100	20" height x 35" base		6	1.333				465	48	513	595
2200	21" height x 37" base		6	1.333				485	48	533	615
2250	23" height x 41" base	2 Corp	6	2.667				535	96.50	631.50	750
2300	26" height x 48" base		6	2.667				560	96.50	656.50	775
2350	30" height x 56" base		6	2.667				650	96.50	746.50	875
3000	36" height x 67" base	1 Corp	4	2				1,150	72.50	1,222.50	1,400
3040	38" height x 71" base	2 Corp	5	3.200				1,025	116	1,141	1,325
3050	40" height x 75" base	"	5	3.200				1,325	116	1,441	1,650
5000	Elliptical, 71" x 16"	1 Corp	11	.727				1,000	26.50	1,026.50	1,150
5100	95" x 21"	"	10	.800				1,425	29	1,454	1,625

## 08 52 16.30 Palladian Windows

0010	PALLADIAN WINDOWS										
0020	Vinyl-clad, double insulated glass, including frame and grilles										
0040	3'-2" x 2'-6" high	2 Corp	11	1.455	Ea.			1,275	52.50	1,327.50	1,475
0060	3'-2" x 4'-10"		11	1.455				1,775	52.50	1,827.50	2,025
0080	3'-2" x 6'-4"		10	1.600				1,775	58	1,833	2,050
0100	4'-0" x 4'-0"		10	1.600				1,575	58	1,633	1,850
0120	4'-0" x 5'-4"	3 Corp	10	2.400				1,900	87	1,987	2,250
0140	4'-0" x 6'-0"		9	2.667				2,000	96.50	2,096.50	2,375
0160	4'-0" x 7'-4"		9	2.667				2,150	96.50	2,246.50	2,500
0180	5'-5" x 4'-10"		9	2.667				2,325	96.50	2,421.50	2,700
0200	5'-5" x 6'-10"		9	2.667				2,650	96.50	2,746.50	3,075
0220	5'-5" x 7'-9"		9	2.667				2,825	96.50	2,921.50	3,275
0240	6'-0" x 7'-11"		8	3				3,625	108	3,733	4,150
0260	8'-0" x 6'-0"		8	3				3,225	108	3,333	3,725

## 08 52 16.35 Double-Hung Window

0010	DOUBLE-HUNG WINDOW including frames, screens, and grilles										
0300	Vinyl-clad, premium, double insulated glass, 2'-6" x 3'-0"	G 1 Corp	10	.800	Ea.			365	29	394	450
0305	2'-6" x 4'-0"	G	10	.800				385	29	414	470
0400	3'-0" x 3'-6"	G	10	.800				355	29	384	440
0500	3'-0" x 4'-0"	G	9	.889				405	32	437	500
0600	3'-0" x 4'-6"	G	9	.889				445	32	477	545
0700	3'-0" x 5'-0"	G	8	1				465	36	501	575
0790	3'-4" x 5'-0"	G	8	1				470	36	506	580

# 08 52 Wood Windows

## 08 52 16 – Plastic-Clad Wood Windows

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P	
				Crew		Ea.	Material	Labor	Equipment			
<b>08 52 16.35 Double-Hung Window</b>				[G]	1 Corp	8	1 Ea.	525	36		561	640
0800	3'-6" x 6'-0"			[G]		7	1.143	570	41.50		611.50	700
0820	4'-0" x 5'-0"			[G]		7	1.143	715	41.50		756.50	855

## 08 52 16.40 Transom Windows

<b>0010 TRANSOM WINDOWS</b>												
0050	Vinyl-clad, premium, dbl. insul. glass, 32" x 8"			[1 Corp]	16	.500	Ea.	189	18.10		207.10	238
0100	36" x 8"			[1 Corp]	16	.500		209	18.10		227.10	260
0110	36" x 12"			[1 Corp]	16	.500		225	18.10		243.10	277
1000	Vinyl-clad, premium, dbl. insul. glass, 4'-0" x 4'-0"			[2 Corp]	12	1.333		535	48		583	670
1100	4'-0" x 6'-0"			[2 Corp]	11	1.455		995	52.50		1,047.50	1,175
1200	5'-0" x 6'-0"			[2 Corp]	10	1.600		1,100	58		1,158	1,300
1300	6'-0" x 6'-0"			[2 Corp]	10	1.600		1,125	58		1,183	1,325

## 08 52 16.45 Trapezoid Windows

<b>0010 TRAPEZOID WINDOWS</b>												
0100	Vinyl-clad, including frame and exterior trim											
0900	20" base x 44" leg x 53" leg			[2 Corp]	13	1.231	Ea.	410	44.50		454.50	525
1000	24" base x 90" leg x 102" leg			[2 Corp]	8	2		730	72.50		802.50	925
3000	36" base x 40" leg x 22" leg			[2 Corp]	12	1.333		455	48		503	585
3010	36" base x 44" leg x 25" leg			[2 Corp]	13	1.231		480	44.50		524.50	605
3050	36" base x 26" leg x 48" leg			[2 Corp]	9	1.778		485	64.50		549.50	635
3100	36" base x 42" legs, 50" peak			[2 Corp]	9	1.778		570	64.50		634.50	730
3200	36" base x 60" leg x 81" leg			[2 Corp]	11	1.455		745	52.50		797.50	905
4320	44" base x 23" leg x 56" leg			[2 Corp]	11	1.455		580	52.50		632.50	720
4350	44" base x 59" leg x 92" leg			[2 Corp]	10	1.600		925	58		983	1,125
4500	46" base x 15" leg x 46" leg			[2 Corp]	8	2		460	72.50		532.50	625
4550	46" base x 16" leg x 48" leg			[2 Corp]	8	2		485	72.50		557.50	650
4600	46" base x 50" leg x 80" leg			[2 Corp]	7	2.286		725	82.50		807.50	935
6600	66" base x 12" leg x 42" leg			[2 Corp]	8	2		625	72.50		697.50	810
6650	66" base x 12" legs, 28" peak			[2 Corp]	9	1.778		490	64.50		554.50	645
6700	68" base x 23" legs, 31" peak			[2 Corp]	8	2		625	72.50		697.50	810

## 08 52 16.70 Vinyl-Clad, Premium, DBL. Insul. Glass

<b>0010 VINYL-CLAD, PREMIUM, DBL. INSUL. GLASS</b>												
1000	Sliding, 3'-0" x 3'-0"			[G]	1 Corp	10	.800	Ea.	645	29	674	760
1020	4'-0" x 1'-11"			[G]	11	.727		625	26.50		651.50	730
1040	4'-0" x 3'-0"			[G]	10	.800		770	29		799	900
1050	4'-0" x 3'-6"			[G]	9	.889		695	32		727	820
1090	4'-0" x 5'-0"			[G]	9	.889		960	32		992	1,100
1100	5'-0" x 4'-0"			[G]	9	.889		940	32		972	1,075
1120	5'-0" x 5'-0"			[G]	8	1		1,100	36		1,136	1,275
1140	6'-0" x 4'-0"			[G]	8	1		1,150	36		1,186	1,300
1150	6'-0" x 5'-0"			[G]	8	1		1,200	36		1,236	1,375

## 08 52 50 – Window Accessories

### 08 52 50.10 Window Grille or Muntin

<b>0010 WINDOW GRILLE OR MUNTIN</b> , snap in type												
0020	Standard pattern interior grilles											
2000	Wood, awning window, glass size, 28" x 16" high			1 Corp	30	.267	Ea.	30.50	9.65		40.15	49.50
2060	44" x 24" high				32	.250		44	9.05		53.05	63.50
2100	Casement, glass size, 20" x 36" high				30	.267		34.50	9.65		44.15	54
2180	20" x 56" high				32	.250		46	9.05		55.05	66
2200	Double-hung, glass size, 16" x 24" high				24	.333	Set	61	12.05		73.05	87
2280	32" x 32" high				34	.235	"	141	8.50		149.50	169

# 08 52 Wood Windows

## 08 52 50 – Window Accessories

08 52 50.10 Window Grille or Muntin		Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew Output			Labor	Equipment	Total	
2500	Picture, glass size, 48" x 48" high	1 Carp	30	.267	Ea.	128	9.65	137.65
2580	60" x 68" high		28	.286	"	206	10.35	216.35
2600	Sliding, glass size, 14" x 36" high		24	.333	Set	41	12.05	53.05
2680	36" x 36" high		22	.364	"	47	13.15	60.15
								73.50

## 08 52 66 – Wood Window Screens

### 08 52 66.10 Wood Screens

0010	WOOD SCREENS							
0020	Over 3 S.F., 3/4" frames	2 Carp	375	.043	S.F.	4.79	1.54	6.33
0100	1-1/8" frames	"	375	.043	"	8.45	1.54	9.99
								11.85

## 08 52 69 – Wood Storm Windows

### 08 52 69.10 Storm Windows

0010	STORM WINDOWS, aluminum residential							
0300	Basement, mill finish, incl. fiberglass screen							
0320	1'-10" x 1'-0" high	G	2 Carp	30	.533	Ea.	37.50	19.30
0340	2'-9" x 1'-6" high	G		30	.533		41.50	19.30
0360	3'-4" x 2'-0" high	G	↓	30	.533	↓	44	19.30
1600	Double-hung, combination, storm & screen							
1700	Custom, clear anodic coating, 2'-0" x 3'-5" high	2 Carp	30	.533	Ea.	97.50	19.30	116.80
1720	2'-6" x 5'-0" high		28	.571		133	20.50	153.50
1740	4'-0" x 6'-0" high		25	.640		244	23	267
1800	White painted, 2'-0" x 3'-5" high		30	.533		128	19.30	147.30
1820	2'-6" x 5'-0" high		28	.571		189	20.50	209.50
1840	4'-0" x 6'-0" high		25	.640		297	23	320
2000	Clear anodic coating, 2'-0" x 3'-5" high	G	30	.533		98	19.30	117.30
2020	2'-6" x 5'-0" high	G	28	.571		126	20.50	146.50
2040	4'-0" x 6'-0" high	G	25	.640		133	23	156
2400	White painted, 2'-0" x 3'-5" high	G	30	.533		104	19.30	123.30
2420	2'-6" x 5'-0" high	G	28	.571		102	20.50	122.50
2440	4'-0" x 6'-0" high	G	25	.640		120	23	143
2600	Mill finish, 2'-0" x 3'-5" high	G	30	.533		86.50	19.30	105.80
2620	2'-6" x 5'-0" high	G	28	.571		103	20.50	123.50
2640	4'-0" x 6'-8" high	G	↓	25	.640	↓	130	23
4000	Picture window, storm, 1 lite, white or bronze finish							
4020	4'-6" x 4'-6" high	2 Carp	25	.640	Ea.	147	23	170
4040	5'-8" x 4'-6" high		20	.800		154	29	183
4400	Mill finish, 4'-6" x 4'-6" high		25	.640		141	23	164
4420	5'-8" x 4'-6" high		↓	20	.800	↓	173	29
4600	3 lite, white or bronze finish							
4620	4'-6" x 4'-6" high	2 Carp	25	.640	Ea.	176	23	199
4640	5'-8" x 4'-6" high		20	.800		178	29	207
4800	Mill finish, 4'-6" x 4'-6" high		25	.640		155	23	178
4820	5'-8" x 4'-6" high		↓	20	.800	↓	176	29
6000	Sliding window, storm, 2 lite, white or bronze finish							
6020	3'-4" x 2'-7" high	2 Carp	28	.571	Ea.	150	20.50	170.50
6040	4'-4" x 3'-3" high		25	.640		161	23	184
6060	5'-4" x 6'-0" high		↓	20	.800	↓	233	29
9000	Interior storm window							
9100	Storm window interior glass	1 Glaz	107	.075	S.F.	6.60	2.63	9.23
								11.55

# 08 53 Plastic Windows

## 08 53 13 – Vinyl Windows

08 53 13.10 Solid Vinyl Windows		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	SOLID VINYL WINDOWS						Labor	Equipment	
0020	Double-hung, including frame and screen, 2'-0" x 2'-6"	2 Corp	15	1.067	Ea.	207	38.50	245.50	291
0040	2'-0" x 3'-6"		14	1.143		218	41.50	259.50	305
0060	2'-6" x 4'-6"		13	1.231		257	44.50	301.50	355
0080	3'-0" x 4'-0"		10	1.600		234	58	292	350
0100	3'-0" x 4'-6"		9	1.778		293	64.50	357.50	430
0120	3'-6" x 4'-6"		8	2		315	72.50	387.50	465
0140	3'-6" x 6'-0"		7	2.286		390	82.50	472.50	565

## 08 53 13.20 Vinyl Single-Hung Windows

0010 VINYL SINGLE-HUNG WINDOWS, insulated glass									
0020	Grids, low E, J fin, extension jambs								
0130	25" x 41"	G	2 Corp	20	.800	Ea.	201	29	230
0140	25" x 49"	G		18	.889		208	32	240
0150	25" x 57"	G		17	.941		225	34	259
0160	25" x 65"	G		16	1		239	36	275
0170	29" x 41"	G		18	.889		202	32	234
0180	29" x 53"	G		18	.889		217	32	249
0190	29" x 57"	G		17	.941		235	34	269
0200	29" x 65"	G		16	1		279	36	315
0210	33" x 41"	G		20	.800		216	29	245
0220	33" x 53"	G		18	.889		231	32	263
0230	33" x 57"	G		17	.941		279	34	313
0240	33" x 65"	G		16	1		284	36	320
0250	37" x 41"	G		20	.800		236	29	265
0260	37" x 53"	G		18	.889		271	32	303
0270	37" x 57"	G		17	.941		282	34	316
0280	37" x 65"	G		16	1		320	36	356
0500	Vinyl-clad, premium, double insulated glass, circle, 24" diameter	1 Corp		6	1.333		505	48	553
1000	2'-4" diameter			6	1.333		555	48	603
1500	2'-11" diameter			6	1.333		675	48	723

## 08 53 13.30 Vinyl Double-Hung Windows

0010 VINYL DOUBLE-HUNG WINDOWS, insulated glass									
0100	Grids, low E, J fin, ext. jambs, 21" x 53"	G	2 Corp	18	.889	Ea.	213	32	245
0102	21" x 37"	G		18	.889		249	32	281
0104	21" x 41"	G		18	.889		259	32	291
0106	21" x 49"	G		18	.889		263	32	295
0110	21" x 57"	G		17	.941		283	34	317
0120	21" x 65"	G		16	1		300	36	336
0128	25" x 37"	G		20	.800		249	29	278
0130	25" x 41"	G		20	.800		258	29	287
0140	25" x 49"	G		18	.889		260	32	292
0145	25" x 53"	G		18	.889		285	32	317
0150	25" x 57"	G		17	.941		293	34	327
0160	25" x 65"	G		16	1		269	36	305
0162	25" x 69"	G		16	1		315	36	351
0164	25" x 77"	G		16	1		360	36	396
0168	29" x 37"	G		18	.889		258	32	290
0170	29" x 41"	G		18	.889		278	32	310
0172	29" x 49"	G		18	.889		283	32	315
0180	29" x 53"	G		18	.889		292	32	324
0190	29" x 57"	G		17	.941		305	34	339
0200	29" x 65"	G		16	1		320	36	356

# 08 53 Plastic Windows

## 08 53 13 – Vinyl Windows

### 08 53 13.30 Vinyl Double-Hung Windows

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
0202	29" x 69"		G	2 Carp	16	1 Ea.	345	36		381	440
0205	29" x 77"		G		16	1	340	36		376	435
0208	33" x 37"		G		20	.800	273	29		302	350
0210	33" x 41"		G		20	.800	278	29		307	355
0215	33" x 49"		G		20	.800	295	29		324	375
0220	33" x 53"		G		18	.889	310	32		342	395
0230	33" x 57"		G		17	.941	287	34		321	370
0240	33" x 65"		G		16	1	330	36		366	425
0242	33" x 69"		G		16	1	360	36		396	455
0246	33" x 77"		G		16	1	340	36		376	435
0250	37" x 41"		G		20	.800	305	29		334	385
0255	37" x 49"		G		20	.800	320	29		349	400
0260	37" x 53"		G		18	.889	330	32		362	415
0270	37" x 57"		G		17	.941	350	34		384	440
0280	37" x 65"		G		16	1	380	36		416	480
0282	37" x 69"		G		16	1	395	36		431	495
0286	37" x 77"		G		16	1	390	36		426	490
0300	Solid vinyl, average quality, double insulated glass, 2'-0" x 3'-0"		G	1 Carp	10	.800	295	29		324	375
0310	3'-0" x 4'-0"		G		9	.889	247	32		279	325
0330	Premium, double insulated glass, 2'-6" x 3'-0"		G		10	.800	305	29		334	385
0340	3'-0" x 3'-6"		G		9	.889	335	32		367	420
0350	3'-0" x 4'-0"		G		9	.889	345	32		377	435
0360	3'-0" x 4'-6"		G		9	.889	360	32		392	450
0370	3'-0" x 5'-0"		G		8	1	400	36		436	500
0380	3'-6" x 6'-0"		G		8	1	420	36		456	520

### 08 53 13.40 Vinyl Casement Windows

0010	VINYL CASEMENT WINDOWS, insulated glass											
0015	Grids, low E, J fin, extension jambs, screens											
0100	One lite, 21" x 41"		G	2 Carp	20	.800	Ea.	350	29		379	435
0110	21" x 47"		G		20	.800		360	29		389	445
0120	21" x 53"		G		20	.800		390	29		419	480
0128	24" x 35"		G		19	.842		305	30.50		335.50	385
0130	24" x 41"		G		19	.842		355	30.50		385.50	440
0140	24" x 47"		G		19	.842		380	30.50		410.50	465
0150	24" x 53"		G		19	.842		400	30.50		430.50	490
0158	28" x 35"		G		19	.842		350	30.50		380.50	435
0160	28" x 41"		G		19	.842		310	30.50		340.50	395
0170	28" x 47"		G		19	.842		400	30.50		430.50	490
0180	28" x 53"		G		19	.842		390	30.50		420.50	480
0184	28" x 59"		G		19	.842		440	30.50		470.50	530
0188	Two lites, 33" x 35"		G		18	.889		525	32		557	630
0190	33" x 41"		G		18	.889		510	32		542	615
0200	33" x 47"		G		18	.889		540	32		572	645
0210	33" x 53"		G		18	.889		550	32		582	660
0212	33" x 59"		G		18	.889		605	32		637	725
0215	33" x 72"		G		18	.889		620	32		652	740
0220	41" x 41"		G		18	.889		580	32		612	690
0230	41" x 47"		G		18	.889		580	32		612	695
0240	41" x 53"		G		17	.941		625	34		659	740
0242	41" x 59"		G		17	.941		660	34		694	780
0246	41" x 72"		G		17	.941		685	34		719	810
0250	47" x 41"		G		17	.941		560	34		594	670

# 08 53 Plastic Windows

## 08 53 13 – Vinyl Windows

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Ind O&P
	Crew							Labor			
<b>08 53 13.40 Vinyl Casement Windows</b>											
0260	47" x 47"	[G]	2 Corp	17	.941	Ea.	585	34		619	695
0270	47" x 53"	[G]		17	.941		620	34		654	740
0272	47" x 59"	[G]		17	.941		695	34		729	820
0280	56" x 41"	[G]		15	1.067		600	38.50		638.50	725
0290	56" x 47"	[G]		15	1.067		620	38.50		658.50	750
0300	56" x 53"	[G]		15	1.067		695	38.50		733.50	830
0302	56" x 59"	[G]		15	1.067		720	38.50		758.50	855
0310	56" x 72"	[G]		15	1.067		880	38.50		918.50	1,025
0340	Solid vinyl, premium, double insulated glass, 2'-0" x 3'-0" high	[G]	1 Corp	10	.800		276	29		305	355
0360	2'-0" x 4'-0" high	[G]		9	.889		300	32		332	385
0380	2'-0" x 5'-0" high	[G]		8	1		345	36		381	435

## 08 53 13.50 Vinyl Picture Windows

0010	<b>VINYL PICTURE WINDOWS</b> , insulated glass										
0120	Grids, low E, J fin, ext. jambs, 47" x 35"	[G]	2 Corp	12	1.333	Ea.	290	48		338	400
0130	47" x 41"	[G]		12	1.333		430	48		478	550
0140	47" x 47"	[G]		12	1.333		355	48		403	470
0150	47" x 53"	[G]		11	1.455		410	52.50		462.50	540
0160	71" x 35"	[G]		11	1.455		420	52.50		472.50	545
0170	71" x 41"	[G]		11	1.455		440	52.50		492.50	570
0180	71" x 47"	[G]		11	1.455		470	52.50		522.50	605

## 08 53 13.60 Vinyl Half Round Windows

0010	<b>VINYL HALF ROUND WINDOWS</b> , Including grille, J fin, low E, ext. jambs										
0100	10" height x 20" base	[G]	2 Corp	8	2	Ea.	345	72.50		417.50	500
0110	15" height x 30" base	[G]		8	2		355	72.50		427.50	510
0120	17" height x 34" base	[G]		7	2.286		395	82.50		477.50	570
0130	19" height x 38" base	[G]		7	2.286		655	82.50		737.50	855
0140	19" height x 33" base	[G]		7	2.286		550	82.50		632.50	740
0150	24" height x 48" base	[G]	1 Corp	6	1.333		585	48		633	725
0160	25" height x 50" base	[G]		6	1.333		560	48		608	695
0170	30" height x 60" base	[G]	2 Corp	6	2.667		620	96.50		716.50	845

# 08 54 Composite Windows

## 08 54 13 – Fiberglass Windows

### 08 54 13.10 Fiberglass Single-Hung Windows

0010	<b>FIBERGLASS SINGLE-HUNG WINDOWS</b>										
0100	Grids, low E, 18" x 24"	[G]	2 Corp	18	.889	Ea.	390	32		422	485
0110	18" x 40"	[G]		17	.941		400	34		434	495
0130	24" x 40"	[G]		20	.800		400	29		429	490
0230	36" x 36"	[G]		17	.941		420	34		454	520
0250	36" x 48"	[G]		20	.800		455	29		484	550
0260	36" x 60"	[G]		18	.889		505	32		537	610
0280	36" x 72"	[G]		16	1		550	36		586	665
0290	48" x 40"	[G]		16	1		550	36		586	665

### 08 54 13.30 Fiberglass Slider Windows

0010	<b>FIBERGLASS SLIDER WINDOWS</b>										
0100	Grids, low E, 36" x 24"	[G]	2 Corp	20	.800	Ea.	390	29		419	480
0110	36" x 36"	[G]	"	20	.800	"	395	29		424	485

### 08 54 13.50 Fiberglass Bay Windows

0010	<b>FIBERGLASS BAY WINDOWS</b>										
0150	48" x 36"	[G]	2 Corp	11	1.455	Ea.	1,125	52.50		1,177.50	1,325

# 08 61 Roof Windows

## 08 61 13 – Metal Roof Windows

08 61 13.10 Roof Windows		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment	Total	
0010	ROOF WINDOWS, fixed high perf tempd glazing, metallic framed								
0020	46" x 21-1/2", Flashed for shingled roof	1 Carp	8	1	Ea.	298	36	334	390
0100	46" x 28"		8	1		335	36	371	425
0125	57" x 44"		6	1.333		390	48	438	510
0130	72" x 28"		7	1.143		390	41.50	431.50	500
0150	Fixed, laminated tempered glazing, 46" x 21-1/2"		8	1		480	36	516	590
0175	46" x 28"		8	1		535	36	571	645
0200	57" x 44"		6	1.333		495	48	543	625
0500	Vented flashing set for shingled roof, 46" x 21-1/2"		7	1.143		540	41.50	581.50	665
0525	46" x 28"		6	1.333		600	48	648	735
0550	57" x 44"		5	1.600		750	58	808	920
0560	72" x 28"		5	1.600		750	58	808	920
0575	Flashing set for low pitched roof, 46" x 21-1/2"		7	1.143		580	41.50	621.50	705
0600	46" x 28"		7	1.143		635	41.50	676.50	770
0625	57" x 44"		5	1.600		790	58	848	965
0650	Flashing set for curb, 46" x 21-1/2"		7	1.143		680	41.50	721.50	820
0675	46" x 28"		7	1.143		745	41.50	786.50	885
0700	57" x 44"		5	1.600		920	58	978	1,100

## 08 61 16 – Wood Roof Windows

### 08 61 16.16 Roof Windows, Wood Framed

0010 ROOF WINDOWS, WOOD FRAMED		2 Corp	3	5.333	Ea.	840	193	1,033	1,250
5600	Roof window incl. frame, flashing, double insulated glass & screens,								
5610	complete unit, 22" x 38"	2 Corp	3	5.333	Ea.	840	193	1,033	1,250
5650	2'-5" x 3'-8"		3.20	5		1,125	181	1,306	1,525
5700	3'-5" x 4'-9"		3.40	4.706		1,225	170	1,395	1,625

# 08 62 Unit Skylights

## 08 62 13 – Domed Unit Skylights

### 08 62 13.10 Domed Skylights

0010 DOMED SKYLIGHTS		G	G-3	12	2.667	Ea.	214	89.50	303.50	385
0020 Skylight, fixed dome type, 22" x 22"		G		10	3.200		273	107	380	475
22" x 46"		G		12	2.667		288	89.50	377.50	465
0040 30" x 30"		G		10	3.200		375	107	482	590
0050 30" x 46"		G		12	2.667		274	89.50	363.50	450
0110 Fixed, double glazed, 22" x 27"		G		10	3.200		320	107	427	525
0120 22" x 46"		G		10	3.200		430	107	537	645
0210 Operable, double glazed, 22" x 27"		G		12	2.667		410	89.50	499.50	600
0220 22" x 46"		G		10	3.200		485	107	592	710
0230 44" x 46"		G		10	3.200		965	107	1,072	1,225

### 08 62 13.20 Skylights

0010 SKYLIGHTS, flush or curb mounted		G	G-3	12	2.667	Ea.	490	89.50	579.50	685
2120 Ventilating insulated plexiglass dome with		G		12	2.667		665	89.50	754.50	885
curb mounting, 36" x 36"		G		10	3.200		525	107	632	750
2150 52" x 52"		G		10	3.200		630	107	737	865
2160 28" x 52"		G		10	3.200		335		335	370
2170 36" x 52"		G		10	3.200		595	107	702	830
2180 For electric opening system, odd		G		9	3.556		620	119	739	880
2210 Operating skylight, with thermopane glass, 24" x 48"		G								
2220 32" x 48"		G								

# 08 62 Unit Skylights

## 08 62 13 – Domed Unit Skylights

### 08 62 13.20 Skylights

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew			Labor	Equipment		
2310	Non venting insulated plexiglass dome skylight with							
2320	Flush mount 22" x 46"	G	G-3	15.23	2.101	Ea.	335	70.50
2330	30" x 30"	G		16	2		310	67
2340	46" x 46"	G		13.91	2.301		570	77
2350	Curb mount 22" x 46"	G		15.23	2.101		360	70.50
2360	30" x 30"	G		16	2		410	67
2370	46" x 46"	G		13.91	2.301		660	77
2381	Non-insulated flush mount 22" x 46"			15.23	2.101		228	70.50
2382	30" x 30"			16	2		204	67
2383	46" x 46"			13.91	2.301		385	77
2384	Curb mount 22" x 46"			15.23	2.101		191	70.50
2385	30" x 30"			16	2		191	67
4000	Skylight, solar tube kit, incl. dome, flashing, diffuser, 1 pipe, 10" diam.	G	1 Corp	2	4		300	145
4010	14" diam.	G		2	4		365	145
4020	21" diam.	G		2	4		440	145
4030	Accessories for, 1' long x 9" diam. pipe	G		24	.333		53	12.05
4040	2' long x 9" diam. pipe	G		24	.333		41.50	12.05
4050	4' long x 9" diam. pipe	G		20	.400		73.50	14.45
4060	1' long x 13" diam. pipe	G		24	.333		73.50	12.05
4070	2' long x 13" diam. pipe	G		24	.333		54	12.05
4080	4' long x 13" diam. pipe	G		20	.400		101	14.45
4090	6.5" turret ext. for 21" diam. pipe	G		16	.500		105	18.10
4100	12' long x 21" diam. flexible pipe	G		12	.667		91.50	24
4110	45 degree elbow, 10"	G		16	.500		168	18.10
4120	14"	G		16	.500		83.50	18.10
4130	Interior decorative ring, 9"	G		20	.400		48.50	14.45
4140	13"	G		20	.400		70	14.45

# 08 71 Door Hardware

## 08 71 20 – Hardware

### 08 71 20.15 Hardware

0010	<b>HARDWARE</b>							
0020	Average hardware cost							
1000	Door hardware, apartment, interior	1 Corp	4	2	Door	570	72.50	642.50
1300	Average, door hardware, motel/hotel interior, with access card		4	2	"	700	72.50	772.50
2100	Pocket door		6	1.333	Ea.	118	48	166
4000	Door knocker, bright brass		32	.250		87	9.05	96.05
4100	Mail slot, bright brass, 2" x 11"		25	.320		65.50	11.55	77.05
4200	Peep hole, add to price of door					14.85		14.85
4200								16.30

### 08 71 20.40 Lockset

0010	<b>LOCKSET</b> , Standard duty							
0020	Non-keyed, passage, w/sect. trim	1 Corp	12	.667	Ea.	81	24	105
0100	Privacy		12	.667		77.50	24	101.50
0400	Keyed, single cylinder function		10	.800		163	29	192
0500	Lever handled, keyed, single cylinder function		10	.800		159	29	188
0500								223

### 08 71 20.41 Dead Locks

0010	<b>DEAD LOCKS</b>							
1203	Deadlock night latch	1 Corp	7.70	1.039	Ea.	58	37.50	95.50
1420	Deadbolt lock, single cylinder		10	.800		48.50	29	77.50
1440	Double cylinder		10	.800		67.50	29	96.50
1440								122

# 08 71 Door Hardware

## 08 71 20 – Hardware

### 08 71 20.42 Mortise Locksets

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
<b>0010 MORTISE LOCKSETS, Comm., wrought knobs &amp; full escutcheon trim</b>									
0015	Assumes mortise is cut								
0020	Non-keyed, passage, Grade 3	1 Corp	9 .889	Ea.	164	32		196	233
0030	Grade 1		8 1		440	36		476	545
0040	Privacy set, Grade 3		9 .889		176	32		208	246
0050	Grade 1		8 1		485	36		521	595
0100	Keyed, office/entrance/apartment, Grade 2		8 1		205	36		241	285
0110	Grade 1		7 1.143		510	41.50		551.50	630
0120	Single cylinder, typical, Grade 3		8 1		199	36		235	279
0130	Grade 1		7 1.143		540	41.50		581.50	665
0200	Hotel, room, Grade 3		7 1.143		234	41.50		275.50	325
0210	Grade 1 (see also Section 08 71 20.15)		6 1.333		570	48		618	705
0300	Double cylinder, Grade 3		8 1		241	36		277	325
0310	Grade 1		7 1.143		560	41.50		601.50	685
1000	Wrought knobs and sectional trim, non-keyed, passage, Grade 3		10 .800		138	29		167	200
1010	Grade 1		9 .889		440	32		472	540
1040	Privacy, Grade 3		10 .800		161	29		190	225
1050	Grade 1		9 .889		495	32		527	600
1100	Keyed, entrance, office/apartment, Grade 3		9 .889		239	32		271	315
1103	Install lockset		6.92 1.156		239	42		281	330
1110	Grade 1		8 1		565	36		601	680
1120	Single cylinder, Grade 3		9 .889		236	32		268	315
1130	Grade 1		8 1		520	36		556	635
2000	Cast knobs and full escutcheon trim								
2010	Non-keyed, passage, Grade 3	1 Corp	9 .889	Ea.	287	32		319	370
2020	Grade 1		8 1		425	36		461	530
2040	Privacy, Grade 3		9 .889		340	32		372	425
2050	Grade 1		8 1		450	36		486	555
2120	Keyed, single cylinder, Grade 3		8 1		345	36		381	440
2123	Mortise lock		6.15 1.301		345	47		392	460
2130	Grade 1		7 1.143		550	41.50		591.50	670

### 08 71 20.50 Door Stops

0010	<b>DOOR STOPS</b>								
0020	Holder & bumper, floor or wall	1 Corp	32 .250	Ea.	36.50	9.05		45.55	55
1300	Wall bumper, 4" diameter, with rubber pad, aluminum		32 .250		13.55	9.05		22.60	30
1600	Door bumper, floor type, aluminum		32 .250		3.94	9.05		12.99	19.20
1620	Brass		32 .250		12.95	9.05		22	29
1630	Bronze		32 .250		22	9.05		31.05	39
1900	Plunger type, door mounted		32 .250		32	9.05		41.05	50.50
2520	Wall type, aluminum		32 .250		35.50	9.05		44.55	54
2540	Plunger type, aluminum		32 .250		32	9.05		41.05	50.50
2560	Brass		32 .250		47	9.05		56.05	66.50
3020	Floor mounted, US3		3 2.667		345	96.50		441.50	540

### 08 71 20.60 Entrance Locks

0010	<b>ENTRANCE LOCKS</b>								
0015	Cylinder, grip handle deadlocking latch	1 Corp	9 .889	Ea.	190	32		222	262
0020	Deadbolt		8 1		195	36		231	274
0100	Push and pull plate, dead bolt		8 1		241	36		277	325
0900	For handicapped lever, add				158			158	173

# 08 71 Door Hardware

## 08 71 20 – Hardware

08 71 20.65 Thresholds		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	THRESHOLDS						Labor	Equipment	
0011	Threshold 3' long saddles aluminum	1 Corp	48	.167	L.F.	11.10	6.05		17.15
0100	Aluminum, 8" wide, 1/2" thick		12	.667	Ea.	56.50	24		80.50
0500	Bronze		60	.133	L.F.	40.50	4.82		45.32
0600	Bronze, panic threshold, 5" wide, 1/2" thick		12	.667	Ea.	165	24		189
0700	Rubber, 1/2" thick, 5-1/2" wide		20	.400		43	14.45		57.45
0800	2-3/4" wide		20	.400		54.50	14.45		68.95
1950	ADA compliant thresholds								83.50
2000	Threshold, wood oak 3-1/2" wide x 24" long	1 Corp	12	.667	Ea.	12.55	24		36.55
2010	3-1/2" wide x 36" long		12	.667		16.90	24		40.90
2020	3-1/2" wide x 48" long		12	.667		22.50	24		46.50
2030	4-1/2" wide x 24" long		12	.667		14.55	24		38.55
2040	4-1/2" wide x 36" long		12	.667		21.50	24		45.50
2050	4-1/2" wide x 48" long		12	.667		28	24		52
2060	6-1/2" wide x 24" long		12	.667		20	24		44
2070	6-1/2" wide x 36" long		12	.667		30.50	24		54.50
2080	6-1/2" wide x 48" long		12	.667		40.50	24		64.50
2090	Threshold, wood cherry 3-1/2" wide x 24" long		12	.667		15.05	24		39.05
2100	3-1/2" wide x 36" long		12	.667		36	24		60
2110	3-1/2" wide x 48" long		12	.667		40	24		64
2120	4-1/2" wide x 24" long		12	.667		19.20	24		43.20
2130	4-1/2" wide x 36" long		12	.667		38.50	24		62.50
2140	4-1/2" wide x 48" long		12	.667		47	24		71
2150	6-1/2" wide x 24" long		12	.667		29	24		53
2160	6-1/2" wide x 36" long		12	.667		52.50	24		76.50
2170	6-1/2" wide x 48" long		12	.667		62.50	24		86.50
2180	Threshold, wood walnut 3-1/2" wide x 24" long		12	.667		18.35	24		42.35
2190	3-1/2" wide x 36" long		12	.667		36	24		60
2200	3-1/2" wide x 48" long		12	.667		41.50	24		65.50
2210	4-1/2" wide x 24" long		12	.667		29.50	24		53.50
2220	4-1/2" wide x 36" long		12	.667		46.50	24		70.50
2230	4-1/2" wide x 48" long		12	.667		59	24		83
2240	6-1/2" wide x 24" long		12	.667		45	24		69
2250	6-1/2" wide x 36" long		12	.667		72.50	24		96.50
2260	6-1/2" wide x 48" long		12	.667		94.50	24		118.50
2300	Threshold, aluminum 4" wide x 36" long		12	.667		26	24		50
2310	4" wide x 48" long		12	.667		31.50	24		55.50
2320	4" wide x 72" long		12	.667		47	24		71
2330	5" wide x 36" long		12	.667		34.50	24		58.50
2340	5" wide x 48" long		12	.667		41	24		65
2350	5" wide x 72" long		12	.667		76	24		100
2360	6" wide x 36" long		12	.667		47	24		71
2370	6" wide x 48" long		12	.667		50.50	24		74.50
2380	6" wide x 72" long		12	.667		73.50	24		97.50
2390	7" wide x 36" long		12	.667		51.50	24		75.50
2400	7" wide x 48" long		12	.667		69	24		93
2410	7" wide x 72" long		12	.667		98.50	24		122.50
2500	Threshold, ramp, aluminum or rubber 24" x 24"		12	.667		173	24		197
									230

## 08 71 20.75 Door Hardware Accessories

0010	DOOR HARDWARE ACCESSORIES	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
1000	Knockers, brass, standard	1 Corp	16	.500	Ea.	65.50	18.10		83.60
1100	Deluxe	"	10	.800	"	97.50	29		126.50

# 08 71 Door Hardware

## 08 71 20 – Hardware

08 71 20.75 Door Hardware Accessories		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
2000	Torsion springs for overhead doors								
2050	1-3/4" diam., 32" long, 0.243" spring	1 Corp	8	1	Ea.	60	36	96	126
2060	1-3/4" diam., 32" long, 0.250" spring		8	1		43	36	79	107
2070	2" diam., 32" long, 0.243" spring		8	1		44.50	36	80.50	109
2080	2" diam., 32" long, 0.253" spring		8	1		53	36	89	118
4500	Rubber door silencers		540	.015		.41	.54	.95	1.33

## 08 71 20.90 Hinges

0010 HINGES		Pr.	47.50	47.50	52.50			
0012	Full mortise, avg. freq., steel base, USP, 4-1/2" x 4-1/2"							
0100	5" x 5", USP		68.50	68.50	75			
0200	6" x 6", USP		144	144	158			
0400	Brass base, 4-1/2" x 4-1/2", US10		73.50	73.50	81			
0500	5" x 5", US10		78	78	85.50			
0600	6" x 6", US10		171	171	188			
0800	Stainless steel base, 4-1/2" x 4-1/2", US32		93	93	102			
0900	For non removable pin, add (security item)	Ea.	5.80	5.80	6.40			
0910	For floating pin, driven tips, add		3.29	3.29	3.62			
0930	For hospital type tip on pin, add		14.85	14.85	16.35			
0940	For steeple type tip on pin, add		20.50	20.50	23			
0950	Full mortise, high frequency, steel base, 3-1/2" x 3-1/2", US26D	Pr.	31.50	31.50	34.50			
1000	4-1/2" x 4-1/2", USP		67.50	67.50	74			
1100	5" x 5", USP		54	54	59.50			
1200	6" x 6", USP		143	143	157			
1400	Brass base, 3-1/2" x 3-1/2", US4		53.50	53.50	58.50			
1430	4-1/2" x 4-1/2", US10		74.50	74.50	82			
1500	5" x 5", US10		139	139	152			
1600	6" x 6", US10		175	175	192			
1800	Stainless steel base, 4-1/2" x 4-1/2", US32		107	107	117			
1810	5" x 4-1/2", US32		141	141	155			
1930	For hospital type tip on pin, add	Ea.	14.65	14.65	16.15			
1950	Full mortise, low frequency, steel base, 3-1/2" x 3-1/2", US26D	Pr.	33	33	36.50			
2000	4-1/2" x 4-1/2", USP		25	25	27.50			
2100	5" x 5", USP		54	54	59.50			
2200	6" x 6", USP		97	97	107			
2300	4-1/2" x 4-1/2", US3		18.75	18.75	20.50			
2310	5" x 5", US3		43	43	47.50			
2400	Brass base, 4-1/2" x 4-1/2", US10		58.50	58.50	64.50			
2500	5" x 5", US10		93	93	102			
2800	Stainless steel base, 4-1/2" x 4-1/2", US32		80	80	88			
8000	Install hinge	1 Corp	34	.235		8.50	8.50	14

## 08 71 20.91 Special Hinges

0010 SPECIAL HINGES		Pr.	31	31	50.50			
8000	Continuous hinges							
8010	Steel, piano, 2" x 72"	1 Corp	.400	Ea.	24	14.45	38.45	50.50
8020	Brass, piano, 1-1/16" x 30"		.267		9.45	9.65	19.10	26.50
8030	Acrylic, piano, 1-3/4" x 12"		.200		15.65	7.25	22.90	29

## 08 71 20.92 Mortised Hinges

0010 MORTISED HINGES		Pr.	31	31	34
0200	Average frequency, steel plated, ball bearing, 3-1/2" x 3-1/2"				
0300	Bronze, ball bearing			36.50	36.50
0900	High frequency, steel plated, ball bearing		102	102	113
1100	Bronze, ball bearing		110	110	121

# 08 71 Door Hardware

## 08 71 20 – Hardware

08 71 20.92 Mortised Hinges		Crew	Daily Output	Labor-Hrs	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
					Pr.		Labor	Equipment		
1300	Average frequency, steel plated, ball bearing, 4-1/2" x 4-1/2"					37			37	40.50
1500	Bronze, ball bearing, to 36" wide					41.50			41.50	45.50
1700	Low frequency, steel, plated, plain bearing					23.50			23.50	25.50
1900	Bronze, plain bearing					29			29	32

## 08 71 20.95 Kick Plates

0010 KICK PLATES		1 Corp	15	.533	Ea.	43	19.30	62.30	78.50
0020	Stainless steel, .050", 16 ga., 8" x 28", US32								
0080	Mop/Kick, 4" x 28"		15	.533		38.50	19.30	57.80	74
0090	4" x 30"		15	.533		41	19.30	60.30	76.50
0100	4" x 34"		15	.533		46.50	19.30	65.80	82.50
0110	6" x 28"		15	.533		44	19.30	63.30	80
0120	6" x 30"		15	.533		53.50	19.30	72.80	90
0130	6" x 34"		15	.533		60	19.30	79.30	97.50

## 08 71 21 – Astragals

### 08 71 21.10 Exterior Mouldings, Astragals

0010 EXTERIOR MOULDINGS, ASTRAGALS		1 Corp	4	2	Opng.	40.50	72.50	113	164
4170	Astragal for double doors, aluminum	"	4	2	"	40.50	72.50	113	164
4174	Bronze	"	4	2	"	55.50	72.50	128	180

## 08 71 25 – Door Weatherstripping

### 08 71 25.10 Mechanical Seals, Weatherstripping

0010 MECHANICAL SEALS, WEATHERSTRIPPING		1 Corp	3	2.667	Opng.	58.50	96.50	155	223
1000	Doors, wood frame, interlocking, for 3' x 7' door, zinc								
1100	Bronze		3	2.667		71	96.50	167.50	236
1300	6' x 7' opening, zinc		2	4		60.50	145	205.50	305
1400	Bronze		2	4		71	145	216	315
1500	Vinyl V strip		6.40	1.250	Ea.	13.90	45	58.90	90
1700	Wood frame, spring type, bronze								
1800	3' x 7' door	1 Corp	7.60	1.053	Opng.	24.50	38	62.50	89
1900	6' x 7' door		7	1.143		32	41.50	73.50	103
1920	Felt, 3' x 7' door		14	.571		4.98	20.50	25.48	39.50
1930	6' x 7' door		13	.615		5.50	22.50	28	42.50
1950	Rubber, 3' x 7' door		7.60	1.053		13.35	38	51.35	77
1960	6' x 7' door		7	1.143		15.80	41.50	57.30	85.50
2200	Metal frame, spring type, bronze								
2300	3' x 7' door	1 Corp	3	2.667	Opng.	52	96.50	148.50	215
2400	6' x 7' door	"	2.50	3.200	"	53.50	116	169.50	249
2500	For stainless steel, spring type, odd					133%			
2700	Metal frame, extruded sections, 3' x 7' door, aluminum	1 Corp	3	2.667	Opng.	31	96.50	127.50	192
2800	Bronze		3	2.667		90	96.50	186.50	257
3100	6' x 7' door, aluminum		1.50	5.333		38	193	231	355
3200	Bronze		1.50	5.333		148	193	341	475
3500	Threshold weatherstripping								
3650	Door sweep, flush mounted, aluminum	1 Corp	25	.320	Ea.	22	11.55	33.55	43
3700	Vinyl		25	.320		19.90	11.55	31.45	41
5000	Garage door bottom weatherstrip, 12' aluminum, clear		14	.571		26	20.50	46.50	62.50
5010	Bronze		14	.571		94.50	20.50	115	138
5050	Bottom protection, rubber		14	.571		54.50	20.50	75	94
5100	Threshold		14	.571		70.50	20.50	91	112

# 08 75 Window Hardware

## 08 75 10 – Window Handles and Latches

08 75 10.10 Handles and Latches			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
0010	HANDLES AND LATCHES									
1000	Handles, surface mounted, aluminum		1 Corp	24	.333	Ea.	6.15	12.05	18.20	26.50
1020	Brass			24	.333		5.35	12.05	17.40	25.50
1040	Chrome			24	.333		8.65	12.05	20.70	29.50
1200	Window handles window crank ADA			24	.333		17.45	12.05	29.50	39
1500	Recessed, aluminum			12	.667		3.90	24	27.90	44
1520	Brass			12	.667		5.60	24	29.60	45.50
1540	Chrome			12	.667		4.63	24	28.63	44.50
2000	Latches, aluminum			20	.400		4.41	14.45	18.86	29
2020	Brass			20	.400		6.70	14.45	21.15	31.50
2040	Chrome			20	.400		4.39	14.45	18.84	29

## 08 75 10.15 Window Opening Control

0010 WINDOW OPENING CONTROL			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
0015	Window stops									
0020	For double-hung window		1 Corp	35	.229	Ea.	40.50	8.25	48.75	58
0030	Cam action for sliding window			35	.229		4.55	8.25	12.80	18.60
0040	Thumb screw for sliding window			35	.229		4.91	8.25	13.16	19
0100	Window guards, child safety bars for single or double-hung									
0110	14" to 17" wide max vert opening 26"		1 Corp	16	.500	Ea.	68.50	18.10	86.60	105
0120	17" to 23" wide max vert opening 26"			16	.500		78	18.10	96.10	116
0130	23" to 36" wide max vert opening 26"			16	.500		89	18.10	107.10	128
0140	35" to 58" wide max vert opening 26"			16	.500		103	18.10	121.10	144
0150	58" to 90" wide max vert opening 26"			16	.500		139	18.10	157.10	183
0160	73" to 120" wide max vert opening 26"			16	.500		243	18.10	261.10	298

## 08 75 30 – Window Weatherstripping

08 75 30.10 Mechanical Weather Seals			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
0010	MECHANICAL WEATHER SEALS, Window, double-hung, 3' x 5'									
0020	Zinc		1 Corp	7.20	1.111	Opng.	22.50	40	62.50	91
0100	Bronze			7.20	1.111		42.50	40	82.50	113
0200	Vinyl V strip			7	1.143		11.60	41.50	53.10	81
0500	As above but heavy duty, zinc			4.60	1.739		21	63	84	126
0600	Bronze			4.60	1.739		79	63	142	190

# 08 79 Hardware Accessories

## 08 79 20 – Door Accessories

08 79 20.10 Door Hardware Accessories			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
0010	DOOR HARDWARE ACCESSORIES									
0140	Door bolt, surface, 4"		1 Corp	32	.250	Ea.	18.80	9.05	27.85	35.50
0160	Door latch		"	12	.667	"	8.80	24	32.80	49
0200	Sliding closet door									
0220	Track and hanger, single		1 Corp	10	.800	Ea.	67.50	29	96.50	122
0240	Double			8	1		85	36	121	153
0260	Door guide, single			48	.167		32.50	6.05	38.55	45.50
0280	Double			48	.167		41.50	6.05	47.55	55.50
0600	Deadbolt and lock cover plate, brass or stainless steel			30	.267		33	9.65	42.65	52
0620	Hole cover plate, brass or chrome			35	.229		8.70	8.25	16.95	23
2240	Mortise lockset, passage, lever handle			9	.889		173	32	205	243
4000	Security chain, standard			18	.444		15	16.05	31.05	43
4100	Deluxe			18	.444		55	16.05	71.05	87

# 08 81 Glass Glazing

## 08 81 10 – Float Glass

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				Crew	Labor		Equipment	Labor		Total	
<b>08 81 10.10 Various Types and Thickness of Float Glass</b>											
<b>0010 VARIOUS TYPES AND THICKNESS OF FLOAT GLASS</b>											
0020 3/16" plain		2 Glaz	130	.123	S.F.		7.10	4.33		11.43	14.95
0200 Tempered, clear			130	.123			7.50	4.33		11.83	15.35
0300 Tinted			130	.123			7.60	4.33		11.93	15.45
0600 1/4" thick, clear, plain			120	.133			8.40	4.69		13.09	16.90
0700 Tinted			120	.133			9.75	4.69		14.44	18.40
0800 Tempered, clear			120	.133			7.95	4.69		12.64	16.45
0900 Tinted			120	.133			12.15	4.69		16.84	21
1600 3/8" thick, clear, plain			75	.213			11.70	7.50		19.20	25
1700 Tinted			75	.213			16.85	7.50		24.35	31
1800 Tempered, clear			75	.213			18.45	7.50		25.95	33
1900 Tinted			75	.213			21	7.50		28.50	36
2200 1/2" thick, clear, plain			55	.291			18.95	10.25		29.20	38
2300 Tinted			55	.291			29.50	10.25		39.75	49.50
2400 Tempered, clear			55	.291			27.50	10.25		37.75	47.50
2500 Tinted			55	.291			28	10.25		38.25	47.50
2800 5/8" thick, clear, plain			45	.356			29.50	12.50		42	53
2900 Tempered, clear			45	.356			33.50	12.50		46	57.50

## 08 81 25 – Glazing Variables

### 08 81 25.10 Applications of Glazing

<b>0010 APPLICATIONS OF GLAZING</b>											
0600 For glass replacement, add					S.F.			100%			
0700 For gasket settings, add					L.F.	6.40			6.40		7
0900 For sloped glazing, add					S.F.			26%			
2000 Fabrication, polished edges, 1/4" thick					Inch	.61			.61		.67
2100 1/2" thick									1.44		1.58
2500 Mitered edges, 1/4" thick									1.44		1.58
2600 1/2" thick									2.38		2.62

## 08 81 30 – Insulating Glass

### 08 81 30.10 Reduce Heat Transfer Glass

<b>0010 REDUCE HEAT TRANSFER GLASS</b>											
0015 2 lites 1/8" float, 1/2" thk under 15 S.F.											
0100 Tinted	G	2 Glaz	95	.168	S.F.	14.75	5.95		20.70		26
0280 Double glazed, 5/8" thk unit, 3/16" float, 15 to 30 S.F., clear			90	.178		14.25	6.25		20.50		26
0400 1" thk, dbl. glazed, 1/4" float, 30 to 70 S.F., clear	G		75	.213		17.10	7.50		24.60		31
0500 Tinted	G		75	.213		24	7.50		31.50		39
2000 Both lites, light & heat reflective	G		85	.188		33	6.65		39.65		47
2500 Heat reflective, film inside, 1" thick unit, clear	G		85	.188		28.50	6.65		35.15		42.50
2600 Tinted	G		85	.188		31	6.65		37.65		45
3000 Film on weatherside, clear, 1/2" thick unit	G		95	.168		20	5.95		25.95		31.50
3100 5/8" thick unit	G		90	.178		21	6.25		27.25		33.50
3200 1" thick unit	G		85	.188		28.50	6.65		35.15		42.50
5000 Spectrally selective film, on ext., blocks solar gain/allows 70% of light	G		95	.168		15.80	5.95		21.75		27

## 08 81 40 – Plate Glass

### 08 81 40.10 Plate Glass

<b>0010 PLATE GLASS</b>	Twin ground, polished,										
0015 3/16" thick, material					S.F.	6			6		6.60
0020 3/16" thick	2 Glaz	100	.160			6	5.65		11.65		15.80
0100 1/4" thick		94	.170			8.20	6		14.20		18.80
0200 3/8" thick		60	.267			13.90	9.40		23.30		30.50
0300 1/2" thick	↓	40	.400	↓		27	14.10		41.10		53

# 08 81 Glass Glazing

## 08 81 55 – Window Glass

08 81 55.10 Sheet Glass		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 SHEET GLASS (window), clear float, stops, putty bed											
0015 1/8" thick, clear float		2 Glaz	480	.033	S.F.	4.27	1.17			5.44	6.60
0500 3/16" thick, clear			480	.033		6.65	1.17			7.82	9.20
0600 Tinted			480	.033		8.15	1.17			9.32	10.85
0700 Tempered			480	.033		10	1.17			11.17	12.90

# 08 83 Mirrors

## 08 83 13 – Mirrored Glass Glazing

### 08 83 13.10 Mirrors

0010 MIRRORS, No frames, wall type, 1/4" plate glass, polished edge	2 Glaz	125	.128	S.F.	9.85	4.51				14.36	18.25
0100 Up to 5 S.F.		160	.100		9.45	3.52				12.97	16.15
0200 Over 5 S.F.		160	.100		9.55	3.52				13.07	16.25
0500 Door type, 1/4" plate glass, up to 12 S.F.		160	.100		6.75	3.52				10.27	13.15
1000 Float glass, up to 10 S.F., 1/8" thick		160	.100		7.85	3.75				11.60	14.80
1100 3/16" thick		150	.107		2.80	2.89				5.69	7.80
1500 12" x 12" wall tiles, square edge, clear		195	.082		6.60	2.89				9.49	12
1600 Veined		195	.082		16	3.52				19.52	23.50
2010 Bathroom, unframed, laminated		160	.100								

# 08 87 Glazing Surface Films

## 08 87 26 – Bird Control Film

### 08 87 26.10 Bird Control Film

0010 BIRD CONTROL FILM	2 Glaz	180	.089	S.F.	7	3.13				10.13	12.80
0050 Patterned, adhered to glass	1 Glaz	50	.160	Ea.	2.57	5.65				8.22	12.05
0200 Decals small, adhered to glass		50	.160	"	8.20	5.65				13.85	18.20
0250 Decals large, adhered to glass		25	.320	Set	7.55	11.25				18.80	27
0300 Decals set of 4, adhered to glass		10	.800	Roll	20.50	28				48.50	69
0400 Bird control film tape											

## 08 87 33 – Electrically Tinted Window Film

### 08 87 33.20 Window Film

0010 WINDOW FILM adhered on glass (glass not included)	1 Glaz	200	.040	S.F.	224	1.41				225.41	249
0015 Film is pre-wired and can be trimmed		180	.044		335	1.56				336.56	375
0100 Window film 4 S.F. adhered on glass		170	.047		505	1.66				506.66	560
0120 6 S.F.		150	.053		585	1.88				586.88	645
0160 9 S.F.		144	.056		670	1.96				671.96	745
0180 10 S.F.		140	.057		785	2.01				787.01	865
0200 12 S.F.		128	.063		895	2.20				897.20	990
0220 14 S.F.		126	.063		1,000	2.23				1,002.23	1,100
0240 16 S.F.		120	.067		1,125	2.35				1,127.35	1,225
0260 18 S.F.											
0280 20 S.F.											

## 08 87 53 – Security Films On Glass

### 08 87 53.10 Security Film Adhered On Glass

0010 SECURITY FILM ADHERED ON GLASS (glass not included)	1 Glaz	200	.040	S.F.	1.13	1.41				2.54	3.55
0020 Security film, clear, 7 mil		200	.040		2.04	1.41				3.45	4.55
0030 8 mil		200	.040		1.12	1.41				2.53	3.54
0040 9 mil		200	.040		1.93	1.41				3.34	4.43
0050 10 mil		200	.040								

# 08 87 Glazing Surface Films

## 08 87 53 – Security Films On Glass

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
							Material	Labor	Equipment	Total	
0060	12 mil			1 Glaz	200	.040	S.F.	1.91	1.41	3.32	4.41
0075	15 mil				200	.040		2.41	1.41	3.82	4.96
0100	Security film, sealed with structural adhesive, 7 mil				180	.044		5.75	1.56	7.31	8.90
0110	8 mil				180	.044		6.70	1.56	8.26	9.90
0140	14 mil				180	.044		7.35	1.56	8.91	10.60

# 08 91 Louvers

## 08 91 19 – Fixed Louvers

### 08 91 19.10 Aluminum Louvers

				1 Carp	38	.211	Ea.	21.50	7.60	29.10	36	
0020	Aluminum with screen, residential, 8" x 8"				1	38	.211		17.85	7.60	25.45	32
0100	12" x 12"					38	.211				30.75	38
0200	12" x 18"					35	.229		22.50	8.25		
0250	14" x 24"					30	.267		32.50	9.65	42.15	51.50
0300	18" x 24"					27	.296		33.50	10.70	44.20	54.50
0500	24" x 30"					24	.333		70.50	12.05	82.55	97.50
0700	Triangle, adjustable, small					20	.400		73.50	14.45	87.95	105
0800	Large					15	.533		94	19.30	113.30	135
2100	Midget, aluminum, 3/4" deep, 1" diameter					85	.094		.98	3.40	4.38	6.70
2150	3" diameter					60	.133		3.22	4.82	8.04	11.45
2200	4" diameter					50	.160		6	5.80	11.80	16.10
2250	6" diameter					30	.267		3.87	9.65	13.52	20

# 08 95 Vents

## 08 95 13 – Soffit Vents

### 08 95 13.10 Wall Louvers

				1 Carp	48	.167	Ea.	2.01	6.05	8.06	12.10
2400	Under eaves vent, aluminum, mill finish, 16" x 4"				1	48	.167				
2500	16" x 8"				"	48	.167	"	2.85	6.05	8.90

## 08 95 16 – Wall Vents

### 08 95 16.10 Louvers

				1 Carp	16	.500	Ea.	310	18.10	328.10	375
0020	Redwood, 2'-0" diameter, full circle				16	.500		210	18.10	228.10	261
0100	Half circle				16	.500		214	18.10	232.10	265
0200	Octagonal				16	.500					
0300	Triangular, 5/12 pitch, 5'-0" at base				16	.500		655	18.10	673.10	750
1000	Rectangular, 1'-4" x 1'-3"				16	.500		28.50	18.10	46.60	61
1100	Rectangular, 1'-4" x 1'-8"				16	.500		43	18.10	61.10	77
1200	1'-4" x 2'-2"				15	.533		50.50	19.30	69.80	87.50
1300	1'-9" x 2'-2"				15	.533		62	19.30	81.30	99.50
1400	2'-3" x 2'-2"				14	.571		75.50	20.50	96	117
1700	2'-4" x 2'-11"				13	.615		75.50	22.50	98	120
2000	Aluminum, 12" x 16"				25	.320		24.50	11.55	36.05	46
2010	16" x 20"				25	.320		35	11.55	46.55	57.50
2020	24" x 30"				25	.320		69	11.55	80.55	95
2100	6' triangle				12	.667		193	24	217	253
3100	Round, 2'-2" diameter				16	.500		200	18.10	218.10	250
7000	Vinyl gable vent, 8" x 8"				38	.211		16.55	7.60	24.15	31
7020	12" x 12"				38	.211		32	7.60	39.60	47.50

# 08 95 Vents

## 08 95 16 – Wall Vents

08 95 16.10 Louvers	7080	12" x 18"	Daily	Labor-	Material	2020 Bare Costs			Total	Total Incl O&P	
			Crew	Output		Hours	Unit	Labor	Equipment		
	7200	18" x 24"	1 Corp	35	.229	Ed.		41	8.25	49.25	59
			↓	30	.267	↓		58.50	9.65	68.15	80.50

# Division Notes

## Estimating Tips

### General

- Room Finish Schedule: A complete set of plans should contain a room finish schedule. If one is not available, it would be well worth the time and effort to obtain one.

### 09 20 00 Plaster and

#### Gypsum Board

- Lath is estimated by the square yard plus a 5% allowance for waste. Furring, channels, and accessories are measured by the linear foot. An extra foot should be allowed for each accessory miter or stop.
- Plaster is also estimated by the square yard. Deductions for openings vary by preference, from zero deduction to 50% of all openings over 2 feet in width. The estimator should allow one extra square foot for each linear foot of horizontal interior or exterior angle located below the ceiling level. Also, double the areas of small radius work.
- Drywall accessories, studs, track, and acoustical caulking are all measured by the linear foot. Drywall taping is figured by the square foot. Gypsum wallboard is estimated by the square foot. No material deductions should be made for door or window openings under 32 S.F.

### 09 60 00 Flooring

- Tile and terrazzo areas are taken off on a square foot basis. Trim and base materials are measured by the linear foot. Accent tiles are listed per each. Two basic methods of installation are used. Mud set is approximately 30% more expensive than thin set.

The cost of grout is included with tile unit price lines unless otherwise noted. In terrazzo work, be sure to include the linear footage of embedded decorative strips, grounds, machine rubbing, and power cleanup.

- Wood flooring is available in strip, parquet, or block configuration. The latter two types are set in adhesives with quantities estimated by the square foot. The laying pattern will influence labor costs and material waste. In addition to the material and labor for laying wood floors, the estimator must make allowances for sanding and finishing these areas, unless the flooring is prefinished.
- Sheet flooring is measured by the square yard. Roll widths vary, so consideration should be given to use the most economical width, as waste must be figured into the total quantity. Consider also the installation methods available—direct glue down or stretched. Direct glue-down installation is assumed with sheet carpet unit price lines unless otherwise noted.

### 09 70 00 Wall Finishes

- Wall coverings are estimated by the square foot. The area to be covered is measured—length by height of the wall above the baseboards—to calculate the square footage of each wall. This figure is divided by the number of square feet in the single roll which is being used. Deduct, in full, the areas of openings such as doors and windows. Where a pattern match is required allow 25–30% waste.

### 09 80 00 Acoustic Treatment

- Acoustical systems fall into several categories. The takeoff of these materials should be by the square foot of area with a 5% allowance for waste. Do not forget about scaffolding, if applicable, when estimating these systems.

### 09 90 00 Painting and

#### Coating

- New line items created for cut-ins with reference diagram.
- A major portion of the work in painting involves surface preparation. Be sure to include cleaning, sanding, filling, and masking costs in the estimate.
- Protection of adjacent surfaces is not included in painting costs. When considering the method of paint application, an important factor is the amount of protection and masking required. These must be estimated separately and may be the determining factor in choosing the method of application.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 09 01 Maintenance of Finishes

## 09 01 70 - Maintenance of Wall Finishes

09 01 70.10 Gypsum Wallboard Repairs		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
						Labor	Equipment		
0010	GYPSUM WALLBOARD REPAIRS								
0100	Fill and sand, pin/nail holes	1 Corp	960	.008	Ea.		.30	.30	.49
0110	Screw head pops		480	.017			.60	.60	.99
0120	Dents, up to 2" square		48	.167		.01	6.05	6.06	9.90
0130	2" to 4" square		24	.333		.04	12.05	12.09	19.85
0140	Cut square, patch, sand and finish, holes, up to 2" square		12	.667		.04	24	24.04	39.50
0150	2" to 4" square		11	.727		.09	26.50	26.59	43
0160	4" to 8" square		10	.800		.24	29	29.24	48
0170	8" to 12" square		8	1		.47	36	36.47	60
0180	12" to 32" square		6	1.333		1.58	48	49.58	80.50
0210	16" by 48"		5	1.600		2.68	58	60.68	98
0220	32" by 48"		4	2		4.45	72.50	76.95	124
0230	48" square		3.50	2.286		6.30	82.50	88.80	143
0240	60" square		3.20	2.500		9.55	90.50	100.05	160
0500	Skim coat surface with joint compound		1600	.005	S.F.	.04	.18	.22	.34
0510	Prepare, retape and refinish joints		60	.133	L.F.	.70	4.82	5.52	8.65

## 09 01 90 - Maintenance of Painting and Coating

### 09 01 90.92 Sanding

0010	SANDING and puttying interior trim, compared to								
0100	Painting 1 coat, on quality work					L.F.		100%	
0300	Medium work							50%	
0400	Industrial grade							25%	
0500	Surface protection, placement and removal								
0510	Surface protection, placement and removal, basic drop cloths	1 Pord	6400	.001	S.F.		.04	.04	.06
0520	Masking with paper		800	.010		.07	.30	.37	.57
0530	Volume cover up (using plastic sheathing or building paper)		16000	.001			.02	.02	.02

### 09 01 90.93 Exterior Surface Preparation

0010	EXTERIOR SURFACE PREPARATION								
0015	Doors, per side, not incl. frames or trim								
0020	Scrape & sand								
0030	Wood, flush	1 Pord	616	.013	S.F.		.39	.39	.64
0040	Wood, detail		496	.016			.49	.49	.79
0050	Wood, louvered		280	.029			.86	.86	1.40
0060	Wood, overhead		616	.013			.39	.39	.64
0070	Wire brush								
0080	Metal, flush	1 Pord	640	.013	S.F.		.38	.38	.61
0090	Metal, detail		520	.015			.46	.46	.76
0100	Metal, louvered		360	.022			.67	.67	1.09
0110	Metal or fibr., overhead		640	.013			.38	.38	.61
0120	Metal, roll up		560	.014			.43	.43	.70
0130	Metal, bulkhead		640	.013			.38	.38	.61
0140	Power wash, based on 2500 lb. operating pressure								
0150	Metal, flush	A-1H	2240	.004	S.F.		.10	.03	.13
0160	Metal, detail		2120	.004			.10	.04	.14
0170	Metal, louvered		2000	.004			.11	.04	.15
0180	Metal or fibr., overhead		2400	.003			.09	.03	.12
0190	Metal, roll up		2400	.003			.09	.03	.12
0200	Metal, bulkhead		2200	.004			.10	.03	.13
0400	Windows, per side, not incl. trim								
0410	Scrape & sand								
0420	Wood, 1-2 lite	1 Pord	320	.025	S.F.		.76	.76	1.23
0430	Wood, 3-6 lite		280	.029			.86	.86	1.40

# 09 01 Maintenance of Finishes

## 09 01 90 – Maintenance of Painting and Coating

09 01 90.93 Exterior Surface Preparation				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew					Labor	Equipment		
0440	Wood, 7-10 lite		1 Pord	240	.033	S.F.		.01		.01 .64
0450	Wood, 12 lite			200	.040			.21		.21 .97
0460	Wood, Bay/Bow			320	.025			.76		.76 1.23
0470	Wire brush									
0480	Metal, 1-2 lite		1 Pord	480	.017	S.F.		.50		.50 .82
0490	Metal, 3-6 lite			400	.020			.60		.60 .98
0500	Metal, Bay/Bow			480	.017			.50		.50 .82
0510	Power wash, based on 2500 lb. operating pressure									
0520	1-2 lite		A-1H	4400	.002	S.F.		.05	.02	.07 .10
0530	3-6 lite			4320	.002			.05	.02	.07 .10
0540	7-10 lite			4240	.002			.05	.02	.07 .11
0550	12 lite			4160	.002			.05	.02	.07 .11
0560	Bay/Bow			4400	.002			.05	.02	.07 .10
0600	Siding, scrape and sand, light=10-30%, med.=30-70%									
0610	Heavy=70-100% of surface to sand									
0650	Texture 1-11, light		1 Pord	480	.017	S.F.		.50		.50 .82
0660	Med.			440	.018			.55		.55 .89
0670	Heavy			360	.022			.67		.67 1.09
0680	Wood shingles, shakes, light			440	.018			.55		.55 .89
0690	Med.			360	.022			.67		.67 1.09
0700	Heavy			280	.029			.86		.86 1.40
0710	Clapboard, light			520	.015			.46		.46 .76
0720	Med.			480	.017			.50		.50 .82
0730	Heavy			400	.020			.60		.60 .98
0740	Wire brush									
0750	Aluminum, light		1 Pord	600	.013	S.F.		.40		.40 .66
0760	Med.			520	.015			.46		.46 .76
0770	Heavy			440	.018			.55		.55 .89
0780	Pressure wash, based on 2500 lb. operating pressure									
0790	Stucco		A-1H	3080	.003	S.F.		.07	.02	.09 .15
0800	Aluminum or vinyl			3200	.003			.07	.02	.09 .14
0810	Siding, masonry, brick & block			2400	.003			.09	.03	.12 .18
1300	Miscellaneous, wire brush									
1310	Metal, pedestrian gate		1 Pord	100	.080	S.F.		2.42		2.42 3.93

## 09 01 90.94 Interior Surface Preparation

0010 INTERIOR SURFACE PREPARATION										
0020	Doors, per side, not incl. frames or trim									
0030	Scrape & sand									
0040	Wood, flush		1 Pord	616	.013	S.F.		.39		.39 .64
0050	Wood, detail			496	.016			.49		.49 .79
0060	Wood, louvered			280	.029			.86		.86 1.40
0070	Wire brush									
0080	Metal, flush		1 Pord	640	.013	S.F.		.38		.38 .61
0090	Metal, detail			520	.015			.46		.46 .76
0100	Metal, louvered			360	.022			.67		.67 1.09
0110	Hand wash									
0120	Wood, flush		1 Pord	2160	.004	S.F.		.11		.11 .18
0130	Wood, detail			2000	.004			.12		.12 .20
0140	Wood, louvered			1360	.006			.18		.18 .29
0150	Metal, flush			2160	.004			.11		.11 .18
0160	Metal, detail			2000	.004			.12		.12 .20
0170	Metal, louvered			1360	.006			.18		.18 .29

# 09 01 Maintenance of Finishes

## 09 01 90 – Maintenance of Painting and Coating

09 01 90.94 Interior Surface Preparation		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
							Labor	Equipment		
0400	Windows, per side, not incl. trim									
0410	Scrape & sand									
0420	Wood, 1-2 lite	1 Pord	360	.022	S.F.		.67		.67	1.09
0430	Wood, 3-6 lite		320	.025			.76		.76	1.23
0440	Wood, 7-10 lite		280	.029			.86		.86	1.40
0450	Wood, 12 lite		240	.033			1.01		1.01	1.64
0460	Wood, Bay/Bow		360	.022			.67		.67	1.09
0470	Wire brush									
0480	Metal, 1-2 lite	1 Pord	520	.015	S.F.		.46		.46	.76
0490	Metal, 3-6 lite		440	.018			.55		.55	.89
0500	Metal, Bay/Bow		520	.015			.46		.46	.76
0600	Walls, sanding, light=10-30%, medium=30-70%, heavy=70-100% of surface to sand									
0610	Walls, sand									
0660	Gypsum board or plaster, light	1 Pord	3077	.003	S.F.		.08		.08	.13
0670	Gypsum board or plaster, medium		2160	.004			.11		.11	.18
0680	Gypsum board or plaster, heavy		923	.009			.26		.26	.43
0690	Wood, T&G, light		2400	.003			.10		.10	.16
0700	Wood, T&G, medium		1600	.005			.15		.15	.25
0710	Wood, T&G, heavy		800	.010			.30		.30	.49
0720	Walls, wash									
0730	Gypsum board or plaster	1 Pord	3200	.003	S.F.		.08		.08	.12
0740	Wood, T&G		3200	.003			.08		.08	.12
0750	Masonry, brick & block, smooth		2800	.003			.09		.09	.14
0760	Masonry, brick & block, coarse		2000	.004			.12		.12	.20
8000	For chemical washing, see Section 04 01 30									

## 09 01 90.95 Scrape After Fire Damage

0010 SCRAPE AFTER FIRE DAMAGE										
0050	Boards, 1" x 4"	1 Pord	336	.024	L.F.		.72		.72	1.17
0060	1" x 6"		260	.031			.93		.93	1.51
0070	1" x 8"		207	.039			1.17		1.17	1.90
0080	1" x 10"		174	.046			1.39		1.39	2.26
0500	Framing, 2" x 4"		265	.030			.91		.91	1.48
0510	2" x 6"		221	.036			1.09		1.09	1.78
0520	2" x 8"		190	.042			1.27		1.27	2.07
0530	2" x 10"		165	.048			1.46		1.46	2.38
0540	2" x 12"		144	.056			1.68		1.68	2.73
1000	Heavy framing, 3" x 4"		226	.035			1.07		1.07	1.74
1010	4" x 4"		210	.038			1.15		1.15	1.87
1020	4" x 6"		191	.042			1.26		1.26	2.06
1030	4" x 8"		165	.048			1.46		1.46	2.38
1040	4" x 10"		144	.056			1.68		1.68	2.73
1060	4" x 12"		131	.061			1.84		1.84	3
2900	For sealing, light damage		825	.010	S.F.		.15	.29	.44	.65
2920	Heavy damage		460	.017	"		.35	.53	.88	1.24

# 09 05 Common Work Results for Finishes

## 09 05 05 – Selective Demolition for Finishes

09 05 05.10 Selective Demolition, Ceilings		R024119-10	Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	SELECTIVE DEMOLITION, CEILINGS										
0200	Ceiling, gypsum wall board, furred and nailed or screwed		2 Clab	800	.020	S.F.		.56		.56	.91
1000	Plaster, lime and horse hair, on wood lath, incl. lath			700	.023			.64		.64	1.04
1200	Suspended ceiling, mineral fiber, 2' x 2' or 2' x 4'			1500	.011			.30		.30	.49
1250	On suspension system, incl. system			1200	.013			.37		.37	.61
1500	Tile, wood fiber, 12" x 12", glued			900	.018			.49		.49	.81
1540	Stapled			1500	.011			.30		.30	.49
2000	Wood, tongue and groove, 1" x 4"			1000	.016			.44		.44	.73
2040	1" x 8"			1100	.015			.40		.40	.66
2400	Plywood or wood fiberboard, 4' x 8' sheets			1200	.013			.37		.37	.61
2500	Remove & refinish textured ceiling		1 Plas	222	.036		.04	1.26		1.30	2.10

## 09 05 05.20 Selective Demolition, Flooring

09 05 05.20 Selective Demolition, Flooring		R024119-10	Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	SELECTIVE DEMOLITION, FLOORING										
0200	Brick with mortar		2 Clab	475	.034	S.F.		.94		.94	1.54
0400	Carpet, bonded, including surface scraping			2000	.008			.22		.22	.37
0480	Tackless			9000	.002			.05		.05	.08
0550	Carpet tile, releasable adhesive			5000	.003			.09		.09	.15
0560	Permanent adhesive			1850	.009			.24		.24	.39
0800	Resilient, sheet goods			1400	.011			.32		.32	.52
0850	Vinyl or rubber cove base		1 Clab	1000	.008	L.F.		.22		.22	.37
0860	Vinyl or rubber cove base, molded corner			1000	.008	Ea.		.22		.22	.37
0870	For glued and caulked installation, add to labor							50%			
0900	Vinyl composition tile, 12" x 12"		2 Clab	1000	.016	S.F.		.44		.44	.73
2000	Tile, ceramic, thin set			675	.024			.66		.66	1.08
2020	Mud set			625	.026			.71		.71	1.17
3000	Wood, block, on end		1 Carp	400	.020			.72		.72	1.19
3200	Parquet			450	.018			.64		.64	1.06
3400	Strip flooring, interior, 2-1/4" x 25/32" thick			325	.025			.89		.89	1.46
3500	Exterior, porch flooring, 1" x 4"			220	.036			1.31		1.31	2.16
3800	Subfloor, tongue and groove, 1" x 6"			325	.025			.89		.89	1.46
3820	1" x 8"			430	.019			.67		.67	1.10
3840	1" x 10"			520	.015			.56		.56	.91
4000	Plywood, nailed			600	.013			.48		.48	.79
4100	Glued and nailed			400	.020			.72		.72	1.19
4200	Hardboard, 1/4" thick			760	.011			.38		.38	.63
9050	For grinding concrete floors, see Section 03 35 43.10										

## 09 05 05.30 Selective Demolition, Walls and Partitions

09 05 05.30 Selective Demolition, Walls and Partitions		R024119-10	Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	SELECTIVE DEMOLITION, WALLS AND PARTITIONS										
0020	Walls, concrete, reinforced		B-39	120	.400	C.F.		11.25	2.98	14.23	22
0025	Plain		"	160	.300	"		8.45	2.23	10.68	16.30
1000	Gypsum wallboard, nailed or screwed		1 Clab	1000	.008	S.F.		.22		.22	.37
1010	2 layers			400	.020			.56		.56	.91
1500	Fiberboard, nailed			900	.009			.25		.25	.41
1568	Plenum barrier, sheet lead			300	.027			.74		.74	1.22
2200	Metal or wood studs, finish 2 sides, fiberboard		B-1	520	.046			1.31		1.31	2.16
2250	Lath and plaster			260	.092			2.63		2.63	4.32
2300	Gypsum wallboard			520	.046			1.31		1.31	2.16
2350	Plywood			450	.053			1.52		1.52	2.49
2800	Paneling, 4' x 8' sheets		1 Clab	475	.017			.47		.47	.77
3000	Plaster, lime and horsehair, on wood lath			400	.020			.56		.56	.91
3020	On metal lath			335	.024			.66		.66	1.09
3450	Plaster, interior gypsum, acoustic, or cement			60	.133	S.Y.		3.71		3.71	6.10

# 09 05 Common Work Results for Finishes

## 09 05 05 – Selective Demolition for Finishes

09 05 05.30 Selective Demolition, Walls and Partitions		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
							Labor	Equipment		
3500	Stucco, on masonry	1 Clab	145	.055	S.Y.		1.53		1.53	2.52
3510	Commercial 3-coat		80	.100			2.78		2.78	4.57
3520	Interior stucco		25	.320	↓		8.90		8.90	14.60
3760	Tile, ceramic, on walls, thin set		300	.027	S.F.		.74		.74	1.22
3765	Mud set		250	.032	"		.89		.89	1.46

# 09 22 Supports for Plaster and Gypsum Board

## 09 22 03 – Fastening Methods for Finishes

### 09 22 03.20 Drilling Plaster/Drywall

0010 DRILLING PLASTER/DRYWALL		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
1100	Drilling & layout for drywall/plaster walls, up to 1" deep, no anchor	1 Corp	150	.053	Ea.	.01	1.93		1.94	3.18
1200	Holes, 1/4" diameter		140	.057		.01	2.07		2.08	3.40
1300	3/8" diameter		130	.062		.01	2.22		2.23	3.67
1400	1/2" diameter		120	.067		.01	2.41		2.42	3.98
1500	3/4" diameter		110	.073		.02	2.63		2.65	4.34
1600	1" diameter		100	.080		.04	2.89		2.93	4.80
1800	1-1/2" diameter		90	.089		.05	3.21		3.26	5.35
1900	For ceiling installations, add						40%			

## 09 22 13 – Metal Furring

### 09 22 13.13 Metal Channel Furring

0010 METAL CHANNEL FURRING		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
0030	Beams and columns, 7/8" hat channels, galvanized, 12" OC	1 Lath	155	.052	S.F.	.46	1.86		2.32	3.48
0050	16" OC		170	.047		.37	1.69		2.06	3.13
0070	24" OC		185	.043		.25	1.55		1.80	2.77
0100	Ceilings, on steel, 7/8" hat channels, galvanized, 12" OC		210	.038		.42	1.37		1.79	2.66
0300	16" OC		290	.028		.37	.99		1.36	2
0400	24" OC		420	.019		.25	.68		.93	1.37
0600	1-5/8" hat channels, galvanized, 12" OC		190	.042		.56	1.51		2.07	3.05
0700	16" OC		260	.031		.50	1.11		1.61	2.33
0900	24" OC		390	.021		.34	.74		1.08	1.55
0930	7/8" hat channels with sound isolation clips, 12" OC		120	.067		1.73	2.40		4.13	5.75
0940	16" OC		100	.080		1.30	2.88		4.18	6.05
0950	24" OC		165	.048		.87	1.74		2.61	3.75
0960	1-5/8" hat channels, galvanized, 12" OC		110	.073		1.88	2.61		4.49	6.25
0970	16" OC		100	.080		1.41	2.88		4.29	6.15
0980	24" OC		155	.052		.94	1.86		2.80	4.01
1000	Walls, 7/8" hat channels, galvanized, 12" OC		235	.034		.42	1.22		1.64	2.43
1200	16" OC		265	.030		.37	1.09		1.46	2.15
1300	24" OC		350	.023		.25	.82		1.07	1.59
1500	1-5/8" hat channels, galvanized, 12" OC		210	.038		.56	1.37		1.93	2.82
1600	16" OC		240	.033		.50	1.20		1.70	2.47
1800	24" OC		305	.026		.34	.94		1.28	1.88
1920	7/8" hat channels with sound isolation clips, 12" OC		125	.064		1.73	2.30		4.03	5.60
1940	16" OC		100	.080		1.30	2.88		4.18	6.05
1950	24" OC		150	.053		.87	1.92		2.79	4.03
1960	1-5/8" hat channels, galvanized, 12" OC		115	.070		1.88	2.50		4.38	6.10
1970	16" OC		95	.084		1.41	3.03		4.44	6.40
1980	24" OC		140	.057		.94	2.05		2.99	4.33
3000	Z Furring, walls, 1" deep, 25 ga., 24" OC		350	.023		1.37	.82		2.19	2.82

# 09 22 Supports for Plaster and Gypsum Board

## 09 22 13 – Metal Furring

09 22 13.13 Metal Channel Furring		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
						Crew	Labor	Equipment		
3010	48" OC	1 Lath	.700	.011	.S.F.	.68	.41		1.09	1.41
3020	1-1/2" deep, 24" OC		345	.023		1.59	.83		2.42	3.09
3030	48" OC		695	.012		.80	.41		1.21	1.53
3040	2" deep, 24" OC		340	.024		1.91	.85		2.76	3.46
3050	48" OC		690	.012		.96	.42		1.38	1.72
3060	1" deep, 20 ga., 24" OC		350	.023		2.26	.82		3.08	3.80
3070	48" OC		700	.011		1.13	.41		1.54	1.90
3080	1-1/2" deep, 24" OC		345	.023		2.60	.83		3.43	4.19
3090	48" OC		695	.012		1.30	.41		1.71	2.09
4000	2" deep, 24" OC		340	.024		3.19	.85		4.04	4.86
4010	48" OC		690	.012		1.59	.42		2.01	2.42

## 09 22 16 – Non-Structural Metal Framing

### 09 22 16.13 Non-Structural Metal Stud Framing

0010	NON-STRUCTURAL METAL STUD FRAMING		1 Carp	619	.013	S.F.	.28	.47	.75	1.08
1600	Non-load bearing, galv., 8' high, 25 ga. 1-5/8" wide, 16" OC			950	.008		.21	.30	.51	.73
1610	24" OC			613	.013		.36	.47	.83	1.18
1620	2-1/2" wide, 16" OC			938	.009		.27	.31	.58	.81
1630	24" OC			600	.013		.43	.48	.91	1.26
1640	3-5/8" wide, 16" OC			925	.009		.32	.31	.63	.86
1650	24" OC			594	.013		.48	.49	.97	1.33
1660	4" wide, 16" OC			925	.009		.36	.31	.67	.91
1670	24" OC			588	.014		.57	.49	1.06	1.44
1680	6" wide, 16" OC			906	.009		.43	.32	.75	.99
1700	20 ga. studs, 1-5/8" wide, 16" OC			494	.016		.38	.59	.97	1.38
1710	24" OC			763	.010		.28	.38	.66	.93
1720	2-1/2" wide, 16" OC			488	.016		.48	.59	1.07	1.49
1730	24" OC			750	.011		.36	.39	.75	1.03
1740	3-5/8" wide, 16" OC			481	.017		.55	.60	1.15	1.59
1750	24" OC			738	.011		.41	.39	.80	1.09
1760	4" wide, 16" OC			475	.017		.67	.61	1.28	1.74
1770	24" OC			738	.011		.50	.39	.89	1.19
1780	6" wide, 16" OC			469	.017		.81	.62	1.43	1.90
1790	24" OC			725	.011		.61	.40	1.01	1.33
2000	Non-load bearing, galv., 10' high, 25 ga. 1-5/8" wide, 16" OC			495	.016		.26	.58	.84	1.25
2100	24" OC			760	.011		.19	.38	.57	.84
2200	2-1/2" wide, 16" OC			490	.016		.35	.59	.94	1.35
2250	24" OC			750	.011		.25	.39	.64	.91
2300	3-5/8" wide, 16" OC			480	.017		.41	.60	1.01	1.44
2350	24" OC			740	.011		.30	.39	.69	.97
2400	4" wide, 16" OC			475	.017		.46	.61	1.07	1.50
2450	24" OC			740	.011		.34	.39	.73	1.01
2500	6" wide, 16" OC			470	.017		.54	.62	1.16	1.61
2550	24" OC			725	.011		.40	.40	.80	1.10
2600	20 ga. studs, 1-5/8" wide, 16" OC			395	.020		.36	.73	1.09	1.59
2650	24" OC			610	.013		.26	.47	.73	1.07
2700	2-1/2" wide, 16" OC			390	.021		.45	.74	1.19	1.72
2750	24" OC			600	.013		.33	.48	.81	1.15
2800	3-5/8" wide, 16" OC			385	.021		.52	.75	1.27	1.80
2850	24" OC			590	.014		.38	.49	.87	1.23
2900	4" wide, 16" OC			380	.021		.63	.76	1.39	1.95
2950	24" OC			590	.014		.47	.49	.96	1.32

# 09 22 Supports for Plaster and Gypsum Board

## 09 22 16 – Non-Structural Metal Framing

09 22 16.13 Non-Structural Metal Stud Framing			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment		
3000	6" wide, 16" OC		1 Carp	375	.021	S.F.	.77	.77	1.54	2.11
3050	24" OC			580	.014		.56	.50	1.06	1.44
3060	Non-load bearing, galv., 12' high, 25 ga. 1-5/8" wide, 16" OC			413	.019		.25	.70	.95	1.42
3070	24" OC			633	.013		.18	.46	.64	.95
3080	2-1/2" wide, 16" OC			408	.020		.33	.71	1.04	1.52
3090	24" OC			625	.013		.24	.46	.70	1.02
3100	3-5/8" wide, 16" OC			400	.020		.39	.72	1.11	1.62
3110	24" OC			617	.013		.28	.47	.75	1.08
3120	4" wide, 16" OC			396	.020		.44	.73	1.17	1.68
3130	24" OC			617	.013		.32	.47	.79	1.12
3140	6" wide, 16" OC			392	.020		.52	.74	1.26	1.78
3150	24" OC			604	.013		.38	.48	.86	1.20
3160	20 ga. studs, 1-5/8" wide, 16" OC			329	.024		.34	.88	1.22	1.82
3170	24" OC			508	.016		.25	.57	.82	1.21
3180	2-1/2" wide, 16" OC			325	.025		.43	.89	1.32	1.93
3190	24" OC			500	.016		.31	.58	.89	1.30
3200	3-5/8" wide, 16" OC			321	.025		.50	.90	1.40	2.03
3210	24" OC			492	.016		.36	.59	.95	1.37
3220	4" wide, 16" OC			317	.025		.61	.91	1.52	2.17
3230	24" OC			492	.016		.44	.59	1.03	1.46
3240	6" wide, 16" OC			313	.026		.73	.92	1.65	2.33
3250	24" OC			483	.017		.53	.60	1.13	1.57
3260	Non-load bearing, galv., 16' high, 25 ga. 4" wide, 12" OC			195	.041		.56	1.48	2.04	3.06
3270	16" OC			275	.029		.44	1.05	1.49	2.22
3280	24" OC			400	.020		.32	.72	1.04	1.54
3290	6" wide, 12" OC			190	.042		.67	1.52	2.19	3.23
3300	16" OC			280	.029		.52	1.03	1.55	2.28
3310	24" OC			400	.020		.38	.72	1.10	1.61
3320	20 ga. studs, 2-1/2" wide, 12" OC			180	.044		.55	1.61	2.16	3.25
3330	16" OC			254	.032		.43	1.14	1.57	2.35
3340	24" OC			390	.021		.32	.74	1.06	1.57
3350	3-5/8" wide, 12" OC			170	.047		.65	1.70	2.35	3.51
3360	16" OC			251	.032		.51	1.15	1.66	2.45
3370	24" OC			384	.021		.37	.75	1.12	1.65
3380	4" wide, 12" OC			170	.047		.78	1.70	2.48	3.65
3390	16" OC			247	.032		.61	1.17	1.78	2.59
3400	24" OC			384	.021		.45	.75	1.20	1.73
3410	6" wide, 12" OC			175	.046		.94	1.65	2.59	3.75
3420	16" OC			245	.033		.74	1.18	1.92	2.75
3430	24" OC			400	.020		.54	.72	1.26	1.78
3440	Non-load bearing, galv., 20' high, 25 ga. 6" wide, 12" OC			125	.064		.65	2.31	2.96	4.52
3450	16" OC			220	.036		.51	1.31	1.82	2.72
3460	24" OC			360	.022		.37	.80	1.17	1.73
3470	20 ga. studs, 4" wide, 12" OC			120	.067		.76	2.41	3.17	4.80
3480	16" OC			215	.037		.61	1.35	1.96	2.88
3490	6" wide, 12" OC			115	.070		.92	2.52	3.44	5.15
3500	16" OC			215	.037		.72	1.35	2.07	3
3510	24" OC			331	.024		.52	.87	1.39	2.01
5000	For load bearing studs, see Section 05 41 13.30									

# 09 22 Supports for Plaster and Gypsum Board

## 09 22 26 – Suspension Systems

09 22 26.13 Ceiling Suspension Systems		Daily Crew	Labor-Output	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
					Labor	Equipment	Total			
0010	CEILING SUSPENSION SYSTEMS for gypsum board or plaster									
8000	Suspended ceilings, including carriers									
8200	1-1/2" carriers, 24" OC with:									
8300	7/8" channels, 16" OC	1 Lath	275	.029	S.F.	.59	1.05		1.64	2.33
8320	24" OC		310	.026		.47	.93		1.40	2.01
8400	1-5/8" channels, 16" OC		205	.039		.72	1.40		2.12	3.05
8420	24" OC		250	.032		.56	1.15		1.71	2.46
8600	2" carriers, 24" OC with:									
8700	7/8" channels, 16" OC	1 Lath	250	.032	S.F.	.69	1.15		1.84	2.61
8720	24" OC		285	.028		.57	1.01		1.58	2.25
8800	1-5/8" channels, 16" OC		190	.042		.82	1.51		2.33	3.34
8820	24" OC		225	.036		.66	1.28		1.94	2.77

## 09 22 36 – Lath

### 09 22 36.13 Gypsum Lath

0011	GYPSUM LATH Plain or perforated, nailed, 3/8" thick	1 Lath	765	.010	S.F.	.39	.38		.77	1.03
0101	1/2" thick, nailed		720	.011		.30	.40		.70	.97
0301	Clipped to steel studs, 3/8" thick		675	.012		.39	.43		.82	1.11
0401	1/2" thick		630	.013		.30	.46		.76	1.06
0601	Firestop gypsum base, to steel studs, 3/8" thick		630	.013		.28	.46		.74	1.04
0701	1/2" thick		585	.014		.30	.49		.79	1.12
0901	Foil back, to steel studs, 3/8" thick		675	.012		.34	.43		.77	1.05
1001	1/2" thick		630	.013		.36	.46		.82	1.13
1501	For ceiling installations, add		1950	.004			.15		.15	.24
1601	For columns and beams, add		1550	.005			.19		.19	.30

### 09 22 36.23 Metal Lath

0010	METAL LATH	R092000-50								
3601	2.5 lb. diamond painted, on wood framing, on walls	1 Lath	765	.010	S.F.	.40	.38		.78	1.04
3701	On ceilings		675	.012		.40	.43		.83	1.12
4201	3.4 lb. diamond painted, wired to steel framing, on walls		675	.012		.43	.43		.86	1.15
4301	On ceilings		540	.015		.43	.53		.96	1.33
5101	Rib lath, painted, wired to steel, on walls, 2.75 lb.		675	.012		.35	.43		.78	1.07
5201	3.4 lb.		630	.013		.48	.46		.94	1.26
5701	Suspended ceiling system, incl. 3.4 lb. diamond lath, painted		135	.059		.48	2.13		2.61	3.95
5801	Galvanized		135	.059		.52	2.13		2.65	3.99

### 09 22 36.83 Accessories, Plaster

0010	ACCESSORIES, PLASTER									
0020	Casing bead, expanded flange, galvanized	1 Lath	2.70	2.963	C.L.F.	52.50	107		159.50	229
0200	Foundation weep screed, galvanized	"	2.70	2.963		53	107		160	230
0900	Channels, cold rolled, 16 ga., 3/4" deep, galvanized					41.50			41.50	46
1620	Corner bead, expanded bullnose, 3/4" radius, #10, galvanized	1 Lath	2.60	3.077		26	111		137	207
1650	#1, galvanized		2.55	3.137		47.50	113		160.50	233
1670	Expanded wing, 2-3/4" wide, #1, galvanized		2.65	3.019		41	109		150	219
1700	Inside corner (corner rite), 3" x 3", painted		2.60	3.077		21	111		132	202
1750	Strip-ex, 4" wide, painted		2.55	3.137		27.50	113		140.50	212
1800	Expansion joint, 3/4" grounds, limited expansion, galv., 1 piece		2.70	2.963		71	107		178	249
2100	Extreme expansion, galvanized, 2 piece		2.60	3.077		137	111		248	330

# 09 23 Gypsum Plastering

## 09 23 13 – Acoustical Gypsum Plastering

09 23 13.10 Perlite or Vermiculite Plaster		R092000-50	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0010 PERLITE OR VERMICULITE PLASTER						Bag	19.10			19.10	21
0020 In 100 lb. bags, under 200 bags			J-1	830	.048	S.F.	.66	1.60	.14	2.40	3.50
0301 2 coats, no lath included, on walls				710	.056		.66	1.87	.17	2.70	3.97
0401 On ceilings											
0901 3 coats, no lath included, on walls				665	.060		.74	2	.18	2.92	4.26
1001 On ceilings			↓	565	.071	↓	.74	2.35	.21	3.30	4.88
1700 For irregular or curved surfaces, add to above						S.Y.					
1800 For columns and beams, add to above											
1900 For soffits, add to ceiling prices											

## 09 23 20 – Gypsum Plaster

### 09 23 20.10 Gypsum Plaster On Walls and Ceilings

09 23 20.10 Gypsum Plaster On Walls and Ceilings		R092000-50				Bag	15.90			15.90	17.50
0010 GYPSUM PLASTER ON WALLS AND CEILINGS											
0020 80# bag, less than 1 ton			J-1	750	.053	S.F.	.43	1.77	.16	2.36	3.54
0302 2 coats, no lath included, on walls				660	.061		.43	2.01	.18	2.62	3.97
0402 On ceilings											
0903 3 coats, no lath included, on walls			↓	620	.065	↓	.62	2.14	.19	2.95	4.39
1002 On ceilings			↓	560	.071	↓	1.07	2.37	.21	3.65	5.25
1600 For irregular or curved surfaces, add											
1800 For columns & beams, add											

# 09 24 Cement Plastering

## 09 24 23 – Cement Stucco

### 09 24 23.40 Stucco

09 24 23.40 Stucco		R092000-50									
0010 STUCCO											
0011 3 coats 1" thick, float finish, with mesh, on wood frame			J-2	470	.102	S.F.	1	3.44	.25	4.69	6.95
0101 On masonry construction			J-1	495	.081		.73	2.68	.24	3.65	5.45
0151 2 coats, 5/8" thick, float finish, no lath incl.			"	980	.041		.32	1.36	.12	1.80	2.70
0301 For trowel finish, add			1 Plas	1530	.005	↓		.18		.18	.30
0600 For coloring, add			J-1	685	.058	S.Y.	.43	1.94	.17	2.54	3.83
0700 For special texture, add				200	.200	"	1.50	6.65	.59	8.74	13.15
1001 Stucco, with bonding agent, 3 coats, on walls				1800	.022	S.F.	.47	.74	.07	1.28	1.80
1201 Ceilings											
1301 Beams				1620	.025		.38	.82	.07	1.27	1.84
1501 Columns				720	.056		.38	1.85	.16	2.39	3.61
1601 Mesh, galvanized, nailed to wood, 1.8 lb.			↓	900	.044		.38	1.48	.13	1.99	2.97
1801 3.6 lb.			1 Lath	540	.015		.83	.53		1.36	1.78
1901 Wired to steel, galvanized, 1.8 lb.			↓	495	.016		.46	.58		1.04	1.44
2101 3.6 lb.			↓	477	.017	↓	.83	.60		1.43	1.89
			↓	450	.018	↓	.46	.64		1.10	1.54

# 09 25 Other Plastering

## 09 25 23 - Lime Based Plastering

09 25 23.10 Venetian Plaster		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	VENETIAN PLASTER								
0100	Walls, 1 coat primer, roller applied	1 Plas	950	.008	S.F.	.17	.29	.46	.67
0210	For pigment, light colors add per S.F. plaster					.02		.02	.02
0220	For pigment, dark colors add per S.F. plaster					.04		.04	.04
0300	For sealer/wax coat incl. burnishing, add	1 Plas	300	.027		.38	.93	1.31	1.94

# 09 26 Veneer Plastering

## 09 26 13 - Gypsum Veneer Plastering

### 09 26 13.20 Blueboard

0010	BLUEBOARD For use with thin coat								
0100	plaster application see Section 09 26 13.80								
1000	3/8" thick, on walls or ceilings, standard, no finish included	2 Corp	1900	.008	S.F.	.33	.30	.63	.86
1100	With thin coat plaster finish		875	.018		.43	.66	1.09	1.57
1400	On beams, columns, or soffits, standard, no finish included		675	.024		.38	.86	1.24	1.83
1450	With thin coat plaster finish		475	.034		.48	1.22	1.70	2.53
3000	1/2" thick, on walls or ceilings, standard, no finish included		1900	.008		.33	.30	.63	.86
3100	With thin coat plaster finish		875	.018		.43	.66	1.09	1.57
3300	Fire resistant, no finish included		1900	.008		.33	.30	.63	.86
3400	With thin coat plaster finish		875	.018		.43	.66	1.09	1.57
3450	On beams, columns, or soffits, standard, no finish included		675	.024		.38	.86	1.24	1.83
3500	With thin coat plaster finish		475	.034		.48	1.22	1.70	2.53
3700	Fire resistant, no finish included		675	.024		.38	.86	1.24	1.83
3800	With thin coat plaster finish		475	.034		.48	1.22	1.70	2.53
5000	5/8" thick, on walls or ceilings, fire resistant, no finish included		1900	.008		.35	.30	.65	.89
5100	With thin coat plaster finish		875	.018		.45	.66	1.11	1.59
5500	On beams, columns, or soffits, no finish included		675	.024		.40	.86	1.26	1.85
5600	With thin coat plaster finish		475	.034		.51	1.22	1.73	2.56
6000	For high ceilings, over 8' high, add		3060	.005			.19	.19	.31
6500	For distribution costs 3 stories and above, add per story		6100	.003			.09	.09	.16

### 09 26 13.80 Thin Coat Plaster

0010	THIN COAT PLASTER	R092000-50							
0012	1 coat veneer, not incl. lath		J-1	3600	.011	S.F.	.10	.37	.50
1000	In 50 lb. bags					Bag	14		15.40

# 09 28 Backing Boards and Underlays

## 09 28 13 - Cementitious Backing Boards

### 09 28 13.10 Cementitious Backerboard

0010	CEMENTITIOUS BACKERBOARD								
0070	Cementitious backerboard, on floor, 3' x 4' x 1/2" sheets	2 Corp	525	.030	S.F.	.92	1.10	2.02	2.82
0080	3' x 5' x 1/2" sheets		525	.030		.80	1.10	1.90	2.68
0090	3' x 6' x 1/2" sheets		525	.030		.78	1.10	1.88	2.67
0100	3' x 4' x 5/8" sheets		525	.030		.98	1.10	2.08	2.89
0110	3' x 5' x 5/8" sheets		525	.030		1	1.10	2.10	2.91
0120	3' x 6' x 5/8" sheets		525	.030		.98	1.10	2.08	2.89
0150	On wall, 3' x 4' x 1/2" sheets		350	.046		.92	1.65	2.57	3.73
0160	3' x 5' x 1/2" sheets		350	.046		.80	1.65	2.45	3.59
0170	3' x 6' x 1/2" sheets		350	.046		.78	1.65	2.43	3.58
0180	3' x 4' x 5/8" sheets		350	.046		.98	1.65	2.63	3.80
0190	3' x 5' x 5/8" sheets		350	.046		1	1.65	2.65	3.82

# 09 28 Backing Boards and Underlayments

## 09 28 13 – Cementitious Backing Boards

09 28 13.10 Cementitious Backerboard			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
			Crew			Labor	Equipment		
0200	3' x 6' x 5/8" sheets		2 Corp	.350	.046 S.F.	.98	1.65	2.63	3.80
0250	On counter, 3' x 4' x 1/2" sheets			180	.089	.92	3.21	4.13	6.30
0260	3' x 5' x 1/2" sheets			180	.089	.80	3.21	4.01	6.15
0270	3' x 6' x 1/2" sheets			180	.089	.78	3.21	3.99	6.15
0300	3' x 4' x 5/8" sheets			180	.089	.98	3.21	4.19	6.40
0310	3' x 5' x 5/8" sheets			180	.089	1	3.21	4.21	6.40
0320	3' x 6' x 5/8" sheets			180	.089	.98	3.21	4.19	6.40

# 09 29 Gypsum Board

## 09 29 10 – Gypsum Board Panels

### 09 29 10.20 Taping and Finishing

#### 0010 TAPING AND FINISHING

3600	For taping and finishing joints, add	2 Corp	2000	.008	S.F.	.05	.29	.34	.54
4500	For thin coat plaster instead of taping, add	J-1	3600	.011	"	.10	.37	.03	.50

### 09 29 10.30 Gypsum Board

0010	GYPSUM BOARD on walls & ceilings	R092910-10							
0100	Nailed or screwed to studs unless otherwise noted								
0110	1/4" thick, on walls or ceilings, standard, no finish included	2 Corp	1330	.012	S.F.	.38	.43	.81	1.13
0115	1/4" thick, on walls or ceilings, flexible, no finish included		1050	.015	"	.54	.55	1.09	1.50
0117	1/4" thick, on columns or soffits, flexible, no finish included		1050	.015	"	.54	.55	1.09	1.50
0130	1/4" thick, standard, no finish included, less than 800 S.F.		510	.031	"	.38	1.13	1.51	2.28
0150	3/8" thick, on walls, standard, no finish included		2000	.008	"	.35	.29	.64	.87
0200	On ceilings, standard, no finish included		1800	.009	"	.35	.32	.67	.92
0250	On beams, columns, or soffits, no finish included		675	.024	"	.35	.86	1.21	1.80
0300	1/2" thick, on walls, standard, no finish included		2000	.008	"	.33	.29	.62	.84
0350	Taped and finished (level 4 finish)		965	.017	"	.38	.60	.98	1.40
0390	With compound skim coat (level 5 finish)		775	.021	"	.44	.75	1.19	1.71
0400	Fire resistant, no finish included		2000	.008	"	.38	.29	.67	.90
0450	Taped and finished (level 4 finish)		965	.017	"	.43	.60	1.03	1.45
0490	With compound skim coat (level 5 finish)		775	.021	"	.49	.75	1.24	1.77
0500	Water resistant, no finish included		2000	.008	"	.41	.29	.70	.93
0550	Taped and finished (level 4 finish)		965	.017	"	.46	.60	1.06	1.49
0590	With compound skim coat (level 5 finish)		775	.021	"	.52	.75	1.27	1.80
0600	Prefinished, vinyl, clipped to studs		900	.018	"	.52	.64	1.16	1.63
0700	Mold resistant, no finish included		2000	.008	"	.44	.29	.73	.96
0710	Taped and finished (level 4 finish)		965	.017	"	.49	.60	1.09	1.52
0720	With compound skim coat (level 5 finish)		775	.021	"	.55	.75	1.30	1.83
1000	On ceilings, standard, no finish included		1800	.009	"	.33	.32	.65	.89
1050	Taped and finished (level 4 finish)		765	.021	"	.38	.76	1.14	1.66
1090	With compound skim coat (level 5 finish)		610	.026	"	.44	.95	1.39	2.04
1100	Fire resistant, no finish included		1800	.009	"	.38	.32	.70	.95
1150	Taped and finished (level 4 finish)		765	.021	"	.43	.76	1.19	1.71
1195	With compound skim coat (level 5 finish)		610	.026	"	.49	.95	1.44	2.10
1200	Water resistant, no finish included		1800	.009	"	.41	.32	.73	.98
1250	Taped and finished (level 4 finish)		765	.021	"	.46	.76	1.22	1.75
1290	With compound skim coat (level 5 finish)		610	.026	"	.52	.95	1.47	2.13
1310	Mold resistant, no finish included		1800	.009	"	.44	.32	.76	1.01
1320	Taped and finished (level 4 finish)		765	.021	"	.49	.76	1.25	1.78
1330	With compound skim coat (level 5 finish)		610	.026	"	.55	.95	1.50	2.16
1350	Sag resistant, no finish included		1600	.010	"	.33	.36	.69	.95
1360	Taped and finished (level 4 finish)		765	.021	"	.38	.76	1.14	1.66

# 09 29 Gypsum Board

## 09 29 10 – Gypsum Board Panels

09 29 10.30 Gypsum Board		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
					Material	Labor	Equipment	
1370	With compound skim coat (level 5 finish)	2 Carp	610	.026	.44	.95		1.39 2.04
1500	On beams, columns, or soffits, standard, no finish included		675	.024	.38	.86		1.24 1.83
1550	Taped and finished (level 4 finish)		540	.030	.38	1.07		1.45 2.18
1590	With compound skim coat (level 5 finish)		475	.034	.44	1.22		1.66 2.48
1600	Fire resistant, no finish included		675	.024	.38	.86		1.24 1.83
1650	Taped and finished (level 4 finish)		540	.030	.43	1.07		1.50 2.23
1690	With compound skim coat (level 5 finish)		475	.034	.49	1.22		1.71 2.54
1700	Water resistant, no finish included		675	.024	.47	.86		1.33 1.93
1750	Taped and finished (level 4 finish)		540	.030	.46	1.07		1.53 2.27
1790	With compound skim coat (level 5 finish)		475	.034	.52	1.22		1.74 2.57
1800	Mold resistant, no finish included		675	.024	.51	.86		1.37 1.97
1810	Taped and finished (level 4 finish)		540	.030	.49	1.07		1.56 2.30
1820	With compound skim coat (level 5 finish)		475	.034	.55	1.22		1.77 2.60
1850	Sag resistant, no finish included		675	.024	.38	.86		1.24 1.83
1860	Taped and finished (level 4 finish)		540	.030	.38	1.07		1.45 2.18
1870	With compound skim coat (level 5 finish)		475	.034	.44	1.22		1.66 2.48
2000	5/8" thick, on walls, standard, no finish included		2000	.008	.33	.29		.62 .84
2050	Taped and finished (level 4 finish)		965	.017	.38	.60		.98 1.40
2090	With compound skim coat (level 5 finish)		775	.021	.44	.75		1.19 1.71
2100	Fire resistant, no finish included		2000	.008	.38	.29		.67 .90
2150	Taped and finished (level 4 finish)		965	.017	.43	.60		1.03 1.45
2195	With compound skim coat (level 5 finish)		775	.021	.49	.75		1.24 1.77
2200	Water resistant, no finish included		2000	.008	.44	.29		.73 .96
2250	Taped and finished (level 4 finish)		965	.017	.49	.60		1.09 1.52
2290	With compound skim coat (level 5 finish)		775	.021	.55	.75		1.30 1.83
2300	Prefinished, vinyl, clipped to studs		900	.018	.95	.64		1.59 2.11
2510	Mold resistant, no finish included		2000	.008	.54	.29		.83 1.07
2520	Taped and finished (level 4 finish)		965	.017	.59	.60		1.19 1.63
2530	With compound skim coat (level 5 finish)		775	.021	.65	.75		1.40 1.94
3000	On ceilings, standard, no finish included		1800	.009	.33	.32		.65 .89
3050	Taped and finished (level 4 finish)		765	.021	.38	.76		1.14 1.66
3090	With compound skim coat (level 5 finish)		615	.026	.44	.94		1.38 2.03
3100	Fire resistant, no finish included		1800	.009	.38	.32		.70 .95
3150	Taped and finished (level 4 finish)		765	.021	.43	.76		1.19 1.71
3190	With compound skim coat (level 5 finish)		615	.026	.49	.94		1.43 2.09
3200	Water resistant, no finish included		1800	.009	.44	.32		.76 1.01
3250	Taped and finished (level 4 finish)		765	.021	.49	.76		1.25 1.78
3290	With compound skim coat (level 5 finish)		615	.026	.55	.94		1.49 2.15
3300	Mold resistant, no finish included		1800	.009	.54	.32		.86 1.12
3310	Taped and finished (level 4 finish)		765	.021	.59	.76		1.35 1.89
3320	With compound skim coat (level 5 finish)		615	.026	.65	.94		1.59 2.26
3500	On beams, columns, or soffits, no finish included		675	.024	.38	.86		1.24 1.83
3550	Taped and finished (level 4 finish)		475	.034	.44	1.22		1.66 2.48
3590	With compound skim coat (level 5 finish)		380	.042	.51	1.52		2.03 3.06
3600	Fire resistant, no finish included		675	.024	.44	.86		1.30 1.89
3650	Taped and finished (level 4 finish)		475	.034	.50	1.22		1.72 2.55
3690	With compound skim coat (level 5 finish)		380	.042	.49	1.52		2.01 3.04
3700	Water resistant, no finish included		675	.024	.51	.86		1.37 1.97
3750	Taped and finished (level 4 finish)		475	.034	.55	1.22		1.77 2.60
3790	With compound skim coat (level 5 finish)		380	.042	.56	1.52		2.08 3.12
3800	Mold resistant, no finish included		675	.024	.62	.86		1.48 2.09
3810	Taped and finished (level 4 finish)		475	.034	.65	1.22		1.87 2.71
3820	With compound skim coat (level 5 finish)		380	.042	.68	1.52		2.20 3.25

# 09 29 Gypsum Board

## 09 29 10 – Gypsum Board Panels

09 29 10.30 Gypsum Board		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Ind O&P
					Material	Labor	Equipment	
4000	Fireproofing, beams or columns, 2 layers, 1/2" thick, incl finish	2 Corp	.330	.048 S.F.	.86	1.75		2.61 3.83
4010	Mold resistant		.330	.048	.98	1.75		2.73 3.96
4050	5/8" thick		.300	.053	.86	1.93		2.79 4.12
4060	Mold resistant		.300	.053	1.18	1.93		3.11 4.47
4100	3 layers, 1/2" thick		.225	.071	1.29	2.57		3.86 5.65
4110	Mold resistant		.225	.071	1.47	2.57		4.04 5.85
4150	5/8" thick		.210	.076	1.29	2.75		4.04 5.95
4160	Mold resistant		.210	.076	1.77	2.75		4.52 6.50
5200	For work over 8' high, add		3060	.005		.19		.19 .31
5270	For textured spray, add	2 Lath	1600	.010	.04	.36		.40 .62
5350	For finishing inner corners, add	2 Corp	950	.017 L.F.	.11	.61		.72 1.12
5355	For finishing outer corners, add	"	1250	.013	.24	.46		.70 1.03
5500	For acoustical sealant, add per bead	1 Corp	500	.016	.04	.58		.62 1
5550	Sealant, 1 quart tube			Ea.	7.15			7.15 7.90
6000	Gypsum sound dampening panels							
6010	1/2" thick on walls, multi-layer, lightweight, no finish included	2 Corp	1500	.011 S.F.	2.25	.39		2.64 3.11
6015	Taped and finished (level 4 finish)		725	.022	2.30	.80		3.10 3.84
6020	With compound skim coat (level 5 finish)		580	.028	2.36	1		3.36 4.24
6025	5/8" thick on walls, for wood studs, no finish included		1500	.011	2.46	.39		2.85 3.34
6030	Taped and finished (level 4 finish)		725	.022	2.51	.80		3.31 4.07
6035	With compound skim coat (level 5 finish)		580	.028	2.57	1		3.57 4.47
6040	For metal stud, no finish included		1500	.011	2.22	.39		2.61 3.07
6045	Taped and finished (level 4 finish)		725	.022	2.27	.80		3.07 3.81
6050	With compound skim coat (level 5 finish)		580	.028	2.33	1		3.33 4.20
6055	Abuse resist, no finish included		1500	.011	4.23	.39		4.62 5.30
6060	Taped and finished (level 4 finish)		725	.022	4.28	.80		5.08 6
6065	With compound skim coat (level 5 finish)		580	.028	4.34	1		5.34 6.40
6070	Shear rated, no finish included		1500	.011	5.60	.39		5.99 6.85
6075	Taped and finished (level 4 finish)		725	.022	5.65	.80		6.45 7.55
6080	With compound skim coat (level 5 finish)		580	.028	5.75	1		6.75 7.95
6085	For SCIF applications, no finish included		1500	.011	5.30	.39		5.69 6.50
6090	Taped and finished (level 4 finish)		725	.022	5.35	.80		6.15 7.20
6095	With compound skim coat (level 5 finish)		580	.028	5.40	1		6.40 7.60
6100	1-3/8" thick on walls, THX certified, no finish included		1500	.011	9.35	.39		9.74 10.95
6105	Taped and finished (level 4 finish)		725	.022	9.40	.80		10.20 11.65
6110	With compound skim coat (level 5 finish)		580	.028	9.50	1		10.50 12.10
6115	5/8" thick on walls, score & snap installation, no finish included		2000	.008	1.99	.29		2.28 2.67
6120	Taped and finished (level 4 finish)		965	.017	2.04	.60		2.64 3.23
6125	With compound skim coat (level 5 finish)		775	.021	2.10	.75		2.85 3.54
7020	5/8" thick on ceilings, for wood joists, no finish included		1200	.013	2.46	.48		2.94 3.50
7025	Taped and finished (level 4 finish)		510	.031	2.51	1.13		3.64 4.62
7030	With compound skim coat (level 5 finish)		410	.039	2.57	1.41		3.98 5.15
7035	For metal joists, no finish included		1200	.013	2.22	.48		2.70 3.23
7040	Taped and finished (level 4 finish)		510	.031	2.27	1.13		3.40 4.36
7045	With compound skim coat (level 5 finish)		410	.039	2.33	1.41		3.74 4.88
7050	Abuse resist, no finish included		1200	.013	4.23	.48		4.71 5.45
7055	Taped and finished (level 4 finish)		510	.031	4.28	1.13		5.41 6.55
7060	With compound skim coat (level 5 finish)		410	.039	4.34	1.41		5.75 7.10
7065	Shear rated, no finish included		1200	.013	5.60	.48		6.08 7
7070	Taped and finished (level 4 finish)		510	.031	5.65	1.13		6.78 8.10
7075	With compound skim coat (level 5 finish)		410	.039	5.75	1.41		7.16 8.60
7080	For SCIF applications, no finish included		1200	.013	5.30	.48		5.78 6.65
7085	Taped and finished (level 4 finish)		510	.031	5.35	1.13		6.48 7.75

# 09 29 Gypsum Board

## 09 29 10 – Gypsum Board Panels

		Daily Crew Output	Labor Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
					Labor	Equipment	Total		
09 29 10.30	Gypsum Board								
7090	With compound skim coat (level 5 finish)	2 Carp	410	.039	S.F.	5.40	1.41	6.81	8.25
8010	5/8" thick on ceilings, score & snap installation, no finish included		1600	.010		1.99	.36	2.35	2.78
8015	Taped and finished (level 4 finish)		680	.024		2.04	.85	2.89	3.65
8020	With compound skim coat (level 5 finish)		545	.029		2.10	1.06	3.16	4.05

## 09 29 15 – Gypsum Board Accessories

### 09 29 15.10 Accessories, Drywall

0011	ACCESSORIES, DRYWALL Casing bead, galvanized steel	1 Corp	290	.028	L.F.	.25	1	1.25	1.91
0101	Vinyl		290	.028		.24	1	1.24	1.90
0401	Corner bead, galvanized steel, 1-1/4" x 1-1/4"		350	.023	↓	.17	.83	1	1.55
0411	1-1/4" x 1-1/4", 10' long		35	.229	Eq.	1.74	8.25	9.99	15.50
0601	Vinyl corner bead		400	.020	L.F.	.20	.72	.92	1.41
0901	Furring channel, galv. steel, 7/8" deep, standard		260	.031		.35	1.11	1.46	2.22
1001	Resilient		260	.031		.27	1.11	1.38	2.13
1101	J trim, galvanized steel, 1/2" wide		300	.027			.96	.96	1.58
1121	5/8" wide		300	.027	↓	.31	.96	1.27	1.92
1160	Screws #6 x 1" A				M	12.35		12.35	13.60
1170	#6 x 1-5/8" A				"	14.60		14.60	16.05
1501	Z stud, galvanized steel, 1-1/2" wide	1 Corp	260	.031	L.F.	.44	1.11	1.55	2.31

# 09 30 Tiling

## 09 30 13 – Ceramic Tiling

### 09 30 13.45 Ceramic Tile Accessories

0010	CERAMIC TILE ACCESSORIES								
0100	Spacers, 1/8"				C	2.27		2.27	2.50
1310	Sealer for natural stone tile, installed	1 Tilf	650	.012	S.F.	.05	.43	.48	.76

## 09 30 29 – Metal Tiling

### 09 30 29.10 Metal Tile

0010	METAL TILE 4' x 4' sheet, 24 ga., tile pattern, nailed									
0200	Stainless steel	2 Carp	512	.031	S.F.	28	1.13	29.13	33	
0400	Aluminized steel		"	512	.031	"	20.50	1.13	21.63	24.50

## 09 30 95 – Tile & Stone Setting Materials and Specialties

### 09 30 95.10 Moisture Resistant, Anti-Fracture Membrane

0010	MOISTURE RESISTANT, ANTI-FRACTURE MEMBRANE								
0200	Elastomeric membrane, 1/16" thick	D-7	275	.058	S.F.	1.14	1.80	2.94	4.15

# 09 31 Thin-Set Tiling

## 09 31 13 – Thin-Set Ceramic Tiling

### 09 31 13.10 Thin-Set Ceramic Tile

0010	THIN-SET CERAMIC TILE								
0020	Backsplash, average grade tiles	1 Tilf	50	.160	S.F.	3.30	5.60	8.90	12.70
0022	Custom grade tiles		50	.160		6.60	5.60	12.20	16.30
0024	Luxury grade tiles		50	.160		13.20	5.60	18.80	23.50
0026	Economy grade tiles	↓	50	.160	↓	3.02	5.60	8.62	12.35
0100	Base, using 1' x 4" high piece with 1" x 1" tiles	D-7	128	.125	L.F.	5	3.87	8.87	11.70
0300	For 6" high base, 1" x 1" tile face, add					1.29		1.29	1.42
0400	For 2" x 2" tile face, add to above					.70		.70	.77
0700	Cove base, 4-1/4" x 4-1/4"	D-7	128	.125		4.11	3.87	7.98	10.70
1000	6" x 4-1/4" high		137	.117	↓	5	3.62	8.62	11.30

# 09 31 Thin-Set Tiling

## 09 31 13 – Thin-Set Ceramic Tiling

09 31 13.10 Thin-Set Ceramic Tile	Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
					Material	Labor	Equipment	
1300 Sanitary cove base, 6" x 4-1/4" high	D-7	124	.129	L.F.	4.84	4		8.84 11.70
1600 6" x 6" high		117	.137	↓	5	4.24		9.24 12.30
1800 Bathroom accessories, average (soap dish, toothbrush holder)		82	.195	Ea.	10.20	6.05		16.25 21
1900 Bathtub, 5', rec. 4-1/4" x 4-1/4" tile wainscot, adhesive set 6' high		2.90	5.517		204	171		375 500
2100 7' high wainscot		2.50	6.400		238	198		436 580
2200 8' high wainscot		2.20	7.273	↓	272	225		497 660
2500 Bullnose trim, 4-1/4" x 4-1/4"		128	.125	L.F.	4.35	3.87		8.22 11
2800 2" x 6"		124	.129	"	4.75	4		8.75 11.65
3300 Ceramic tile, porcelain type, 1 color, color group 2, 1" x 1"		183	.087	S.F.	6.25	2.71		8.96 11.20
3310 2" x 2" or 2" x 1"		190	.084		6.35	2.61		8.96 11.20
3350 For random blend, 2 colors, add					1.02			1.02 1.12
3360 4 colors, add					1.43			1.43 1.57
4300 Specialty tile, 4-1/4" x 4-1/4" x 1/2", decorator finish	D-7	183	.087		12.85	2.71		15.56 18.45
4500 Add for epoxy grout, 1/16" joint, 1" x 1" tile		800	.020		.67	.62		1.29 1.74
4600 2" x 2" tile		820	.020		.63	.60		1.23 1.66
4610 Add for epoxy grout, 1/8" joint, 8" x 8" x 3/8" tile, add		900	.018	↓	1.43	.55		1.98 2.46
4800 Pregrouted sheets, walls, 4-1/4" x 4-1/4", 6" x 4-1/4"								
4810 and 8-1/2" x 4-1/4", 4 S.F. sheets, silicone grout	D-7	240	.067	S.F.	5.70	2.07		7.77 9.60
5100 Floors, unglazed, 2 S.F. sheets,								
5110 urethane adhesive	D-7	180	.089	S.F.	2.17	2.75		4.92 6.80
5400 Walls, interior, 4-1/4" x 4-1/4" tile		190	.084		3.10	2.61		5.71 7.60
5500 6" x 4-1/4" tile		190	.084		3.25	2.61		5.86 7.75
5700 8-1/2" x 4-1/4" tile		190	.084		5.95	2.61		8.56 10.75
5800 6" x 6" tile		175	.091		4.08	2.83		6.91 9.05
5810 8" x 8" tile		170	.094		5.20	2.92		8.12 10.45
5820 12" x 12" tile		160	.100		5	3.10		8.10 10.50
5830 16" x 16" tile		150	.107		5.45	3.30		8.75 11.30
6000 Decorated wall tile, 4-1/4" x 4-1/4", color group 1		270	.059		3.52	1.84		5.36 6.80
6100 Color group 4		180	.089		54.50	2.75		57.25 64.50
9300 Ceramic tiles, recycled glass, standard colors, 2" x 2" thru 6" x 6"	G	190	.084		23	2.61		25.61 29
9310 6" x 6"	G	175	.091		23	2.83		25.83 29.50
9320 8" x 8"	G	170	.094		23.50	2.92		26.42 30.50
9330 12" x 12"	G	160	.100		23.50	3.10		26.60 31
9340 Earthtones, 2" x 2" to 4" x 8"	G	190	.084		27	2.61		29.61 33.50
9350 6" x 6"	G	175	.091		27	2.83		29.83 34
9360 8" x 8"	G	170	.094		27	2.92		29.92 34.50
9370 12" x 12"	G	160	.100		27	3.10		30.10 35
9380 Deep colors, 2" x 2" to 4" x 8"	G	190	.084		30.50	2.61		33.11 38
9390 6" x 6"	G	175	.091		30.50	2.83		33.33 38
9400 8" x 8"	G	170	.094		32	2.92		34.92 40
9410 12" x 12"	G	160	.100		32	3.10		35.10 40.50

## 09 31 33 – Thin-Set Stone Tiling

### 09 31 33.10 Tiling, Thin-Set Stone

0010 TILING, THIN-SET STONE								
3000 Floors, natural clay, random or uniform, color group 1	D-7	183	.087	S.F.	4.55	2.71		7.26 9.35
3100 Color group 2		183	.087		5.95	2.71		8.66 10.85
3255 Floors, glazed, 6" x 6", color group 1		300	.053		5.60	1.65		7.25 8.80
3260 8" x 8" tile		300	.053		5.55	1.65		7.20 8.75
3270 12" x 12" tile		290	.055		6.30	1.71		8.01 9.70
3280 16" x 16" tile		280	.057		7.75	1.77		9.52 11.40
3281 18" x 18" tile		270	.059		7.40	1.84		9.24 11.05
3282 20" x 20" tile		260	.062		10.25	1.91		12.16 14.30

# 09 31 Thin-Set Tiling

## 09 31 33 – Thin-Set Stone Tiling

09 31 33.10 Tiling, Thin-Set Stone	Crew	Daily	Labor-	Unit	2020 Bare Costs			Total	Total
		Output	Hours		Material	Labor	Equipment		Incl O&P
3283 24" x 24" tile	D-7	250	.064	S.F.	9.65	1.98		11.63	13.80
3285 Border, 6" x 12" tile		200	.080		12.20	2.48		14.68	17.45
3290 3" x 12" tile		200	.080		12.70	2.48		15.18	17.95

# 09 32 Mortar-Bed Tiling

## 09 32 13 – Mortar-Bed Ceramic Tiling

### 09 32 13.10 Ceramic Tile

0010 CERAMIC TILE	Crew	Daily	Labor-Hours	Unit	Material	Labor	Equipment	Total	Total Incl O&P
0050 Base, using 1' x 4" high pc. with 1" x 1" tiles	D-7	82	.195	L.F.	5.35	6.05		11.40	15.60
0600 Cove base, 4-1/4" x 4-1/4" high		91	.176		4.22	5.45		9.67	13.40
0900 6" x 4-1/4" high		100	.160		5.10	4.96		10.06	13.60
1200 Sanitary cove base, 6" x 4-1/4" high		93	.172		4.95	5.35		10.30	14
1500 6" x 6" high		84	.190		5.10	5.90		11	15.15
2400 Bullnose trim, 4-1/4" x 4-1/4"		82	.195		4.43	6.05		10.48	14.55
2700 2" x 6" bullnose trim		84	.190		4.82	5.90		10.72	14.80
6210 Wall tile, 4-1/4" x 4-1/4", better grade	1 Tlf	50	.160	S.F.	9.55	5.60		15.15	19.55
6240 2" x 2"		50	.160		7.75	5.60		13.35	17.60
6250 6" x 6"		55	.145		9.75	5.10		14.85	18.90
6260 8" x 8"		60	.133		9.75	4.69		14.44	18.25
6600 Crystalline glazed, 4-1/4" x 4-1/4", plain	D-7	100	.160		4.77	4.96		9.73	13.20
6700 4-1/4" x 4-1/4", scored tile		100	.160		6.60	4.96		11.56	15.20
6900 6" x 6" plain		93	.172		5.70	5.35		11.05	14.80
7000 For epoxy grout, 1/16" joints, 4-1/4" tile, add		800	.020		.42	.62		1.04	1.46
7200 For tile set in dry mortar, add		1735	.009			.29		.29	.46
7300 For tile set in Portland cement mortar, add		290	.055		.17	1.71		1.88	2.94

## 09 32 16 – Mortar-Bed Quarry Tiling

### 09 32 16.10 Quarry Tile

0010 QUARRY TILE	Crew	Daily	Labor-Hours	Unit	Material	Labor	Equipment	Total	Total Incl O&P
0100 Base, cove or sanitary, to 5" high, 1/2" thick	D-7	110	.145	L.F.	6.35	4.51		10.86	14.20
0300 Bullnose trim, red, 6" x 6" x 1/2" thick		120	.133		5.10	4.13		9.23	12.25
0400 4" x 4" x 1/2" thick		110	.145		5.15	4.51		9.66	12.90
0600 4" x 8" x 1/2" thick, using 8" as edge		130	.123		5.40	3.81		9.21	12.10
0700 Floors, 1,000 S.F. lots, red, 4" x 4" x 1/2" thick		120	.133	S.F.	8.55	4.13		12.68	16.05
0900 6" x 6" x 1/2" thick		140	.114		8.70	3.54		12.24	15.30
1000 4" x 8" x 1/2" thick		130	.123		6.65	3.81		10.46	13.45
1300 For waxed coating, add					.77			.77	.85
1500 For non-standard colors, add					.49			.49	.54
1600 For abrasive surface, add					.53			.53	.58
1800 Brown tile, imported, 6" x 6" x 3/4"	D-7	120	.133		7.20	4.13		11.33	14.55
1900 8" x 8" x 1"		110	.145		9.60	4.51		14.11	17.85
2100 For thin set mortar application, deduct		700	.023		.71			.71	1.14
2700 Stair tread, 6" x 6" x 3/4", plain		50	.320		7.80	9.90		17.70	24.50
2800 Abrasive		47	.340		9.10	10.55		19.65	27
3000 Wainscot, 6" x 6" x 1/2", thin set, red		105	.152		6.55	4.72		11.27	14.80
3100 Non-standard colors		105	.152		6.55	4.72		11.27	14.80
3300 Window sill, 6" wide, 3/4" thick		90	.178	L.F.	8.85	5.50		14.35	18.60
3400 Corners		80	.200	Ea.	6.10	6.20		12.30	16.70

# 09 32 Mortar-Bed Tiling

## 09 32 23 – Mortar-Bed Glass Mosaic Tiling

09 32 23.10 Glass Mosaics	Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
0010 GLASS MOSAICS 3/4" tile on 12" sheets, standard grout	D-7	73	.219	S.F.	18.40	6.80		25.20	31
1020 1" tile on 12" sheets, opalescent finish		73	.219		21	6.80		27.80	34
1040 1" x 2" tile on 12" sheet, blend		73	.219		17.15	6.80		23.95	30
1060 2" tile on 12" sheet, blend		73	.219		25	6.80		31.80	38.50
1080 5/8" x random tile, linear, on 12" sheet, blend		73	.219		25	6.80		31.80	38.50
1600 Dots on 12" sheet		73	.219		25	6.80		31.80	38.50
1700 For glass mosaic tiles set in dry mortar, add		290	.055		.45	1.71		2.16	3.25
1720 For glass mosaic tiles set in Portland cement mortar, add		290	.055		.01	1.71		1.72	2.76
1730 For polyblend sanded tile grout		96.15	.166	Lb.	2.19	5.15		7.34	10.70

# 09 34 Waterproofing-Membrane Tiling

## 09 34 13 – Waterproofing-Membrane Ceramic Tiling

### 09 34 13.10 Ceramic Tile Waterproofing Membrane

0010 CERAMIC TILE WATERPROOFING MEMBRANE	D-7	250	.064	S.F.	2.13	1.98		4.11	5.55
0020 On floors, including thinset	"	250	.064	"	2.61	1.98		4.59	6.05
0030 Fleece laminated polyethylene grid, 1/8" thick	D-7	480	.033	S.F.	2.30	1.03		3.33	4.19
0040 5/16" thick		480	.033						
0050 On walls, including thinset		1 Tilf	.240	.033 L.F.	1.35	1.17		2.52	3.36
0060 Fleece laminated polyethylene sheet, 8 mil thick		180	.044		1.72	1.56		3.28	4.40
0070 Accessories, including thinset		120	.067		2.09	2.34		4.43	6.05
0080 Joint and corner sheet, 4 mils thick, 5" wide		32	.250	Ea.	7.85	8.80		16.65	23
0090 7-1/4" wide		32	.250		7.70	8.80		16.50	22.50
0100 10" wide		16	.500		390	17.60		407.60	460
0110 Pre-formed corners, inside		480	.017	S.F.	5.55	.59		6.14	7.05
0120 Outside		32	.250	L.F.	14.10	8.80		22.90	29.50
0130 2" flanged floor drain with 6" stainless steel grate									
0140 EPS, sloped shower floor									
0150 Curb									

# 09 35 Chemical-Resistant Tiling

## 09 35 13 – Chemical-Resistant Ceramic Tiling

### 09 35 13.10 Chemical-Resistant Ceramic Tiling

0010 CHEMICAL-RESISTANT CERAMIC TILING	D-7	130	.123	S.F.	12.25	3.81		16.06	19.60
0100 4-1/4" x 4-1/4" x 1/4", 1/8" joint		120	.133		9.95	4.13		14.08	17.60
0200 6" x 6" x 1/2" thick		110	.145		11.35	4.51		15.86	19.70
0300 8" x 8" x 1/2" thick		130	.123		13.05	3.81		16.86	20.50
0400 4-1/4" x 4-1/4" x 1/4", 1/4" joint		120	.133		11.15	4.13		15.28	18.90
0500 6" x 6" x 1/2" thick		110	.145		12	4.51		16.51	20.50
0600 8" x 8" x 1/2" thick		130	.123		13.80	3.81		17.61	21.50
0700 4-1/4" x 4-1/4" x 1/4", 3/8" joint		120	.133		12.15	4.13		16.28	20
0800 6" x 6" x 1/2" thick		110	.145		13.25	4.51		17.76	22
0900 8" x 8" x 1/2" thick									

## 09 35 16 – Chemical-Resistant Quarry Tiling

### 09 35 16.10 Chemical-Resistant Quarry Tiling

0010 CHEMICAL-RESISTANT QUARRY TILING	D-7	130	.123	S.F.	11.45	3.81		15.26	18.75
0100 4" x 8" x 1/2" thick, 1/8" joint		120	.133		11.50	4.13		15.63	19.30
0200 6" x 6" x 1/2" thick		110	.145		10.55	4.51		15.06	18.90
0300 8" x 8" x 1/2" thick									

# 09 35 Chemical-Resistant Tiling

## 09 35 16 – Chemical-Resistant Quarry Tiling

09 35 16.10 Chemical-Resistant Quarry Tiling				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
				Crew			Labor	Equipment			
0400	4" x 8" x 1/2" thick, 1/4" joint			D-7	.130	.123	S.F.	12.75	3.81	16.56	20
0500	6" x 6" x 1/2" thick				120	.133		12.65	4.13	16.78	20.50
0600	8" x 8" x 1/2" thick				110	.145		11.25	4.51	15.76	19.60
0700	4" x 8" x 1/2" thick, 3/8" joint				130	.123		13.90	3.81	17.71	21.50
0800	6" x 6" x 1/2" thick				120	.133		13.65	4.13	17.78	21.50
0900	8" x 8" x 1/2" thick				110	.145		12.50	4.51	17.01	21

# 09 51 Acoustical Ceilings

## 09 51 13 – Acoustical Panel Ceilings

### 09 51 13.10 Ceiling, Acoustical Panel

0010	CEILING, ACOUSTICAL PANEL	1 Corp	.625	.013	S.F.	1.34	.46		1.80	2.23
0100	Fiberglass boards, film faced, 2' x 2' or 2' x 4', 5/8" thick									
0120	3/4" thick		600	.013		3.09	.48		3.57	4.19
0130	3" thick, thermal, R11					450	.018		3.87	.64

### 09 51 14 – Acoustical Fabric-Faced Panel Ceilings

### 09 51 14.10 Ceiling, Acoustical Fabric-Faced Panel

0010	CEILING, ACOUSTICAL FABRIC-FACED PANEL	1 Corp	.500	.016	S.F.	3.57	.58		4.15	4.88
0100	Glass cloth faced fiberglass, 3/4" thick									
0120	1" thick		485	.016		3.48	.60		4.08	4.81
0130	1-1/2" thick, nubby face					475	.017		2.80	.61

### 09 51 23 – Acoustical Tile Ceilings

### 09 51 23.10 Suspended Acoustic Ceiling Tiles

0010	SUSPENDED ACOUSTIC CEILING TILES, not including suspension system	1 Corp	.625	.013	S.F.	.85	.46		1.31	1.70
1110	Mineral fiber tile, lay-in, 2' x 2' or 2' x 4', 5/8" thick, fine texture									
1115	Rough textured		625	.013		.64	.46		1.10	1.46
1125	3/4" thick, fine textured					600	.013		2.16	.48
1130	Rough textured					600	.013		1.99	.48
1135	Fissured					600	.013		2.16	.48
1150	Tegular, 5/8" thick, fine textured					470	.017		1.28	.62
1155	Rough textured					470	.017		1.40	.62
1165	3/4" thick, fine textured					450	.018		2.38	.64
1170	Rough textured					450	.018		1.51	.64
1175	Fissured					450	.018		2.83	.64
1185	For plastic film face, add								.86	
1190	For fire rating, add								.54	
3750	Wood fiber in cementitious binder, 2' x 2' or 4', painted, 1" thick	1 Corp	600	.013		2.16	.48		2.64	3.17
3760	2" thick					550	.015		3.79	.53
3770	2-1/2" thick					500	.016		4.70	.58
3780	3" thick					450	.018		5.65	.64

### 09 51 23.30 Suspended Ceilings, Complete

0010	SUSPENDED CEILINGS, COMPLETE, incl. standard suspension system but not incl. 1-1/2" carrier channels	1 Corp	.500	.016	S.F.	2.27	.58		2.85	3.45
0600	Fiberglass ceiling board, 2' x 4" x 5/8", plain faced									
0700	Offices, 2' x 4' x 3/4"					380	.021		4.02	.76
1800	Tile, Z bar suspension, 5/8" mineral fiber tile					150	.053		2.15	1.93
1900	3/4" mineral fiber tile					150	.053		2.44	1.93

# 09 51 Acoustical Ceilings

## 09 51 53 – Direct-Applied Acoustical Ceilings

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
09 51 53.10 Ceiling Tile							Labor	Equipment		
0010	CEILING TILE, stapled or cemented									
0100	12" x 12" or 12" x 24", not including furring	1 Carp	300	.027	S.F.	2.23	.96		3.19	4.03
0600	Mineral fiber, vinyl coated, 5/8" thick		300	.027		3.15	.96		4.11	5.05
0700	3/4" thick		300	.027						
0900	Fire rated, 3/4" thick, plain faced		300	.027		1.47	.96		2.43	3.20
1000	Plastic coated face		300	.027		2.26	.96		3.22	4.07
1200	Aluminum faced, 5/8" thick, plain	↓	300	.027		1.92	.96		2.88	3.69
3300	For flameproofing, add					.08			.08	.09
3400	For sculptured 3 dimensional, add					.33			.33	.36
3900	For ceiling primer, add					.12			.12	.13
4000	For ceiling cement, add					.42			.42	.46

# 09 53 Acoustical Ceiling Suspension Assemblies

## 09 53 23 – Metal Acoustical Ceiling Suspension Assemblies

### 09 53 23.30 Ceiling Suspension Systems

		1 Carp	800	.010	S.F.	.93	.36		1.29	1.62
0010	CEILING SUSPENSION SYSTEMS for boards and tile									
0050	Class A suspension system, 15/16" T bar, 2' x 4' grid	"	650	.012		1.16	.45		1.61	2.01
0300	2' x 2' grid					.16			.16	.18
0350	For 9/16" grid, add					.09			.09	.10
0360	For fire rated grid, add					.22			.22	.24
0370	For colored grid, add					.86	.56		1.42	1.86
0400	Concealed Z bar suspension system, 12" module	1 Carp	520	.015						
0600	1-1/2" carrier channels, 4' OC, add		470	.017		.12	.62		.74	1.14
0650	1-1/2" x 3-1/2" channels	↓	470	.017	↓	.30	.62		.92	1.34
0700	Carrier channels for ceilings with recessed lighting fixtures, add	1 Carp	460	.017	S.F.	.22	.63		.85	1.27
0900		"	300	.027	Ea.	.50	.96		1.46	2.13

# 09 54 Specialty Ceilings

## 09 54 16 – Luminous Ceilings

### 09 54 16.10 Ceiling, Luminous

		1 Carp	500	.016	S.F.	23.50	.58		24.08	26.50
0020	Translucent lay-in panels, 2' x 2'									
0030	2' x 6'	"	500	.016	"	18.05	.58		18.63	21

## 09 54 23 – Linear Metal Ceilings

### 09 54 23.10 Metal Ceilings

		1 Carp	500	.016	S.F.	2.38	.58		2.96	3.57
0015	Solid alum. planks, 3-1/4" x 12', open reveal									
0020	Closed reveal		500	.016		3.05	.58		3.63	4.31
0030	7-1/4" x 12', open reveal		500	.016		4.07	.58		4.65	5.45
0040	Closed reveal		500	.016		5.20	.58		5.78	6.65
0050	Metal, open cell, 2" x 2', 6" cell		500	.016		8.80	.58		9.38	10.60
0060	8" cell		500	.016		9.70	.58		10.28	11.65
0070	2' x 4', 6" cell		500	.016		5.80	.58		6.38	7.30
0080	8" cell		500	.016		5.80	.58		6.38	7.30

# 09 61 Flooring Treatment

## 09 61 19 – Concrete Floor Staining

09 61 19.40 Floors, Interior		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0010	FLOORS, INTERIOR						Labor	Equipment		
0300	Acid stain and sealer									
0310	Stain, one coat	1 Pord	650	.012	S.F.		.15	.37	.52	.77
0320	Two coats		570	.014			.29	.42	.71	1.01
0330	Acrylic sealer, one coat		2600	.003			.25	.09	.34	.43
0340	Two coats	↓	1400	.006	↓		.51	.17	.68	.84

# 09 62 Specialty Flooring

## 09 62 19 – Laminate Flooring

### 09 62 19.10 Floating Floor

0010	FLOATING FLOOR									
8300	Floating floor, laminate, wood pattern strip, complete	1 Clab	133	.060	S.F.		4.95	1.67	6.62	8.20
8310	Components, T&G wood composite strips						4.36		4.36	4.79
8320	Film						.21		.21	.23
8330	Foam						.30		.30	.33
8340	Adhesive						.47		.47	.52
8350	Installation kit						.24		.24	.26
8360	Trim, 2" wide x 3' long				L.F.	5.20			5.20	5.70
8370	Reducer moulding				"	6.15			6.15	6.80

## 09 62 29 – Cork Flooring

### 09 62 29.10 Cork Tile Flooring

0010	CORK TILE FLOORING									
2200	Cork tile, standard finish, 1/8" thick	G	1 Tilf	315	.025	S.F.	5.25	.89	6.14	7.20
2250	3/16" thick	G		315	.025		6.20	.89	7.09	8.25
2300	5/16" thick	G		315	.025		6.65	.89	7.54	8.80
2350	1/2" thick	G		315	.025		6.95	.89	7.84	9.10
2500	Urethane finish, 1/8" thick	G		315	.025		5.10	.89	5.99	7.05
2550	3/16" thick	G		315	.025		8.20	.89	9.09	10.45
2600	5/16" thick	G		315	.025		7.50	.89	8.39	9.70
2650	1/2" thick	G	↓	315	.025	↓	7.80	.89	8.69	10

# 09 63 Masonry Flooring

## 09 63 13 – Brick Flooring

### 09 63 13.10 Miscellaneous Brick Flooring

0010	MISCELLANEOUS BRICK FLOORING									
0020	Acid-proof shales, red, 8" x 3-3/4" x 1-1/4" thick	D-7	.43	37.209	M	725	1,150		1,875	2,650
0050	2-1/4" thick	D-1	.40	40	"	1,075	1,300		2,375	3,375
0260	Cast ceramic, pressed, 4" x 8" x 1/2", unglazed	D-7	100	.160	S.F.	7.55	4.96		12.51	16.30
0270	Glazed		100	.160			10.10	4.96		15.06
0280	Hand molded flooring, 4" x 8" x 3/4", unglazed		95	.168			10	5.20		15.20
0290	Glazed		95	.168			11.40	5.20		16.60
0300	8" hexagonal, 3/4" thick, unglazed		85	.188			9.95	5.85		15.80
0310	Glazed	↓	85	.188			18	5.85		23.85
0450	Acid-proof joints, 1/4" wide	D-1	65	.246			1.74	8.05		9.79
0500	Pavers, 8" x 4", 1" to 1-1/4" thick, red	D-7	95	.168			4.39	5.20		9.59
0510	Ironspot	"	95	.168			5.65	5.20		10.85
0540	1-3/8" to 1-3/4" thick, red	D-1	95	.168			4.24	5.50		9.74
0560	Ironspot		95	.168			5.60	5.50		11.10
0580	2-1/4" thick, red	↓	90	.178	↓		4.32	5.80		10.12

# 09 63 Masonry Flooring

## 09 63 13 – Brick Flooring

09 63 13.10 Miscellaneous Brick Flooring		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P		
						Labor	Equipment	Total			
0590	Ironspot	[G]	D-1	90	.178	S.F.	6.70	5.80	12.50	17	
0700	Paver, adobe brick, 6" x 12", 1/2" joint	[G]	▼	42	.381		1.47	12.45	13.92	22	
0710	Mexican red, 12" x 12"	[G]	1 Tilf	48	.167		2.08	5.85	7.93	11.70	
0720	Saltillo, 12" x 12"	[G]	"	48	.167	▼	1.66	5.85	7.51	11.25	
0800	For sidewalks and patios with pavers, see Section 32 14 16.10										
0870	For epoxy joints, add		D-1	600	.027	S.F.	3.15	.87	4.02	4.92	
0880	For Furon underlayment, add		"	600	.027		2.60	.87	3.47	4.31	
0890	For waxed surface, steam cleaned, add		A-1H	1000	.008	▼	.21	.22	.08	.51	.68

## 09 63 40 – Stone Flooring

### 09 63 40.10 Marble

0010	<b>MARBLE</b>									
0020	Thin gauge tile, 12" x 6", 3/8", white Carrara		D-7	60	.267	S.F.	17.05	8.25	25.30	32
0100	Travertine			60	.267		9.50	8.25	17.75	23.50
0200	12" x 12" x 3/8", thin set, floors			60	.267		11.65	8.25	19.90	26
0300	On walls			52	.308	▼	10	9.55	19.55	26.50
1000	Marble threshold, 4" wide x 36" long x 5/8" thick, white		▼	60	.267	Ea.	11.65	8.25	19.90	26

### 09 63 40.20 Slate Tile

0010	<b>SLATE TILE</b>									
0020	Vermont, 6" x 6" x 1/4" thick, thin set		D-7	180	.089	S.F.	7.85	2.75	10.60	13

# 09 64 Wood Flooring

## 09 64 23 – Wood Parquet Flooring

### 09 64 23.10 Wood Parquet

0010	<b>WOOD PARQUET</b> flooring								
5200	Parquetry, 5/16" thk, no finish, oak, plain pattern	1 Corp	160	.050	S.F.	5.50	1.81	7.31	9
5300	Intricate pattern		100	.080		10.55	2.89	13.44	16.35
5500	Teak, plain pattern		160	.050		6.05	1.81	7.86	9.65
5600	Intricate pattern		100	.080		10.35	2.89	13.24	16.15
5650	13/16" thick, select grade oak, plain pattern		160	.050		11.35	1.81	13.16	15.45
5700	Intricate pattern		100	.080		17.05	2.89	19.94	23.50
5800	Custom parquetry, including finish, plain pattern		100	.080		17.75	2.89	20.64	24.50
5900	Intricate pattern		50	.160		24.50	5.80	30.30	36.50
6700	Parquetry, prefinished white oak, 5/16" thick, plain pattern		160	.050		8.80	1.81	10.61	12.65
6800	Intricate pattern		100	.080		8.60	2.89	11.49	14.25
7000	Walnut or teak, parquetry, plain pattern		160	.050		9.20	1.81	11.01	13.10
7100	Intricate pattern	▼	100	.080	▼	16.40	2.89	19.29	23
7200	Acrylic wood parquet blocks, 12" x 12" x 5/16", irradiated, set in epoxy	1 Corp	160	.050	S.F.	10.90	1.81	12.71	14.95

## 09 64 29 – Wood Strip and Plank Flooring

### 09 64 29.10 Wood

0010	<b>WOOD</b>								
0020	Fir, vertical grain, 1" x 4", not incl. finish, grade B & better	1 Corp	255	.031	S.F.	3.65	1.13	4.78	5.90
0100	Grade C & better		255	.031		3.43	1.13	4.56	5.65
0300	Flat grain, 1" x 4", not incl. finish, grade B & better		255	.031		4.15	1.13	5.28	6.45
0400	Grade C & better		255	.031		4	1.13	5.13	6.25
4000	Maple, strip, 25/32" x 2-1/4", not incl. finish, select		170	.047		5.10	1.70	6.80	8.40
4100	#2 & better		170	.047		5.15	1.70	6.85	8.45
4300	33/32" x 3-1/4", not incl. finish, #1 grade		170	.047		6.05	1.70	7.75	9.45
4400	#2 & better		170	.047		5.25	1.70	6.95	8.55
4600	Oak, white or red, 25/32" x 2-1/4", not incl. finish								

# 09 64 Wood Flooring

## 09 64 29 – Wood Strip and Plank Flooring

09 64 29.10 Wood			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew				Labor	Equipment		
4700	#1 common	1 Corp	170	.047	S.F.	3.62	1.70	5.32	6.80
4900	Select quartered, 2-1/4" wide		170	.047		4.48	1.70	6.18	7.75
5000	Clear		170	.047		4.43	1.70	6.13	7.65
6100	Prefinished, white oak, prime grade, 2-1/4" wide		170	.047		6.60	1.70	8.30	10.05
6200	3-1/4" wide		185	.043		5.85	1.56	7.41	8.95
6400	Ranch plank		145	.055		6.90	1.99	8.89	10.90
6500	Hardwood blocks, 9" x 9", 25/32" thick		160	.050		7.90	1.81	9.71	11.65
7400	Yellow pine, 3/4" x 3-1/8", T&G, C & better, not incl. finish	↓	200	.040		1.93	1.45	3.38	4.50
7500	Refinish wood floor, sand, 2 coats poly, wax, soft wood	1 Clad	400	.020		.23	.56	.79	1.16
7600	Hardwood		130	.062		.23	1.71	1.94	3.06
7800	Sanding and finishing, 2 coats polyurethane	↓	295	.027	↓	.23	.75	.98	1.49
7900	Subfloor and underlayment, see Section 06 16								
8015	Transition molding, 2-1/4" wide, 5' long	1 Corp	19.20	.417	Ea.	21	15.05	36.05	48.50

## 09 64 36 – Bamboo Flooring

### 09 64 36.10 Flooring, Bamboo

0010 FLOORING, BAMBOO										
		Crew								
8600	Flooring, wood, bamboo strips, unfinished, 5/8" x 4" x 3'	G	1 Corp	255	.031	S.F.	6	1.13	7.13	8.45
8610	5/8" x 4" x 4'	G		275	.029		6.25	1.05	7.30	8.60
8620	5/8" x 4" x 6'	G		295	.027		6.85	.98	7.83	9.15
8630	Finished, 5/8" x 4" x 3'	G		255	.031		6.60	1.13	7.73	9.10
8640	5/8" x 4" x 4'	G		275	.029		6.95	1.05	8	9.40
8650	5/8" x 4" x 6'	G		295	.027	↓	5.10	.98	6.08	7.25
8660	Stair treads, unfinished, 1-1/16" x 11-1/2" x 4'	G		18	.444	Ea.	57.50	16.05	73.55	90
8670	Finished, 1-1/16" x 11-1/2" x 4"	G		18	.444		91	16.05	107.05	127
8680	Stair risers, unfinished, 5/8" x 7-1/2" x 4"	G		18	.444		21.50	16.05	37.55	50
8690	Finished, 5/8" x 7-1/2" x 4"	G		18	.444		40.50	16.05	56.55	71
8700	Stair nosing, unfinished, 6' long	G		16	.500		47	18.10	65.10	81.50
8710	Finished, 6' long	G	↓	16	.500	↓	45	18.10	63.10	79

# 09 65 Resilient Flooring

## 09 65 10 – Resilient Tile Underlayment

0010 09 65 10.10 Latex Underlayment									
		Crew							
3600	Latex underlayment, 1/8" thk., cementitious for resilient flooring	1 Tilf	160	.050	S.F.	1.29	1.76	3.05	4.25
4000	Liquid, fortified					Gal.	30.50	30.50	33.50

## 09 65 13 – Resilient Base and Accessories

0010 09 65 13.13 Resilient Base									
		Crew							
0690	1/8" vinyl base, 2-1/2" H, straight or cove, standard colors	1 Tilf	315	.025	L.F.	.78	.89	1.67	2.30
0700	4" high		315	.025		1.17	.89	2.06	2.73
0710	6" high		315	.025		1.50	.89	2.39	3.09
0720	Corners, 2-1/2" high		315	.025	Ea.	2.27	.89	3.16	3.94
0730	4" high		315	.025		3.08	.89	3.97	4.83
0740	6" high		315	.025	↓	2.91	.89	3.80	4.64
0800	1/8" rubber base, 2-1/2" H, straight or cove, standard colors		315	.025	L.F.	1.20	.89	2.09	2.76
1100	4" high		315	.025		1.43	.89	2.32	3.01
1110	6" high		315	.025		2.08	.89	2.97	3.73
1150	Corners, 2-1/2" high		315	.025	Ea.	2.52	.89	3.41	4.21
1153	4" high		315	.025		2.60	.89	3.49	4.30
1155	6" high		315	.025	↓	3.58	.89	4.47	5.40

# 09 65 Resilient Flooring

## 09 65 13 – Resilient Base and Accessories

09 65 13.13 Resilient Base		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment	Total	
1450	For premium color/finish add					50%			
1500	Millwork profile	1 Tilf	315	.025	L.F.	6.45	.89	7.34	8.50

## 09 65 13.37 Vinyl Transition Strips

0010	VINYL TRANSITION STRIPS	1 Tilf	315	.025	L.F.	1.51	.89	2.40	3.10
0100	Various mats. to various mats., adhesive applied, 1/4" to 1/8"								
0105	0.08" to 1/8"		315	.025		1.36	.89	2.25	2.94
0110	0.08" to 1/4"		315	.025		1.49	.89	2.38	3.08
0115	1/4" to 3/8"		315	.025		1.38	.89	2.27	2.96
0120	1/4" to 1/2"		315	.025		1.38	.89	2.27	2.96
0125	1/4" to 0.08"		315	.025		1.49	.89	2.38	3.08
0200	Vinyl wheeled trans. strips, carpet to var. mats., 1/4" to 1/8" x 2-1/2"		315	.025		5.15	.89	6.04	7.10
0205	1/4" to 1/8" x 4"		315	.025		6.25	.89	7.14	8.35
0210	Various mats. to various mats. 1/4" to 0.08" x 2-1/2"		315	.025		5.15	.89	6.04	7.15
0215	Carpet to various materials, 1/4" to flush x 2-1/2"		315	.025		4.29	.89	5.18	6.15
0220	1/4" to flush x 4"		315	.025		6.60	.89	7.49	8.70
0225	Various materials to resilient, 3/8" to 1/8" x 2-1/2"		315	.025		4.29	.89	5.18	6.15
0230	Carpet to various materials, 3/8" to 1/4" x 2-1/2"		315	.025		5.90	.89	6.79	7.95
0235	1/4" to 1/4" x 2-1/2"		315	.025		6.60	.89	7.49	8.70
0240	Various materials to resilient, 1/8" to 1/8" x 2-1/2"		315	.025		5	.89	5.89	6.95
0245	Various materials to var. mats., 1/8" to flush x 2-1/2"		315	.025		3.35	.89	4.24	5.15
0250	3/8" to flush x 4"		315	.025		6.75	.89	7.64	8.85
0255	1/2" to flush x 4"		315	.025		9.05	.89	9.94	11.40
0260	Various materials to resilient, 1/8" to 0.08" x 2-1/2"		315	.025		3.88	.89	4.77	5.70
0265	0.08" to 0.08" x 2-1/2"		315	.025		3.68	.89	4.57	5.50
0270	3/8" to 0.08" x 2-1/2"		315	.025		3.68	.89	4.57	5.50

## 09 65 16 – Resilient Sheet Flooring

### 09 65 16.10 Rubber and Vinyl Sheet Flooring

0010	RUBBER AND VINYL SHEET FLOORING	G	1 Tilf	360	.022	S.F.	3.63	.78	4.41	5.25
5500	Linoleum, sheet goods									
5900	Rubber, sheet goods, 36" wide, 1/8" thick			120	.067		9.25	2.34	11.59	13.90
5950	3/16" thick			100	.080		10	2.81	12.81	15.50
6000	1/4" thick			90	.089		11.75	3.12	14.87	17.95
8000	Vinyl sheet goods, backed, .065" thick, plain pattern/colors			250	.032		4.52	1.12	5.64	6.80
8050	Intricate pattern/colors			200	.040		3.82	1.41	5.23	6.45
8100	.080" thick, plain pattern/colors			230	.035		4.15	1.22	5.37	6.55
8150	Intricate pattern/colors			200	.040		6.40	1.41	7.81	9.30
8200	.125" thick, plain pattern/colors			230	.035		4.19	1.22	5.41	6.60
8250	Intricate pattern/colors			200	.040		7.35	1.41	8.76	10.30
8700	Adhesive cement, 1 gallon per 200 to 300 S.F.					Gal.	33		33	36
8800	Asphalt primer, 1 gallon per 300 S.F.						15.10		15.10	16.60
8900	Emulsion, 1 gallon per 140 S.F.						19.95		19.95	22

## 09 65 19 – Resilient Tile Flooring

### 09 65 19.19 Vinyl Composition Tile Flooring

0010	VINYL COMPOSITION TILE FLOORING	1 Tilf	500	.016	S.F.	1.23	.56	1.79	2.25
7000	Vinyl composition tile, 12" x 12", 1/16" thick								
7050	Embossed		500	.016		2.72	.56	3.28	3.89
7100	Marbleized		500	.016		2.72	.56	3.28	3.89
7150	Solid		500	.016		3.51	.56	4.07	4.76
7200	3/32" thick, embossed		500	.016		1.53	.56	2.09	2.58
7250	Marbleized		500	.016		3.13	.56	3.69	4.34
7300	Solid		500	.016		2.89	.56	3.45	4.08

# 09 65 Resilient Flooring

## 09 65 19 – Resilient Tile Flooring

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
7350	1/8" thick, marbleized			1 Tlf	500	.016	S.F.	2.47	.56	3.03
7400	Solid				500	.016		1.75	.56	2.31
7450	Conductive				500	.016		5.90	.56	6.46
										7.35

## 09 65 19.23 Vinyl Tile Flooring

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
7500	Vinyl tile, 12" x 12", 3/32" thick, standard colors/patterns			1 Tlf	500	.016	S.F.	3.58	.56	4.14
7550	1/8" thick, standard colors/patterns				500	.016		5.25	.56	5.81
7600	1/8" thick, premium colors/patterns				500	.016		6.90	.56	7.46
7650	Solid colors				500	.016		3.09	.56	3.65
7700	Marbleized or Travertine pattern				500	.016		6.35	.56	6.91
7750	Florentine pattern				500	.016		7.20	.56	7.76
7800	Premium colors/patterns				500	.016		7.25	.56	7.81
										8.85

## 09 65 19.33 Rubber Tile Flooring

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
6050	Rubber tile, marbleized colors, 12" x 12", 1/8" thick			1 Tlf	400	.020	S.F.	6	.70	6.70
6100	3/16" thick				400	.020		8.40	.70	9.10
6300	Special tile, plain colors, 1/8" thick				400	.020		8.30	.70	9
6350	3/16" thick				400	.020		11.15	.70	11.85
										13.40

## 09 65 33 – Conductive Resilient Flooring

### 09 65 33.10 Conductive Rubber and Vinyl Flooring

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
1700	Conductive flooring, rubber tile, 1/8" thick			1 Tlf	315	.025	S.F.	7.35	.89	8.24
1800	Homogeneous vinyl tile, 1/8" thick			"	315	.025	"	7.35	.89	8.24
										9.55

# 09 66 Terrazzo Flooring

## 09 66 13 – Portland Cement Terrazzo Flooring

### 09 66 13.10 Portland Cement Terrazzo

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
4300	Stone chips, onyx gemstone, per 50 lb. bag						Bag	19.25		19.25
										21

## 09 66 16 – Terrazzo Floor Tile

### 09 66 16.13 Portland Cement Terrazzo Floor Tile

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
1200	Floor tiles, non-slip, 1" thick, 12" x 12"			D-1	60	.267	S.F.	25.50	8.75	34.25
1300	1-1/4" thick, 12" x 12"				60	.267		26	8.75	34.75
1500	16" x 16"				50	.320		28	10.45	38.45
1600	1-1/2" thick, 16" x 16"				45	.356		26	11.65	37.65
										48

### 09 66 16.30 Terrazzo, Precast

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
0020	Base, 6" high, straight			1 Mstz	70	.114	L.F.	12.65	3.95	16.60
0100	Cove				60	.133		16.95	4.61	21.56
0300	8" high, straight				60	.133		16.45	4.61	21.06
0400	Cove				50	.160		24.50	5.55	30.05
0600	For white cement, add							.60		.60
0700	For 16 ga. zinc toe strip, add							2.33		2.33
0900	Curbs, 4" x 4" high			1 Mstz	40	.200		43.50	6.90	50.40
1000	8" x 8" high				30	.267		47	9.20	56.20
4800	Wainscot, 12" x 12" x 1" tiles				12	.667	S.F.	9.75	23	32.75
4900	16" x 16" x 1-1/2" tiles				8	1	"	18.75	34.50	53.25
										76

# 09 68 Carpeting

## 09 68 05 – Carpet Accessories

				Material	2020 Bare Costs		Total	Total Incl O&P
				Labor	Equipment			
Crew	Daily Output	Labor-Hours	Unit					
<b>09 68 05.11 Flooring Transition Strip</b>								
0010 FLOORING TRANSITION STRIP								
0107 Clamp down brass divider, 12' strip, vinyl to carpet	1 Tlf	31.25	.256	Ea.	15	9	24	31
0117 Vinyl to hard surface	"	31.25	.256	"	15	9	24	31

## 09 68 10 – Carpet Pad

### 09 68 10.10 Commercial Grade Carpet Pad

				Material	2020 Bare Costs		Total	Total Incl O&P
				Labor	Equipment			
Crew	Daily Output	Labor-Hours	Unit					
<b>0010 COMMERCIAL GRADE CARPET PAD</b>								
9001 Sponge rubber pad, 20 oz./sq. yd.	1 Tlf	1350	.006	S.F.	.54	.21	.75	.93
9101 40 to 62 oz./sq. yd.	"	1350	.006	"	.98	.21	1.19	1.42
9201 Felt pad, 20 to 32 oz./sq. yd.	"	1350	.006	"	.71	.21	.92	1.12
9301 Maximum	"	1350	.006	"	1.35	.21	1.56	1.82
9401 Bonded urethane pad, 2.7 density	"	1350	.006	"	.66	.21	.87	1.07
9501 13.0 density	"	1350	.006	"	.90	.21	1.11	1.33
9601 Prime urethane pad, 2.7 density	"	1350	.006	"	.41	.21	.62	.79
9701 13.0 density	"	1350	.006	"	.88	.21	1.09	1.31

## 09 68 13 – Tile Carpeting

### 09 68 13.10 Carpet Tile

				Material	2020 Bare Costs		Total	Total Incl O&P
				Labor	Equipment			
Crew	Daily Output	Labor-Hours	Unit					
<b>0010 CARPET TILE</b>								
0100 Tufted nylon, 18" x 18", hard back, 20 oz.	1 Tlf	80	.100	S.Y.	28	3.52	31.52	36.50
0110 26 oz.	"	80	.100	"	26.50	3.52	30.02	34.50
0200 Cushion back, 20 oz.	"	80	.100	"	26	3.52	29.52	34
0210 26 oz.	"	80	.100	"	31	3.52	34.52	40
6000 Electrostatic dissipative carpet tile, 24" x 24", 24 oz.	"	80	.100	"	38.50	3.52	42.02	48
6100 Electrostatic dissipative carpet tile for access floors, 24" x 24", 24 oz.	"	80	.100	"	48	3.52	51.52	58.50

## 09 68 16 – Sheet Carpeting

### 09 68 16.10 Sheet Carpet

				Material	2020 Bare Costs		Total	Total Incl O&P
				Labor	Equipment			
Crew	Daily Output	Labor-Hours	Unit					
<b>0010 SHEET CARPET</b>								
0701 Nylon, level loop, 26 oz., light to medium traffic	1 Tlf	675	.012	S.F.	2.73	.42	3.15	3.68
0901 32 oz., medium traffic	"	675	.012	"	4.55	.42	4.97	5.65
1101 40 oz., medium to heavy traffic	"	675	.012	"	5.30	.42	5.72	6.50
2101 Nylon, plush, 20 oz., light traffic	"	675	.012	"	2.36	.42	2.78	3.27
2801 24 oz., light to medium traffic	"	675	.012	"	2.20	.42	2.62	3.09
2901 30 oz., medium traffic	"	675	.012	"	3.09	.42	3.51	4.07
3001 36 oz., medium traffic	"	675	.012	"	4.15	.42	4.57	5.25
3101 42 oz., medium to heavy traffic	"	630	.013	"	5.15	.45	5.60	6.35
3201 46 oz., medium to heavy traffic	"	630	.013	"	5.95	.45	6.40	7.25
3301 54 oz., heavy traffic	"	630	.013	"	6.90	.45	7.35	8.25
3501 Olefin, 15 oz., light traffic	"	675	.012	"	1.70	.42	2.12	2.54
3651 22 oz., light traffic	"	675	.012	"	1.80	.42	2.22	2.65
4501 50 oz., medium to heavy traffic, level loop	"	630	.013	"	12.35	.45	12.80	14.30
4701 32 oz., medium to heavy traffic, patterned	"	630	.013	"	11.30	.45	11.75	13.15
4901 48 oz., heavy traffic, patterned	"	630	.013	"	12.40	.45	12.85	14.35
5000 For less than full roll (approx. 1500 S.F.), add					25%			
5100 For small rooms, less than 12' wide, add						25%		
5200 For large open areas (no cuts), deduct						25%		
5600 For bound carpet baseboard, add	1 Tlf	300	.027	L.F.	1.79	.94	2.73	3.48
5610 For stairs, not incl. price of carpet, add	"	30	.267	Riser		9.35	9.35	15.05
8950 For tackless, stretched installation, add padding from 09 68 10.10 to above				S.Y.	25%			
9850 For brand-named specific fiber, add								

# 09 68 Carpeting

## 09 68 20 – Athletic Carpet

09 68 20.10 Indoor Athletic Carpet			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0010	INDOOR ATHLETIC CARPET						Labor	Equipment			
3700	Polyethylene, in rolls, no base incl., landscape surfaces		1 Tlf	275	.029	S.F.	4.47	1.02		5.49	6.55
3800	Nylon action surface, 1/8" thick			275	.029		4.17	1.02		5.19	6.25
3900	1/4" thick			275	.029		6	1.02		7.02	8.25
4000	3/8" thick			275	.029		7.55	1.02		8.57	9.95

# 09 72 Wall Coverings

## 09 72 13 – Cork Wall Coverings

### 09 72 13.10 Covering, Cork Wall

0010	COVERING, CORK WALL										
0600	Cork tiles, light or dark, 12" x 12" x 3/16"		1 Pipe	240	.033	S.F.	4.26	1.01		5.27	6.35
0700	5/16" thick			235	.034		3.40	1.03		4.43	5.40
0900	1/4" basket weave			240	.033		3.29	1.01		4.30	5.25
1000	1/2" natural, non-directional pattern			240	.033		6.80	1.01		7.81	9.15
1100	3/4" natural, non-directional pattern			240	.033		11.85	1.01		12.86	14.65
1200	Granular surface, 12" x 36", 1/2" thick			385	.021		1.38	.63		2.01	2.55
1300	1" thick			370	.022		1.72	.66		2.38	2.96
1500	Polyurethane coated, 12" x 12" x 3/16" thick			240	.033		4.17	1.01		5.18	6.25
1600	5/16" thick			235	.034		6	1.03		7.03	8.30
1800	Cork wallpaper, paperbacked, natural			480	.017		1.68	.51		2.19	2.67
1900	Colors			480	.017		2.89	.51		3.40	4

## 09 72 16 – Vinyl-Coated Fabric Wall Coverings

### 09 72 16.13 Flexible Vinyl Wall Coverings

0010	FLEXIBLE VINYL WALL COVERINGS										
3000	Vinyl wall covering, fabric-backed, lightweight, type 1 (12-15 oz./S.Y.)		1 Pipe	640	.013	S.F.	1.45	.38		1.83	2.22
3300	Medium weight, type 2 (20-24 oz./S.Y.)			480	.017		1.06	.51		1.57	1.99
3400	Heavy weight, type 3 (28 oz./S.Y.)			435	.018		1.59	.56		2.15	2.66
3600	Adhesive, 5 gal. lots (18 S.Y./gal.)					Gal.	12.60			12.60	13.85

### 09 72 16.16 Rigid-Sheet Vinyl Wall Coverings

0010	RIGID-SHEET VINYL WALL COVERINGS										
0100	Acrylic, modified, semi-rigid PVC, .028" thick		2 Corp	330	.048	S.F.	1.32	1.75		3.07	4.33
0110	.040" thick		"	320	.050	"	2.05	1.81		3.86	5.25

## 09 72 19 – Textile Wall Coverings

### 09 72 19.10 Textile Wall Covering

0010	TEXTILE WALL COVERING, including sizing; add 10-30% waste @ takeoff										
0020	Silk		1 Pipe	640	.013	S.F.	4.53	.38		4.91	5.60
0030	Cotton			640	.013		6.90	.38		7.28	8.20
0040	Linen			640	.013		1.88	.38		2.26	2.69
0050	Blend			640	.013		3.23	.38		3.61	4.17
0060	Linen wall covering, paper backed					S.F.	1.03			1.03	1.13
0070	Flame treatment						1.92			1.92	2.11
0080	Stain resistance treatment										
0100	Grass cloths with lining paper	G	1 Pipe	400	.020		1.30	.61		1.91	2.42
0110	Premium texture/color	G	"	350	.023		3.29	.69		3.98	4.75

# 09 72 Wall Coverings

## 09 72 20 – Natural Fiber Wall Covering

09 72 20.10 Natural Fiber Wall Covering		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Equipment	Total	Total Ind O&P
0010 NATURAL FIBER WALL COVERING, including sizing; add 10-30% waste @ takeoff											
0015 Bamboo		1 Pipe	640	.013	S.F.	2.20	.38			2.58	3.04
0030 Burlap			640	.013		1.90	.38			2.28	2.71
0045 Jute			640	.013		1.31	.38			1.69	2.06
0060 Sisal			640	.013		1.72	.38			2.10	2.51

## 09 72 23 – Wallpapering

### 09 72 23.10 Wallpaper

0010 WALLPAPER including sizing; add 10-30% waste @ takeoff		R097223-10									
0050 Aluminum foil		1 Pipe	275	.029	S.F.	1.05	.88			1.93	2.60
0100 Copper sheets, .025" thick, vinyl backing			240	.033		5.60	1.01			6.61	7.80
0300 Phenolic backing			240	.033		7.25	1.01			8.26	9.60
2400 Gypsum-based, fabric-backed, fire resistant											
2500 for masonry walls, 21 oz./S.Y.		1 Pipe	800	.010	S.F.	.85	.30			1.15	1.43
2600 Average			720	.011		1.34	.34			1.68	2.02
2700 Small quantities			640	.013		.85	.38			1.23	1.56
3700 Wallpaper, average workmanship, solid pattern, low cost paper			640	.013		.63	.38			1.01	1.31
3900 Basic patterns (matching required), avg. cost paper			535	.015		1.28	.45			1.73	2.15
4000 Paper at \$85 per double roll, quality workmanship			435	.018		2.20	.56			2.76	3.33

# 09 74 Flexible Wood Sheets

## 09 74 16 – Flexible Wood Veneers

### 09 74 16.10 Veneer, Flexible Wood

0010 VENEER, FLEXIBLE WOOD											
0100 Flexible wood veneer, 1/32" thick, plain woods		1 Pipe	100	.080	S.F.	2.50	2.42			4.92	6.70
0110 Exotic woods		"	95	.084	"	3.77	2.55			6.32	8.30

# 09 91 Painting

## 09 91 13 – Exterior Painting

### 09 91 13.30 Fences

0010 FENCES		R099100-20									
0100 Chain link or wire metal, one side, water base											
0110 Roll & brush, first coat		1 Pord	960	.008	S.F.	.08	.25			.33	.50
0120 Second coat			1280	.006		.08	.19			.27	.39
0130 Spray, first coat			2275	.004		.08	.11			.19	.26
0140 Second coat			2600	.003		.08	.09			.17	.24
0150 Picket, water base											
0160 Roll & brush, first coat		1 Pord	865	.009	S.F.	.09	.28			.37	.55
0170 Second coat			1050	.008		.09	.23			.32	.47
0180 Spray, first coat			2275	.004		.09	.11			.20	.27
0190 Second coat			2600	.003		.09	.09			.18	.25
0200 Stockade, water base											
0210 Roll & brush, first coat		1 Pord	1040	.008	S.F.	.09	.23			.32	.48
0220 Second coat			1200	.007		.09	.20			.29	.43
0230 Spray, first coat			2275	.004		.09	.11			.20	.27
0240 Second coat			2600	.003		.09	.09			.18	.25

# 09 91 Painting

## 09 91 13 – Exterior Painting

09 91 13.42 Miscellaneous, Exterior		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Ind O&P
<b>0010 MISCELLANEOUS, EXTERIOR</b>		R099100-20								
0100 Railing, ext., decorative wood, incl. cap & baluster										
0110 Newels & spindles @ 12" OC										
0120 Brushwork, stain, sand, seal & varnish										
0130 First coat		1 Pord	90	.089	L.F.	.88	2.68		3.56	5.35
0140 Second coat		"	120	.067	"	.88	2.01		2.89	4.25
0150 Rough sawn wood, 42" high, 2" x 2" verticals, 6" OC										
0160 Brushwork, stain, each coat		1 Pord	90	.089	L.F.	.29	2.68		2.97	4.69
0170 Wrought iron, 1" rail, 1/2" sq. verticals										
0180 Brushwork, zinc chromate, 60" high, bars 6" OC										
0190 Primer		1 Pord	130	.062	L.F.	.85	1.86		2.71	3.96
0200 Finish coat			130	.062		1.13	1.86		2.99	4.26
0210 Additional coat		↓	190	.042	↓	1.31	1.27		2.58	3.52
0220 Shutters or blinds, single panel, 2' x 4', paint all sides										
0230 Brushwork, primer		1 Pord	20	.400	Ea.	.72	12.10		12.82	20.50
0240 Finish coat, exterior latex			20	.400		.65	12.10		12.75	20.50
0250 Primer & 1 coat, exterior latex			13	.615		1.21	18.60		19.81	32
0260 Spray, primer			35	.229		1.04	6.90		7.94	12.40
0270 Finish coat, exterior latex			35	.229		1.38	6.90		8.28	12.75
0280 Primer & 1 coat, exterior latex		↓	20	.400	↓	1.13	12.10		13.23	21
0290 For louvered shutters, add					S.F.	10%				
0300 Stair stringers, exterior, metal										
0310 Roll & brush, zinc chromate, to 14", each coat		1 Pord	320	.025	L.F.	.38	.76		1.14	1.64
0320 Rough sawn wood, 4" x 12"										
0330 Roll & brush, exterior latex, each coat		1 Pord	215	.037	L.F.	.10	1.12		1.22	1.94
0340 Trellis/lattice, 2" x 2" @ 3" OC with 2" x 8" supports										
0350 Spray, latex, per side, each coat		1 Pord	475	.017	S.F.	.10	.51		.61	.94
0450 Decking, ext., sealer, alkyd, brushwork, sealer coat			1140	.007		.10	.21		.31	.46
0460 1st coat			1140	.007		.11	.21		.32	.47
0470 2nd coat			1300	.006		.08	.19		.27	.39
0500 Paint, alkyd, brushwork, primer coat			1140	.007		.11	.21		.32	.47
0510 1st coat			1140	.007		.14	.21		.35	.50
0520 2nd coat			1300	.006		.10	.19		.29	.41
0600 Sand paint, alkyd, brushwork, 1 coat		↓	150	.053	↓	.14	1.61		1.75	2.78
<b>09 91 13.60 Siding Exterior</b>										
<b>0010 SIDING EXTERIOR, Alkyd (oil base)</b>										
0450 Steel siding, oil base, paint 1 coat, brushwork		2 Pord	2015	.008	S.F.	.11	.24		.35	.51
0500 Spray			4550	.004		.17	.11		.28	.35
0800 Paint 2 coats, brushwork			1300	.012		.22	.37		.59	.85
1000 Spray			2750	.006		.15	.18		.33	.46
1200 Stucco, rough, oil base, paint 2 coats, brushwork			1300	.012		.22	.37		.59	.85
1400 Roller			1625	.010		.23	.30		.53	.73
1600 Spray			2925	.005		.24	.17		.41	.54
1800 Texture 1-11 or clapboard, oil base, primer coat, brushwork			1300	.012		.14	.37		.51	.76
2000 Spray			4550	.004		.14	.11		.25	.32
2100 Paint 1 coat, brushwork			1300	.012		.16	.37		.53	.79
2200 Spray			4550	.004		.16	.11		.27	.35
2400 Paint 2 coats, brushwork			810	.020		.32	.60		.92	1.32
2600 Spray			2600	.006		.36	.19		.55	.69
3000 Stain 1 coat, brushwork			1520	.011		.10	.32		.42	.63
3200 Spray			5320	.003		.11	.09		.20	.27
3400 Stain 2 coats, brushwork		↓	950	.017	↓	.20	.51		.71	1.05

# 09 91 Painting

## 09 91 13 – Exterior Painting

09 91 13.60 Siding Exterior	Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
4000 Spray	2 Pord	3050	.005	S.F.	.22	.16		.38	.50
4200 Wood shingles, oil base primer coat, brushwork		1300	.012		.13	.37		.50	.75
4400 Spray		3900	.004		.12	.12		.24	.33
4600 Paint 1 coat, brushwork		1300	.012		.13	.37		.50	.76
4800 Spray		3900	.004		.17	.12		.29	.38
5000 Paint 2 coats, brushwork		810	.020		.27	.60		.87	1.26
5200 Spray		2275	.007		.25	.21		.46	.63
5800 Stain 1 coat, brushwork		1500	.011		.10	.32		.42	.63
6000 Spray		3900	.004		.10	.12		.22	.31
6500 Stain 2 coats, brushwork		950	.017		.20	.51		.71	1.05
7000 Spray		2660	.006		.27	.18		.45	.60
8000 For latex paint, deduct					10%				
8100 For work over 12' H, from pipe scaffolding, add						15%			
8200 For work over 12' H, from extension ladder, add						25%			
8300 For work over 12' H, from swing staging, add						35%			

## 09 91 13.62 Siding, Misc.

0010 SIDING, MISC., latex paint	R099100-10								
0100 Aluminum siding									
0110 Brushwork, primer	2 Pord	2275	.007	S.F.	.07	.21		.28	.42
0120 Finish coat, exterior latex		2275	.007		.06	.21		.27	.42
0130 Primer & 1 coat exterior latex		1300	.012		.14	.37		.51	.76
0140 Primer & 2 coats exterior latex		975	.016		.20	.50		.70	1.03
0150 Mineral fiber shingles									
0160 Brushwork, primer	2 Pord	1495	.011	S.F.	.14	.32		.46	.68
0170 Finish coat, industrial enamel		1495	.011		.20	.32		.52	.75
0180 Primer & 1 coat enamel		810	.020		.34	.60		.94	1.34
0190 Primer & 2 coats enamel		540	.030		.54	.89		1.43	2.05
0200 Roll, primer		1625	.010		.16	.30		.46	.65
0210 Finish coat, industrial enamel		1625	.010		.22	.30		.52	.72
0220 Primer & 1 coat enamel		975	.016		.37	.50		.87	1.22
0230 Primer & 2 coats enamel		650	.025		.59	.74		1.33	1.85
0240 Spray, primer		3900	.004		.12	.12		.24	.33
0250 Finish coat, industrial enamel		3900	.004		.18	.12		.30	.40
0260 Primer & 1 coat enamel		2275	.007		.30	.21		.51	.68
0270 Primer & 2 coats enamel		1625	.010		.48	.30		.78	1.01
0280 Waterproof sealer, first coat		4485	.004		.12	.11		.23	.32
0290 Second coat		5235	.003		.12	.09		.21	.28
0300 Rough wood incl. shingles, shakes or rough sawn siding									
0310 Brushwork, primer	2 Pord	1280	.013	S.F.	.14	.38		.52	.77
0320 Finish coat, exterior latex		1280	.013		.11	.38		.49	.73
0330 Primer & 1 coat exterior latex		960	.017		.25	.50		.75	1.10
0340 Primer & 2 coats exterior latex		700	.023		.36	.69		1.05	1.51
0350 Roll, primer		2925	.005		.19	.17		.36	.48
0360 Finish coat, exterior latex		2925	.005		.13	.17		.30	.41
0370 Primer & 1 coat exterior latex		1790	.009		.32	.27		.59	.79
0380 Primer & 2 coats exterior latex		1300	.012		.45	.37		.82	1.10
0390 Spray, primer		3900	.004		.16	.12		.28	.38
0400 Finish coat, exterior latex		3900	.004		.10	.12		.22	.31
0410 Primer & 1 coat exterior latex		2600	.006		.26	.19		.45	.59
0420 Primer & 2 coats exterior latex		2080	.008		.36	.23		.59	.78
0430 Waterproof sealer, first coat		4485	.004		.22	.11		.33	.43
0440 Second coat		4485	.004		.12	.11		.23	.32

# 09 91 Painting

## 09 91 13 – Exterior Painting

09 91 13.62 Siding, Misc.		Crew	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours			Labor	Equipment	Total		
0450	Smooth wood incl. butt, T&G, beveled, drop or B&B siding					.10	.21		.31	.45	
0460	Brushwork, primer	2 Pord	2325	.007	S.F.						
0470	Finish coat, exterior latex		1280	.013		.11	.38		.49	.73	
0480	Primer & 1 coat exterior latex		800	.020		.21	.60		.81	1.21	
0490	Primer & 2 coats exterior latex		630	.025		.32	.77		1.09	1.60	
0500	Roll, primer		2275	.007		.12	.21		.33	.48	
0510	Finish coat, exterior latex		2275	.007		.11	.21		.32	.48	
0520	Primer & 1 coat exterior latex		1300	.012		.23	.37		.60	.86	
0530	Primer & 2 coats exterior latex		975	.016		.35	.50		.85	1.19	
0540	Spray, primer		4550	.004		.09	.11		.20	.27	
0550	Finish coat, exterior latex		4550	.004		.10	.11		.21	.28	
0560	Primer & 1 coat exterior latex		2600	.006		.19	.19		.38	.51	
0570	Primer & 2 coats exterior latex		1950	.008		.29	.25		.54	.72	
0580	Waterproof sealer, first coat		5230	.003		.12	.09		.21	.29	
0590	Second coat		5980	.003		.12	.08		.20	.27	
0600	For oil base paint, add					10%					

## 09 91 13.70 Doors and Windows, Exterior

0010	DOORS AND WINDOWS, EXTERIOR	R099100-10									
0100	Door frames & trim, only										
0110	Brushwork, primer	R099100-20	1 Pord	512	.016	L.F.	.07	.47		.54	.84
0120	Finish coat, exterior latex			512	.016		.08	.47		.55	.86
0130	Primer & 1 coat, exterior latex			300	.027		.15	.81		.96	1.47
0140	Primer & 2 coats, exterior latex		↓	265	.030	↓	.23	.91		1.14	1.73
0150	Doors, flush, both sides, incl. frame & trim										
0160	Roll & brush, primer		1 Pord	10	.800	Ea.	4.96	24		28.96	45
0170	Finish coat, exterior latex			10	.800		6.20	24		30.20	46.50
0180	Primer & 1 coat, exterior latex			7	1.143		11.15	34.50		45.65	68.50
0190	Primer & 2 coats, exterior latex			5	1.600		17.30	48.50		65.80	97.50
0200	Brushwork, stain, sealer & 2 coats polyurethane		↓	4	2	↓	31	60.50		91.50	133
0210	Doors, French, both sides, 10-15 lite, incl. frame & trim										
0220	Brushwork, primer		1 Pord	6	1.333	Ea.	2.48	40.50		42.98	68
0230	Finish coat, exterior latex			6	1.333		3.09	40.50		43.59	69
0240	Primer & 1 coat, exterior latex			3	2.667		5.55	80.50		86.05	137
0250	Primer & 2 coats, exterior latex			2	4		8.50	121		129.50	206
0260	Brushwork, stain, sealer & 2 coats polyurethane		↓	2.50	3.200	↓	11.15	96.50		107.65	169
0270	Doors, louvered, both sides, incl. frame & trim										
0280	Brushwork, primer		1 Pord	7	1.143	Ea.	4.96	34.50		39.46	61.50
0290	Finish coat, exterior latex			7	1.143		6.20	34.50		40.70	63
0300	Primer & 1 coat, exterior latex			4	2		11.15	60.50		71.65	111
0310	Primer & 2 coats, exterior latex			3	2.667		16.95	80.50		97.45	150
0320	Brushwork, stain, sealer & 2 coats polyurethane		↓	4.50	1.778	↓	31	53.50		84.50	122
0330	Doors, panel, both sides, incl. frame & trim										
0340	Roll & brush, primer		1 Pord	6	1.333	Ea.	4.96	40.50		45.46	71
0350	Finish coat, exterior latex			6	1.333		6.20	40.50		46.70	72.50
0360	Primer & 1 coat, exterior latex			3	2.667		11.15	80.50		91.65	143
0370	Primer & 2 coats, exterior latex			2.50	3.200		16.95	96.50		113.45	176
0380	Brushwork, stain, sealer & 2 coats polyurethane		↓	3	2.667	↓	31	80.50		111.50	165
0400	Windows, per ext. side, based on 15 S.F.										
0410	1 to 6 lite										
0420	Brushwork, primer		1 Pord	13	.615	Ea.	.98	18.60		19.58	31.50
0430	Finish coat, exterior latex			13	.615		1.22	18.60		19.82	32
0440	Primer & 1 coat, exterior latex			8	1		2.20	30		32.20	51.50

# 09 91 Painting

## 09 91 13 – Exterior Painting

09 91 13.70 Doors and Windows, Exterior		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0450	Primer & 2 coats, exterior latex	1 Pord	6	1.333	Ea.	.35	40.50	43.85	69
0460	Stain, sealer & 1 coat varnish	▼	7	1.143	▼	4.40	34.50	38.90	61
0470	7 to 10 lite								
0480	Brushwork, primer	1 Pord	11	.727	Ea.	.98	22	22.98	37
0490	Finish coat, exterior latex		11	.727		1.22	22	23.22	37.50
0500	Primer & 1 coat, exterior latex		7	1.143		2.20	34.50	36.70	58.50
0510	Primer & 2 coats, exterior latex		5	1.600		3.35	48.50	51.85	82
0520	Stain, sealer & 1 coat varnish	▼	6	1.333	▼	4.40	40.50	44.90	70.50
0530	12 lite								
0540	Brushwork, primer	1 Pord	10	.800	Ea.	.98	24	24.98	40.50
0550	Finish coat, exterior latex		10	.800		1.22	24	25.22	41
0560	Primer & 1 coat, exterior latex		6	1.333		2.20	40.50	42.70	68
0570	Primer & 2 coats, exterior latex		5	1.600		3.35	48.50	51.85	82
0580	Stain, sealer & 1 coat varnish	▼	6	1.333	▼	4.45	40.50	44.95	70.50
0590	For oil base paint, add					10%			

## 09 91 13.80 Trim, Exterior

0010	TRIM, EXTERIOR	R099100-10							
0100	Door frames & trim (see Doors, interior or exterior)								
0110	Fascia, latex paint, one coat coverage								
0120	1" x 4", brushwork	1 Pord	640	.013	L.F.	.02	.38	.40	.64
0130	Roll		1280	.006		.03	.19	.22	.34
0140	Spray		2080	.004		.02	.12	.14	.21
0150	1" x 6" to 1" x 10", brushwork		640	.013		.09	.38	.47	.71
0160	Roll		1230	.007		.09	.20	.29	.42
0170	Spray		2100	.004		.07	.12	.19	.27
0180	1" x 12", brushwork		640	.013		.09	.38	.47	.71
0190	Roll		1050	.008		.09	.23	.32	.47
0200	Spray	▼	2200	.004	▼	.07	.11	.18	.26
0210	Gutters & downspouts, metal, zinc chromate paint								
0220	Brushwork, gutters, 5", first coat	1 Pord	640	.013	L.F.	.40	.38	.78	1.04
0230	Second coat		960	.008		.38	.25	.63	.82
0240	Third coat		1280	.006		.30	.19	.49	.64
0250	Downspouts, 4", first coat		640	.013		.40	.38	.78	1.04
0260	Second coat		960	.008		.38	.25	.63	.82
0270	Third coat	▼	1280	.006	▼	.30	.19	.49	.64
0280	Gutters & downspouts, wood								
0290	Brushwork, gutters, 5", primer	1 Pord	640	.013	L.F.	.07	.38	.45	.68
0300	Finish coat, exterior latex		640	.013		.07	.38	.45	.69
0310	Primer & 1 coat exterior latex		400	.020		.15	.60	.75	1.14
0320	Primer & 2 coats exterior latex		325	.025		.23	.74	.97	1.46
0330	Downspouts, 4", primer		640	.013		.07	.38	.45	.68
0340	Finish coat, exterior latex		640	.013		.07	.38	.45	.69
0350	Primer & 1 coat exterior latex		400	.020		.15	.60	.75	1.14
0360	Primer & 2 coats exterior latex		325	.025		.11	.74	.85	1.34
0370	Molding, exterior, up to 14" wide								
0380	Brushwork, primer	1 Pord	640	.013	L.F.	.08	.38	.46	.70
0390	Finish coat, exterior latex		640	.013		.09	.38	.47	.71
0400	Primer & 1 coat exterior latex		400	.020		.18	.60	.78	1.17
0410	Primer & 2 coats exterior latex		315	.025		.18	.77	.95	1.44
0420	Stain & fill		1050	.008		.12	.23	.35	.50
0430	Shellac		1850	.004		.16	.13	.29	.38
0440	Varnish		1275	.006		.12	.19	.31	.44

# 09 91 Painting

## 09 91 13 – Exterior Painting

09 91 13.90 Walls, Masonry (CMU), Exterior		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
<b>0010 WALLS, MASONRY (CMU), EXTERIOR</b>										
0360 Concrete masonry units (CMU), smooth surface										
0370 Brushwork, latex, first coat		1 Pord	640	.013	S.F.	.06	.38		.44	.68
0380 Second coat			960	.008		.05	.25		.30	.46
0390 Waterproof sealer, first coat			736	.011		.28	.33		.61	.84
0400 Second coat			1104	.007		.28	.22		.50	.67
0410 Roll, latex, paint, first coat			1465	.005		.07	.16		.23	.35
0420 Second coat			1790	.004		.06	.14		.20	.28
0430 Waterproof sealer, first coat			1680	.005		.28	.14		.42	.54
0440 Second coat			2060	.004		.28	.12		.40	.50
0450 Spray, latex, paint, first coat			1950	.004		.06	.12		.18	.26
0460 Second coat			2600	.003		.05	.09		.14	.20
0470 Waterproof sealer, first coat			2245	.004		.28	.11		.39	.49
0480 Second coat			2990	.003		.28	.08		.36	.44
0490 Concrete masonry unit (CMU), porous										
0500 Brushwork, latex, first coat		1 Pord	640	.013	S.F.	.12	.38		.50	.74
0510 Second coat			960	.008		.06	.25		.31	.48
0520 Waterproof sealer, first coat			736	.011		.28	.33		.61	.84
0530 Second coat			1104	.007		.28	.22		.50	.67
0540 Roll latex, first coat			1465	.005		.09	.16		.25	.37
0550 Second coat			1790	.004		.06	.14		.20	.28
0560 Waterproof sealer, first coat			1680	.005		.28	.14		.42	.54
0570 Second coat			2060	.004		.28	.12		.40	.50
0580 Spray latex, first coat			1950	.004		.07	.12		.19	.27
0590 Second coat			2600	.003		.05	.09		.14	.20
0600 Waterproof sealer, first coat			2245	.004		.28	.11		.39	.49
0610 Second coat			2990	.003		.28	.08		.36	.44

## 09 91 23 – Interior Painting

### 09 91 23.20 Cabinets and Casework

0010 CABINETS AND CASEWORK										
1000 Primer coat, oil base, brushwork		1 Pord	650	.012	S.F.	.07	.37		.44	.69
2000 Paint, oil base, brushwork, 1 coat			650	.012		.12	.37		.49	.74
2500 2 coats			400	.020		.23	.60		.83	1.24
3000 Stain, brushwork, wipe off			650	.012		.10	.37		.47	.72
4000 Shellac, 1 coat, brushwork			650	.012		.13	.37		.50	.76
4500 Varnish, 3 coats, brushwork, sand after 1st coat			325	.025		.29	.74		1.03	1.53
5000 For latex paint, deduct						10%				

### 09 91 23.33 Doors and Windows, Interior Alkyd (Oil Base)

0010 DOORS AND WINDOWS, INTERIOR ALKYD (OIL BASE)										
0500 Flush door & frame, 3' x 7', oil, primer, brushwork		1 Pord	10	.800	Ea.	4.21	24		28.21	44
1000 Paint, 1 coat			10	.800		4.82	24		28.82	45
1200 2 coats			6	1.333		4.98	40.50		45.48	71
1400 Stain, brushwork, wipe off			18	.444		2.06	13.40		15.46	24.50
1600 Shellac, 1 coat, brushwork			25	.320		2.77	9.65		12.42	18.80
1800 Varnish, 3 coats, brushwork, sand after 1st coat			9	.889		6.05	27		33.05	50
2000 Panel door & frame, 3' x 7', oil, primer, brushwork			6	1.333		2.64	40.50		43.14	68.50
2200 Paint, 1 coat			6	1.333		4.82	40.50		45.32	71
2400 2 coats			3	2.667		12.30	80.50		92.80	145
2600 Stain, brushwork, panel door, 3' x 7', not incl. frame			16	.500		2.06	15.10		17.16	27
2800 Shellac, 1 coat, brushwork			22	.364		2.77	11		13.77	21
3000 Varnish, 3 coats, brushwork, sand after 1st coat			7.50	1.067		6.05	32		38.05	59

# 09 91 Painting

## 09 91 23 – Interior Painting

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
09 91 23.33	Doors and Windows, Interior Alkyd (Oil Base)	Crew				Labor	Equipment			
3020	French door, incl. 3' x 7', 6 lites, frame & trim		1 Pord	5	1.600	Ea.	9.65	48.50		58.15
3022	Paint, 1 coat, over existing paint			5	1.600		18.70	48.50		67.20
3024	2 coats, over existing paint									99
3026	Primer & 1 coat			3.50	2.286		14.90	69		83.90
3028	Primer & 2 coats			3	2.667		24.50	80.50		105
3032	Varnish or polyurethane, 1 coat			5	1.600		8.70	48.50		57.20
3034	2 coats, sanding between			3	2.667		17.35	80.50		97.85
4400	Windows, including frame and trim, per side		1 Pord	14	.571	Ea.	.42	17.25		17.67
4600	Colonial type, 6/6 lites, 2' x 3', oil, primer, brushwork			14	.571		.76	17.25		18.01
5800	Paint, 1 coat			9	.889		1.48	27		28.48
6000	2 coats									45
6200	3' x 5' opening, 6/6 lites, primer coat, brushwork			12	.667		1.04	20		21.04
6400	Paint, 1 coat			12	.667		1.90	20		21.90
6600	2 coats			7	1.143		3.70	34.50		38.20
6800	4' x 8' opening, 6/6 lites, primer coat, brushwork			8	1		2.23	30		32.23
7000	Paint, 1 coat			8	1		4.06	30		34.06
7200	2 coats			5	1.600		7.90	48.50		56.40
8000	Single lite type, 2' x 3', oil base, primer coat, brushwork			33	.242		.42	7.30		7.72
8200	Paint, 1 coat			33	.242		.76	7.30		8.06
8400	2 coats			20	.400		1.48	12.10		13.58
8600	3' x 5' opening, primer coat, brushwork			20	.400		1.04	12.10		13.14
8800	Paint, 1 coat			20	.400		1.90	12.10		14
8900	2 coats			13	.615		3.70	18.60		22.30
9200	4' x 8' opening, primer coat, brushwork			14	.571		2.23	17.25		19.48
9400	Paint, 1 coat			14	.571		4.06	17.25		21.31
9600	2 coats			8	1		7.90	30		37.90

## 09 91 23.35 Doors and Windows, Interior Latex

DOORS & WINDOWS, INTERIOR LATEX		R099100-10								
0100	Doors, flush, both sides, incl. frame & trim		1 Pord	10	.800	Ea.	4.17	24		28.17
0110	Roll & brush, primer			10	.800		5.95	24		29.95
0120	Finish coat, latex									46
0130	Primer & 1 coat latex			7	1.143		10.10	34.50		44.60
0140	Primer & 2 coats latex			5	1.600		15.70	48.50		64.20
0160	Spray, both sides, primer			20	.400		4.39	12.10		16.49
0170	Finish coat, latex			20	.400		6.20	12.10		18.30
0180	Primer & 1 coat latex			11	.727		10.70	22		32.70
0190	Primer & 2 coats latex			8	1		16.60	30		46.60
0200	Doors, French, both sides, 10-15 lite, incl. frame & trim		1 Pord	6	1.333	Ea.	2.08	40.50		42.58
0210	Roll & brush, primer			6	1.333		2.96	40.50		43.46
0220	Finish coat, latex			3	2.667		5.05	80.50		85.55
0230	Primer & 1 coat latex			2	4		7.85	121		137
0240	Primer & 2 coats latex									206
0260	Doors, louvered, both sides, incl. frame & trim		1 Pord	7	1.143	Ea.	4.17	34.50		38.67
0270	Roll & brush, primer			7	1.143		5.95	34.50		40.45
0280	Finish coat, latex			4	2		9.85	60.50		62.50
0290	Primer & 1 coat, latex			3	2.667		16.05	80.50		70.35
0300	Primer & 2 coats, latex			11	.727		10.70	22		96.55
0320	Spray, both sides, primer			20	.400		4.39	12.10		16.49
0330	Finish coat, latex			20	.400		6.20	12.10		18.30
0340	Primer & 1 coat, latex			8	1		17	30		47
0350	Primer & 2 coats, latex									67.50
0360	Doors, panel, both sides, incl. frame & trim									

# 09 91 Painting

## 09 91 23 – Interior Painting

### 09 91 23.35 Doors and Windows, Interior Latex

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0370	Roll & brush, primer	1 Pord	6	1.333	Ea.	4.39	40.50	44.89	70.50
0380	Finish coat, latex		6	1.333		5.95	40.50	46.45	72
0390	Primer & 1 coat, latex		3	2.667		10.10	80.50	90.60	142
0400	Primer & 2 coats, latex		2.50	3.200		16.05	96.50	112.55	175
0420	Spray, both sides, primer		10	.800		4.39	24	28.39	44.50
0430	Finish coat, latex		10	.800		6.20	24	30.20	46.50
0440	Primer & 1 coat, latex		5	1.600		10.70	48.50	59.20	90.50
0450	Primer & 2 coats, latex	↓	4	2	↓	17	60.50	77.50	117
0460	Windows, per interior side, based on 15 S.F.								
0470	1 to 6 lite								
0480	Brushwork, primer	1 Pord	13	.615	Ea.	.82	18.60	19.42	31.50
0490	Finish coat, enamel		13	.615		1.17	18.60	19.77	32
0500	Primer & 1 coat enamel		8	1		1.99	30	31.99	51
0510	Primer & 2 coats enamel	↓	6	1.333	↓	3.16	40.50	43.66	69
0530	7 to 10 lite								
0540	Brushwork, primer	1 Pord	11	.727	Ea.	.82	22	22.82	37
0550	Finish coat, enamel		11	.727		1.17	22	23.17	37.50
0560	Primer & 1 coat enamel		7	1.143		1.99	34.50	36.49	58
0570	Primer & 2 coats enamel	↓	5	1.600	↓	3.16	48.50	51.66	82
0590	12 lite								
0600	Brushwork, primer	1 Pord	10	.800	Ea.	.82	24	24.82	40.50
0610	Finish coat, enamel		10	.800		1.17	24	25.17	41
0620	Primer & 1 coat enamel		6	1.333		1.99	40.50	42.49	67.50
0630	Primer & 2 coats enamel	↓	5	1.600	↓	3.16	48.50	51.66	82
0650	For oil base paint, add					10%			

### 09 91 23.39 Doors and Windows, Interior Latex, Zero VOC

#### 0010 DOORS & WINDOWS, INTERIOR LATEX, ZERO VOC

0100	Doors flush, both sides, incl. frame & trim								
0110	Roll & brush, primer	G	1 Pord	10	.800	Ea.	5.70	24	29.70
0120	Finish coat, latex	G		10	.800		6.60	24	30.60
0130	Primer & 1 coat latex	G		7	1.143		12.25	34.50	46.75
0140	Primer & 2 coats latex	G		5	1.600		18.50	48.50	67
0160	Spray, both sides, primer	G		20	.400		6	12.10	18.10
0170	Finish coat, latex	G		20	.400		6.90	12.10	19
0180	Primer & 1 coat latex	G		11	.727		13	22	35
0190	Primer & 2 coats latex	G	↓	8	1	↓	19.55	30	49.55
0200	Doors, French, both sides, 10-15 lite, incl. frame & trim								
0210	Roll & brush, primer	G	1 Pord	6	1.333	Ea.	2.84	40.50	43.34
0220	Finish coat, latex	G		6	1.333		3.29	40.50	43.79
0230	Primer & 1 coat latex	G		3	2.667		6.15	80.50	86.65
0240	Primer & 2 coats latex	G	↓	2	4	↓	9.25	121	130.25
0360	Doors, panel, both sides, incl. frame & trim								
0370	Roll & brush, primer	G	1 Pord	6	1.333	Ea.	6	40.50	46.50
0380	Finish coat, latex	G		6	1.333		6.60	40.50	47.10
0390	Primer & 1 coat, latex	G		3	2.667		12.25	80.50	92.75
0400	Primer & 2 coats, latex	G		2.50	3.200		18.85	96.50	115.35
0420	Spray, both sides, primer	G		10	.800		6	24	30
0430	Finish coat, latex	G		10	.800		6.90	24	30.90
0440	Primer & 1 coat, latex	G		5	1.600		13	48.50	61.50
0450	Primer & 2 coats, latex	G	↓	4	2	↓	20	60.50	80.50
0460	Windows, per interior side, based on 15 S.F.								
0470	1 to 6 lite								

# 09 91 Painting

## 09 91 23 – Interior Painting

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
							Labor	Equipment	
09 91 23.39	Doors and Windows, Interior Latex, Zero Voc		Crew						
0480	Brushwork, primer	G	1 Pord	.13	.615	Ea.	.112	18.60	19.72
0490	Finish coat, enamel	G		.13	.615		.130	18.60	19.90
0500	Primer & 1 coat enamel	G		.8	1		.242	30	32.42
0510	Primer & 2 coats enamel	G		6	1.333		.372	40.50	44.22
									69.50

## 09 91 23.40 Floors, Interior

0010	FLOORS, INTERIOR								
0100	Concrete paint, latex								
0110	Brushwork								
0120	1st coat		1 Pord	975	.008	S.F.	.15	.25	.40
0130	2nd coat			1150	.007		.10	.21	.31
0140	3rd coat			1300	.006		.08	.19	.27
0150	Roll								.39
0160	1st coat		1 Pord	2600	.003	S.F.	.20	.09	.29
0170	2nd coat			3250	.002		.12	.07	.19
0180	3rd coat			3900	.002		.09	.06	.15
0190	Spray								.20
0200	1st coat		1 Pord	2600	.003	S.F.	.17	.09	.26
0210	2nd coat			3250	.002		.10	.07	.17
0220	3rd coat			3900	.002		.08	.06	.14
									.18

## 09 91 23.52 Miscellaneous, Interior

0010	MISCELLANEOUS, INTERIOR								
2400	Floors, conc./wood, oil base, primer/sealer coat, brushwork		2 Pord	1950	.008	S.F.	.09	.25	.34
2450	Roller			5200	.003		.09	.09	.18
2600	Spray			6000	.003		.09	.08	.17
2650	Paint 1 coat, brushwork			1950	.008		.10	.25	.35
2800	Roller			5200	.003		.10	.09	.19
2850	Spray			6000	.003		.11	.08	.19
3000	Stain, wood floor, brushwork, 1 coat			4550	.004		.10	.11	.21
3200	Roller			5200	.003		.10	.09	.19
3250	Spray			6000	.003		.10	.08	.18
3400	Varnish, wood floor, brushwork			4550	.004		.10	.11	.21
3450	Roller			5200	.003		.10	.09	.19
3600	Spray			6000	.003		.11	.08	.19
3800	Grilles, per side, oil base, primer coat, brushwork		1 Pord	520	.015		.14	.46	.60
3850	Spray			1140	.007		.15	.21	.36
3880	Paint 1 coat, brushwork			520	.015		.25	.46	.71
3900	Spray			1140	.007		.28	.21	.49
3920	Paint 2 coats, brushwork			325	.025		.49	.74	1.23
3940	Spray			650	.012		.56	.37	.93
4500	Louvers, 1 side, primer, brushwork			524	.015		.09	.46	.55
4520	Paint 1 coat, brushwork			520	.015		.11	.46	.57
4530	Spray			1140	.007		.12	.21	.33
4540	Paint 2 coats, brushwork			325	.025		.22	.74	.96
4550	Spray			650	.012		.24	.37	.61
4560	Paint 3 coats, brushwork			270	.030		.32	.89	1.21
4570	Spray			500	.016		.36	.48	.84
5000	Pipe, 1"-4" diameter, primer or sealer coat, oil base, brushwork		2 Pord	1250	.013	L.F.	.09	.39	.48
5100	Spray			2165	.007		.09	.22	.31
5200	Paint 1 coat, brushwork			1250	.013		.13	.39	.52
5300	Spray			2165	.007		.11	.22	.33
5350	Paint 2 coats, brushwork			775	.021		.23	.62	.85
5400	Spray			1240	.013		.25	.39	.64
									.91

# 09 91 Painting

## 09 91 23 – Interior Painting

09 91 23.52 Miscellaneous, Interior		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
5450	5"-8" diameter, primer or sealer coat, brushwork	2 Pord	620	.026	L.F.	.18	.78		.96	1.47
5500	Spray		1085	.015		.30	.45		.75	1.06
5550	Paint 1 coat, brushwork		620	.026		.35	.78		1.13	1.65
5600	Spray		1085	.015		.38	.45		.83	1.15
5650	Paint 2 coats, brushwork		385	.042		.45	1.26		1.71	2.54
5700	Spray	↓	620	.026	↓	.51	.78		1.29	1.83
6600	Radiators, per side, primer, brushwork	1 Pord	520	.015	S.F.	.09	.46		.55	.86
6620	Paint, 1 coat		520	.015		.08	.46		.54	.85
6640	2 coats		340	.024		.22	.71		.93	1.40
6660	3 coats	↓	283	.028	↓	.32	.85		1.17	1.74
7000	Trim, wood, incl. puttying, under 6" wide									
7200	Primer coat, oil base, brushwork	1 Pord	650	.012	L.F.	.03	.37		.40	.65
7250	Paint, 1 coat, brushwork		650	.012		.06	.37		.43	.68
7400	2 coats		400	.020		.12	.60		.72	1.12
7450	3 coats		325	.025		.18	.74		.92	1.41
7500	Over 6" wide, primer coat, brushwork		650	.012		.07	.37		.44	.69
7550	Paint, 1 coat, brushwork		650	.012		.13	.37		.50	.75
7600	2 coats		400	.020		.25	.60		.85	1.25
7650	3 coats		325	.025	↓	.37	.74		1.11	1.61
8000	Cornice, simple design, primer coat, oil base, brushwork		650	.012	S.F.	.07	.37		.44	.69
8250	Paint, 1 coat		650	.012		.13	.37		.50	.75
8300	2 coats		400	.020		.25	.60		.85	1.25
8350	Ornate design, primer coat		350	.023		.07	.69		.76	1.20
8400	Paint, 1 coat		350	.023		.13	.69		.82	1.26
8450	2 coats		400	.020		.25	.60		.85	1.25
8600	Balustrades, primer coat, oil base, brushwork		520	.015		.07	.46		.53	.84
8650	Paint, 1 coat		520	.015		.13	.46		.59	.90
8700	2 coats		325	.025		.25	.74		.99	1.48
8900	Trusses and wood frames, primer coat, oil base, brushwork		800	.010		.07	.30		.37	.57
8950	Spray		1200	.007		.07	.20		.27	.41
9000	Paint 1 coat, brushwork		750	.011		.13	.32		.45	.66
9200	Spray		1200	.007		.14	.20		.34	.48
9220	Paint 2 coats, brushwork		500	.016		.25	.48		.73	1.06
9240	Spray		600	.013		.27	.40		.67	.96
9260	Stain, brushwork, wipe off		600	.013		.10	.40		.50	.77
9280	Varnish, 3 coats, brushwork	↓	275	.029	↓	.29	.88		1.17	1.75
9350	For latex paint, deduct					10%				

## 09 91 23.72 Walls and Ceilings, Interior

### 0010 WALLS AND CEILINGS, INTERIOR

0100	Concrete, drywall or plaster, latex, primer or sealer coat									
0150	Smooth finish, cut-in by brush	1 Pord	1150	.007	L.F.	.02	.21		.23	.36
0200	Brushwork		1150	.007	S.F.	.06	.21		.27	.41
0240	Roller		1350	.006		.06	.18		.24	.36
0280	Spray		2750	.003	↓	.05	.09		.14	.20
0290	Sand finish, cut-in by brush		975	.008	L.F.	.02	.25		.27	.42
0300	Brushwork		975	.008	S.F.	.06	.25		.31	.47
0340	Roller		1150	.007		.06	.21		.27	.41
0380	Spray		2275	.004		.05	.11		.16	.23
0390	Paint 1 coat, smooth finish, cut-in by brush		1200	.007	L.F.	.02	.20		.22	.35
0400	Brushwork		1200	.007	S.F.	.08	.20		.28	.41
0440	Roller	↓	1300	.006	↓	.08	.19		.27	.38
0480	Spray		2275	.004	↓	.06	.11		.17	.24

# 09 91 Painting

## 09 91 23 – Interior Painting

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
<b>09 91 23.72 Walls and Ceilings, Interior</b>											
0490	Sand finish, cut-in by brush	1 Pord	1050	.008	L.F.	.02	.23		.25	.39	
0500	Brushwork		1050	.008	S.F.	.07	.23		.30	.45	
0540	Roller		1600	.005		.08	.15		.23	.33	
0580	Spray		2100	.004	▼	.03	.12		.15	.22	
0590	Paint 2 coats, smooth finish, cut-in by brush		680	.012	L.F.	.04	.36		.40	.62	
0800	Brushwork		680	.012	S.F.	.15	.36		.51	.75	
0840	Roller		800	.010		.15	.30		.45	.66	
0880	Spray		1625	.005	▼	.14	.15		.29	.40	
0890	Sand finish, cut-in by brush		605	.013	L.F.	.04	.40		.44	.69	
0900	Brushwork		605	.013	S.F.	.15	.40		.55	.82	
0940	Roller		1020	.008		.15	.24		.39	.56	
0980	Spray		1700	.005		.14	.14		.28	.39	
1190	Paint 3 coats, smooth finish, cut-in by brush		510	.016	L.F.	.06	.47		.53	.83	
1200	Brushwork		510	.016	S.F.	.23	.47		.70	1.02	
1240	Roller		650	.012		.23	.37		.60	.86	
1280	Spray		850	.009	▼	.21	.28		.49	.70	
1290	Sand finish, cut-in by brush		454	.018	L.F.	.10	.53		.63	.98	
1300	Brushwork		454	.018	S.F.	.39	.53		.92	1.30	
1340	Roller		680	.012		.42	.36		.78	1.04	
1380	Spray		1133	.007		.36	.21		.57	.74	
1600	Glaze coating, 2 coats, spray, clear		1200	.007		.56	.20		.76	.95	
1640	Multicolor		1200	.007	▼	.87	.20		1.07	1.29	
1660	Painting walls, complete, including surface prep, primer &										
1670	2 coats finish, on drywall or plaster, with roller	1 Pord	325	.025	S.F.	.22	.74		.96	1.46	
1700	For oil base paint, add						10%				
1800	For ceiling installations, add						25%				
<b>2000 Masonry or concrete block, primer/sealer, latex paint</b>											
2090	Primer, smooth finish, cut-in by brush	1 Pord	1000	.008	L.F.	.04	.24		.28	.44	
2100	Brushwork		1000	.008	S.F.	.17	.24		.41	.58	
2110	Roller		1150	.007		.11	.21		.32	.46	
2180	Spray		2400	.003	▼	.10	.10		.20	.27	
2190	Sand finish, cut-in by brush		850	.009	L.F.	.03	.28		.31	.49	
2200	Brushwork		850	.009	S.F.	.11	.28		.39	.58	
2210	Roller		975	.008		.11	.25		.36	.52	
2280	Spray		2050	.004	▼	.10	.12		.22	.30	
2290	Finish coat, smooth finish, cut-in by brush		1100	.007	L.F.	.02	.22		.24	.38	
2400	Brushwork		1100	.007	S.F.	.08	.22		.30	.45	
2410	Roller		1300	.006		.08	.19		.27	.39	
2480	Spray		2400	.003	▼	.07	.10		.17	.24	
2490	Sand finish, cut-in by brush		950	.008	L.F.	.02	.25		.27	.43	
2500	Brushwork		950	.008	S.F.	.08	.25		.33	.50	
2510	Roller		1090	.007		.08	.22		.30	.45	
2580	Spray		2040	.004		.07	.12		.19	.27	
2590	Primer plus one finish coat, smooth cut-in by brush		525	.015	L.F.	.08	.46		.54	.83	
2800	Brushwork		525	.015	S.F.	.30	.46		.76	1.08	
2810	Roller		615	.013		.19	.39		.58	.85	
2880	Spray		1200	.007	▼	.17	.20		.37	.52	
2890	Sand finish, cut-in by brush		450	.018	L.F.	.05	.54		.59	.92	
2900	Brushwork		450	.018	S.F.	.19	.54		.73	1.08	
2910	Roller		515	.016		.19	.47		.66	.97	
2980	Spray		1025	.008		.17	.24		.41	.57	
3190	Primer plus 2 finish coats, smooth, cut-in by brush		355	.023	L.F.	.07	.68		.75	1.19	
3200	Brushwork		355	.023	S.F.	.28	.68		.96	1.42	

# 09 91 Painting

## 09 91 23 – Interior Painting

09 91 23.72 Walls and Ceilings, Interior			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
								Labor	Equipment	Total	
3210	Roller		1 Pord	415	.019	S.F.	.28	.58		.86	1.26
3280	Spray			800	.010	↓	.24	.30		.54	.76
3290	Sand finish, cut-in by brush			305	.026	L.F.	.07	.79		.86	1.37
3300	Brushwork			305	.026	S.F.	.28	.79		1.07	1.60
3310	Roller			350	.023		.28	.69		.97	1.43
3380	Spray			675	.012		.24	.36		.60	.85
3600	Glaze coating, 3 coats, spray, clear			900	.009		.80	.27		1.07	1.32
3620	Multicolor			900	.009		1.08	.27		1.35	1.63
4000	Block filler, 1 coat, brushwork			425	.019		.13	.57		.70	1.08
4100	Silicone, water repellent, 2 coats, spray		▼	2000	.004		.48	.12		.60	.72
4120	For oil base paint, add						10%				
8200	For work 8'-15' H, add							10%			
8300	For work over 15' H, add							20%			
8400	For light textured surfaces, add							10%			
8410	Heavy textured, add							25%			

## 09 91 23.74 Walls and Ceilings, Interior, Zero VOC Latex

### 0010 WALLS AND CEILINGS, INTERIOR, ZERO VOC LATEX

0100	Concrete, dry wall or plaster, latex, primer or sealer coat		1 Pord	1150	.007	L.F.	.02	.21		.23	.36
0190	Smooth finish, cut-in by brush		G	1150	.007	S.F.	.07	.21		.28	.42
0200	Brushwork		G	1350	.006		.07	.18		.25	.37
0240	Roller		G	2750	.003	↓	.05	.09		.14	.20
0280	Spray		G	975	.008	L.F.	.02	.25		.27	.42
0290	Sand finish, cut-in by brush		G	975	.008	S.F.	.07	.25		.32	.48
0300	Brushwork		G	1150	.007		.08	.21		.29	.43
0340	Roller		G	2275	.004	↓	.06	.11		.17	.24
0380	Spray		G	1200	.007	L.F.	.02	.20		.22	.35
0390	Paint 1 coat, smooth finish, cut-in by brush		G	1200	.007	S.F.	.08	.20		.28	.42
0400	Brushwork		G	1300	.006		.08	.19		.27	.39
0440	Roller		G	2275	.004	↓	.07	.11		.18	.25
0480	Spray		G	1050	.008	L.F.	.02	.23		.25	.39
0490	Sand finish, cut-in by brush		G	1050	.008	S.F.	.02	.23		.25	.39
0500	Brushwork		G	1600	.005		.08	.15		.23	.34
0540	Roller		G	2100	.004	↓	.07	.12		.19	.27
0580	Spray		G	680	.012	L.F.	.04	.36		.40	.62
0790	Paint 2 coats, smooth finish, cut-in by brush		G	680	.012	S.F.	.04	.36		.40	.62
0800	Brushwork		G	800	.010		.17	.30		.47	.67
0840	Roller		G	1625	.005	↓	.14	.15		.29	.40
0880	Spray		G	605	.013	L.F.	.04	.40		.44	.69
0890	Sand finish, cut-in by brush		G	605	.013	S.F.	.16	.40		.56	.82
0900	Brushwork		G	1020	.008		.17	.24		.41	.57
0940	Roller		G	1700	.005		.14	.14		.28	.39
0980	Spray		G	510	.016	L.F.	.06	.47		.53	.83
1190	Paint 3 coats, smooth finish, cut-in by brush		G	510	.016	S.F.	.24	.47		.71	1.03
1200	Brushwork		G	650	.012		.25	.37		.62	.88
1240	Roller		G	850	.009		.21	.28		.49	.70
1280	Spray		G					25%			
1800	For ceiling installations, add							10%			
8200	For work 8'-15' H, add							20%			
8300	For work over 15' H, add										

## 09 91 23.75 Dry Fall Painting

### 0010 DRY FALL PAINTING

0100 Sprayed on walls, gypsum board or plaster

# 09 91 Painting

## 09 91 23 – Interior Painting

09 91 23.75 Dry Fall Painting		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Ind O&P
		1 Pord	2600	.003	S.F.	.08	.09	.17	.24	
0220	One coat		1560	.005		.16	.15	.31	.43	
0250	Two coats									
0280	Concrete or textured plaster, one coat		1560	.005		.08	.15	.23	.34	
0310	Two coats		1300	.006		.16	.19	.35	.48	
0340	Concrete block, one coat		1560	.005		.08	.15	.23	.34	
0370	Two coats		1300	.006		.16	.19	.35	.48	
0400	Wood, one coat		877	.009		.08	.28	.36	.54	
0430	Two coats		650	.012		.16	.37	.53	.79	
0440	On ceilings, gypsum board or plaster									
0470	One coat	1 Pord	1560	.005	S.F.	.08	.15	.23	.34	
0500	Two coats		1300	.006		.16	.19	.35	.48	
0530	Concrete or textured plaster, one coat		1560	.005		.08	.15	.23	.34	
0560	Two coats		1300	.006		.16	.19	.35	.48	
0570	Structural steel, bar joists or metal deck, one coat		1560	.005		.08	.15	.23	.34	
0580	Two coats		1040	.008		.16	.23	.39	.56	

# 09 93 Staining and Transparent Finishing

## 09 93 23 – Interior Staining and Finishing

### 09 93 23.10 Varnish

0010 VARNISH		1 Pord	400	.020	S.F.	.07	.60	.67	1.06
0012	1 coat + sealer, on wood trim, brush, no sanding included		400	.020		.22	.60	.82	1.22
0020	1 coat + sealer, on wood trim, brush, no sanding included, no VOC								
0100	Hardwood floors, 2 coats, no sanding included, roller		1890	.004		.15	.13	.28	.38

# 09 96 High-Performance Coatings

## 09 96 56 – Epoxy Coatings

### 09 96 56.20 Wall Coatings

0010 WALL COATINGS		1 Pord	525	.015	S.F.	.38	.46	.84	1.17
0100	Acrylic glazed coatings, matte		305	.026		.78	.79	1.57	2.15
0200	Gloss		525	.015		.47	.46	.93	1.27
0300	Epoxy coatings, solvent based		170	.047		.38	1.42	1.80	2.73
0400	Water based		235	.034		.76	1.03	1.79	2.51
0600	Exposed aggregate, troweled on, 1/16" to 1/4", solvent based		130	.062		1.63	1.86	3.49	4.81
0700	Water based (epoxy or polyacrylate)		130	.062		1.42	1.86	3.28	4.58
0900	1/2" to 5/8" aggregate, solvent based		80	.100		2.47	3.02	5.49	7.65
1000	Water based		90	.089		2.52	2.68	5.20	7.15
1200	1" aggregate size, solvent based		55	.145		3.83	4.39	8.22	11.35
1300	Water based		295	.027		.58	.82	1.40	1.97
1500	Exposed aggregate, sprayed on, 1/8" aggregate, solvent based		145	.055		1.24	1.67	2.91	4.07

# 09 97 Special Coatings

## 09 97 35 – Dry Erase Coatings

### 09 97 35.10 Dry Erase Coatings

0010 DRY ERASE COATINGS		1 Pord	1325	.006	S.F.	2.14	.18	2.32	2.65
0020	Dry erase coatings, clear, roller applied								

## Estimating Tips

### General

- The items in this division are usually priced per square foot or each.
- Many items in Division 10 require some type of support system or special anchors that are not usually furnished with the item. The required anchors must be added to the estimate in the appropriate division.
- Some items in Division 10, such as lockers, may require assembly before installation. Verify the amount of assembly required. Assembly can often exceed installation time.

### 10 20 00 Interior Specialties

- Support angles and blocking are not included in the installation of toilet compartments, shower/dressing compartments, or cubicles. Appropriate line items from Division 5 or 6 may need to be added to support the installations.
- Toilet partitions are priced by the stall. A stall consists of a side wall, pilaster, and door with hardware. Toilet tissue holders and grab bars are extra.
- The required acoustical rating of a folding partition can have a significant impact on costs. Verify the sound transmission coefficient rating of the panel priced against the specification requirements.

- Grab bar installation does not include supplemental blocking or backing to support the required load. When grab bars are installed at an existing facility, provisions must be made to attach the grab bars to a solid structure.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 10 28 Toilet, Bath, and Laundry Accessories

## 10 28 13 – Toilet Accessories

10 28 13.13 Commercial Toilet Accessories		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	COMMERCIAL TOILET ACCESSORIES						Labor	Equipment	
0200	Curtain rod, stainless steel, 5' long, 1" diameter	1 Corp	13	.615	Ea.	26.50	22.50	49	66
0300	1-1/4" diameter		13	.615		29	22.50	51.50	68.50
0800	Grab bar, straight, 1-1/4" diameter, stainless steel, 18" long		24	.333		30	12.05	42.05	52.50
1100	36" long		20	.400		34.50	14.45	48.95	62
1105	42" long		20	.400		40	14.45	54.45	68
1120	Corner, 36" long		20	.400		95	14.45	109.45	128
3000	Mirror, with stainless steel 3/4" square frame, 18" x 24"		20	.400		51.50	14.45	65.95	80.50
3100	36" x 24"		15	.533		104	19.30	123.30	146
3300	72" x 24"		6	1.333		305	48	353	415
4300	Robe hook, single, regular		96	.083		20.50	3.01	23.51	27.50
4400	Heavy duty, concealed mounting		56	.143		25.50	5.15	30.65	36.50
6400	Towel bar, stainless steel, 18" long		23	.348		40	12.55	52.55	64.50
6500	30" long		21	.381		48.50	13.75	62.25	75.50
7400	Tumbler holder, for tumbler only		30	.267		37	9.65	46.65	57
7410	Tumbler holder, recessed		20	.400		9.40	14.45	23.85	34.50
7500	Soap, tumbler & toothbrush		30	.267		20	9.65	29.65	38
7510	Tumbler & toothbrush holder		20	.400		13.45	14.45	27.90	39

## 10 28 16 – Bath Accessories

### 10 28 16.20 Medicine Cabinets

0010	MEDICINE CABINETS	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0020	With mirror, sst frame, 16" x 22", unlighted	1 Corp	14	.571	Ea.	98.50	20.50	119	142
0100	Wood frame		14	.571		128	20.50	148.50	175
0300	Sliding mirror doors, 20" x 16" x 4-3/4", unlighted		7	1.143		130	41.50	171.50	211
0400	24" x 19" x 8-1/2", lighted		5	1.600		219	58	277	335
0600	Triple door, 30" x 32", unlighted, plywood body		7	1.143		355	41.50	396.50	460
0700	Steel body		7	1.143		355	41.50	396.50	460
0900	Oak door, wood body, beveled mirror, single door		7	1.143		170	41.50	211.50	254
1000	Double door		6	1.333		370	48	418	485

## 10 28 19 – Tub and Shower Enclosures

### 10 28 19.10 Partitions, Shower

0010	PARTITIONS, SHOWER floor mounted, no plumbing	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0400	Cabinet, one piece, fiberglass, 32" x 32"	2 Corp	5	3.200	Ea.	625	116	741	880
0420	36" x 36"		5	3.200		550	116	666	795
0440	36" x 48"		5	3.200		1,375	116	1,491	1,725
0460	Acrylic, 32" x 32"		5	3.200		335	116	451	560
0480	36" x 36"		5	3.200		1,050	116	1,166	1,350
0500	36" x 48"		5	3.200		1,300	116	1,416	1,625
0520	Shower door for above, clear plastic, 24" wide	1 Corp	8	1		185	36	221	264
0540	28" wide		8	1		241	36	277	325
0560	Tempered glass, 24" wide		8	1		260	36	296	345
0580	28" wide		8	1		293	36	329	380
2400	Glass stalls, with doors, no receptors, chrome on brass	2 Shee	3	5.333		1,625	209	1,834	2,150
2700	Anodized aluminum	"	4	4		1,300	157	1,457	1,700
3200	Receptors, precast terrazzo, 32" x 32"	2 Marb	14	1.143		300	40.50	340.50	400
3300	48" x 34"		9.50	1.684		440	60	500	580
3500	Plastic, simulated terrazzo receptor, 32" x 32"		14	1.143		172	40.50	212.50	257
3600	32" x 48"		12	1.333		315	47.50	362.50	425
3800	Precast concrete, colors, 32" x 32"		14	1.143		220	40.50	260.50	310
3900	48" x 48"		8	2		310	71	381	460
4100	Shower doors, economy plastic, 24" wide	1 Shee	9	.889		134	35	169	205
4200	Tempered glass door, economy		8	1		279	39.50	318.50	370

# 10 28 Toilet, Bath, and Laundry Accessories

## 10 28 19 – Tub and Shower Enclosures

		Daily Crew	Output	Labor Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
							Labor	Equipment	Total	
4400	Folding, tempered glass, aluminum frame	1 Shee	6	1.333	Ea.	430	52.50		482.50	560
4700	Deluxe, tempered glass, chrome on brass frame, 42" to 44"		8	1		485	39.50		524.50	600
4800	39" to 48" wide		1	8		700	315		1,015	1,300
4850	On anodized aluminum frame, obscure glass		2	4		570	157		727	890
4900	Clear glass		1	8	↓	690	315		1,005	1,275
5100	Shower enclosure, tempered glass, anodized alum. frame									
5120	2 panel & door, corner unit, 32" x 32"	1 Shee	2	4	Ea.	965	157		1,122	1,300
5140	Neo-angle corner unit, 16" x 24" x 16"	"	2	4		1,025	157		1,182	1,375
5200	Shower surround, 3 wall, polypropylene, 32" x 32"	1 Carp	4	2		635	72.50		707.50	820
5220	PVC, 32" x 32"		4	2		405	72.50		477.50	565
5240	Fiberglass		4	2		390	72.50		462.50	550
5250	2 wall, polypropylene, 32" x 32"		4	2		310	72.50		382.50	460
5270	PVC		4	2		370	72.50		442.50	525
5290	Fiberglass		4	2		375	72.50		447.50	530
5300	Tub doors, tempered glass & frame, obscure glass	1 Shee	8	1		219	39.50		258.50	305
5400	Clear glass		6	1.333		510	52.50		562.50	645
5600	Chrome plated, brass frame, obscure glass		8	1		289	39.50		328.50	385
5700	Clear glass		6	1.333		710	52.50		762.50	865
5900	Tub/shower enclosure, temp. glass, alum. frame, obscure glass		2	4		395	157		552	690
6200	Clear glass		1.50	5.333		820	209		1,029	1,250
6500	On chrome-plated brass frame, obscure glass		2	4		540	157		697	855
6600	Clear glass		1.50	5.333		1,150	209		1,359	1,625
6800	Tub surround, 3 wall, polypropylene	1 Carp	4	2		251	72.50		323.50	395
6900	PVC		4	2		365	72.50		437.50	525
7000	Fiberglass, obscure glass		4	2		385	72.50		457.50	545
7100	Clear glass		3	2.667	↓	650	96.50		746.50	875

## 10 28 23 – Laundry Accessories

### 10 28 23.13 Built-In Ironing Boards

0010	BUILT-IN IRONING BOARDS	1 Carp	2	4	Ea.	245	145		390	505
0020	Including cabinet, board & light, 42"									

# 10 31 Manufactured Fireplaces

## 10 31 13 – Manufactured Fireplace Chimneys

### 10 31 13.10 Fireplace Chimneys

0010	FIREPLACE CHIMNEYS	1 Carp	33	.242	V.L.F.	94	8.75		102.75	117
0500	Chimney dbl. wall, all stainless, over 8'-6", 7" diam., add to fireplace		32	.250		103	9.05		112.05	128
0600	10" diameter, add to fireplace		31	.258		181	9.35		190.35	214
0700	12" diameter, add to fireplace		30	.267	↓	216	9.65		225.65	254
0800	14" diameter, add to fireplace		10	.800	Ea.	515	29		544	615
1000	Simulated brick chimney top, 4' high, 16" x 16"		7	1.143	"	575	41.50		616.50	700
1100	24" x 24"									

### 10 31 13.20 Chimney Accessories

0010	CHIMNEY ACCESSORIES	1 Bric	8	1	Ea.	56.50	35.50		92	121
0020	Chimney screens, galv., 13" x 13" flue		5	1.600		128	56.50		184.50	234
0050	24" x 24" flue		8	1		101	35.50		136.50	171
0200	Stainless steel, 13" x 13" flue		5	1.600		147	56.50		203.50	256
0250	20" x 20" flue		16	.500		56	17.70		73.70	91.50
2400	Squirrel and bird screens, galvanized, 8" x 8" flue		12	.667	↓	66	23.50		89.50	112
2450	13" x 13" flue									

# 10 31 Manufactured Fireplaces

## 10 31 16 – Manufactured Fireplace Forms

10 31 16.10 Fireplace Forms				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	FIREPLACE FORMS									
1800	Fireplace forms, no accessories, 32" opening	1 Bric	3	2.667	Ea.		735	94.50	829.50	965
1900	36" opening			2.50	3.200		940	113	1,053	1,225
2000	40" opening			2	4		1,250	142	1,392	1,600
2100	78" opening			↓	1.50	5.333	1,825	189	2,014	2,325

## 10 31 23 – Prefabricated Fireplaces

### 10 31 23.10 Fireplace, Prefabricated

0010	FIREPLACE, PREFABRICATED, free standing or wall hung	1 Corp	1.30	6.154	Ea.	1,650	222	1,872	2,175	
0100	With hood & screen, painted									
0150	Average		1	8		1,775	289	2,064	2,425	
0200	Stainless steel		.90	8.889	↓	3,300	320	3,620	4,150	
1500	Simulated logs, gas fired, 40,000 BTU, 2' long, manual safety pilot		7	1.143	Set	560	41.50	601.50	685	
1600	Adjustable flame remote pilot		6	1.333		1,325	48	1,373	1,525	
1700	Electric, 1,500 BTU, 1'-6" long, incandescent flame		7	1.143		265	41.50	306.50	360	
1800	1,500 BTU, LED flame		6	1.333	↓	345	48	393	455	
2000	Fireplace, built-in, 36" hearth, radiant		1.30	6.154	Ea.	740	222	962	1,175	
2100	Recirculating, small fan		1	8		905	289	1,194	1,475	
2150	Large fan		.90	8.889		2,250	320	2,570	3,000	
2200	42" hearth, radiant		1.20	6.667		1,100	241	1,341	1,600	
2300	Recirculating, small fan		.90	8.889		1,300	320	1,620	1,950	
2350	Large fan		.80	10		1,475	360	1,835	2,225	
2400	48" hearth, radiant		1.10	7.273		2,500	263	2,763	3,175	
2500	Recirculating, small fan		.80	10		2,825	360	3,185	3,700	
2550	Large fan		.70	11.429		2,675	415	3,090	3,600	
3000	See through, including doors		.80	10		2,325	360	2,685	3,175	
3200	Corner (2 wall)		↓	1	8	↓	3,750	289	4,039	4,575

# 10 32 Fireplace Specialties

## 10 32 13 – Fireplace Dampers

0010	DAMPERS	1 Bric	6	1.333	Ea.	123	47	170	214
0800	Damper, rotary control, steel, 30" opening								
0850	Cast iron, 30" opening		6	1.333		124	47	171	214
1200	Steel plate, poker control, 60" opening		8	1		325	35.50	360.50	420
1250	84" opening, special order		5	1.600		595	56.50	651.50	750
1400	"Universal" type, chain operated, 32" x 20" opening		8	1		254	35.50	289.50	340
1450	48" x 24" opening		5	1.600	↓	380	56.50	436.50	510

## 10 32 23 – Fireplace Doors

0010	DOORS	1 Bric	12	.667	Ea.	57	23.50	80.50	102	
0400	Cleanout doors and frames, cast iron, 8" x 8"									
0450	12" x 12"		10	.800		90.50	28.50	119	147	
0500	18" x 24"		8	1		152	35.50	187.50	226	
0550	Cast iron frame, steel door, 24" x 30"		5	1.600		325	56.50	381.50	455	
1600	Dutch oven door and frame, cast iron, 12" x 15" opening		13	.615		133	22	155	182	
1650	Copper plated, 12" x 15" opening		↓	13	.615	↓	260	22	282	320

# 10 35 Stoves

## 10 35 13 – Heating Stoves

10 35 13.10 Wood Burning Stoves				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
0010	WOOD BURNING STOVES											
0015	Cast iron, less than 1,500 S.F.			2 Corp	1.30	12.308	Ea.	1,500	445	1,945	2,375	
0020	1,500 to 2,000 S.F.				1	16		2,550	580	3,130	3,750	
0030	greater than 2,000 S.F.			↓	.80	20		2,925	725	3,650	4,425	
0050	For gas log lighter, add						↓	49.50		49.50	54.50	

# 10 44 Fire Protection Specialties

## 10 44 16 – Fire Extinguishers

### 10 44 16.13 Portable Fire Extinguishers

0010 PORTABLE FIRE EXTINGUISHERS				Ea.	300	300	330
0140	CO <sub>2</sub> , with hose and "H" horn, 10 lb.						
1000	Dry chemical, pressurized			Ea.	44	44	48.50
1040	Standard type, portable, painted, 2-1/2 lb.				96	96	106
1080	10 lb.				138	138	152
1100	20 lb.				430	430	470
1120	30 lb.				23.50	23.50	26
2000	ABC all purpose type, portable, 2-1/2 lb.				52	52	57
2080	9-1/2 lb.						

# 10 55 Postal Specialties

## 10 55 23 – Mail Boxes

0011 MAIL BOXES				1 Carp	20	.400	Ea.	80	14.45	94.45	112
1900	Letter slot, residential										
2400	Residential, galv. steel, small 20" x 7" x 9"			1 Clab	16	.500		200	13.90	213.90	243
2410	With galv. steel post, 54" long				6	1.333		271	37	308	360
2420	Large, 24" x 12" x 15"				16	.500		206	13.90	219.90	250
2430	With galv. steel post, 54" long				6	1.333		243	37	280	330
2440	Decorative, polyethylene, 22" x 10" x 10"				16	.500		64.50	13.90	78.40	94
2450	With alum. post, decorative, 54" long			↓	6	1.333	↓	198	37	235	278

# 10 56 Storage Assemblies

## 10 56 13 – Metal Storage Shelving

0010 SHELVING				1 Sswk	175	.046	SF Shlf	7.60	1.84	9.44	11.50
0020	Metal, industrial, cross-braced, 3' W, 12" D										
0100	24" D				330	.024		5.65	.98	6.63	7.90
2200	Wide span, 1600 lb. capacity per shelf, 6' W, 24" D				380	.021		7.25	.85	8.10	9.45
2400	36" D			↓	440	.018	↓	6.55	.73	7.28	8.50
3000	Residential, vinyl covered wire, wardrobe, 12" D			1 Corp	195	.041	L.F.	15.65	1.48	17.13	19.65
3100	16" D				195	.041		11.90	1.48	13.38	15.55
3200	Standard, 6" D				195	.041		3.74	1.48	5.22	6.55
3300	9" D				195	.041		6.75	1.48	8.23	9.90
3400	12" D				195	.041		8	1.48	9.48	11.25
3500	16" D				195	.041		18.25	1.48	19.73	22.50
3600	20" D				195	.041		21.50	1.48	22.98	26
3700	Support bracket			↓	80	.100	Ea.	7.05	3.62	10.67	13.70

# 10 57 Wardrobe and Closet Specialties

## 10 57 23 – Closet and Utility Shelving

10 57 23.19 Wood Closet and Utility Shelving		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	WOOD CLOSET AND UTILITY SHELVING								
0020	Pine, clear grade, no edge bond, 1" x 8"	1 Corp	115	.070	L.F.	3.35	2.52	5.87	7.80
0100	1" x 10"		110	.073		4.17	2.63	6.80	8.90
0200	1" x 12"		105	.076		5.05	2.75	7.80	10.10
0450	1" x 18"		95	.084		7.55	3.04	10.59	13.30
0460	1" x 24"		85	.094		10.05	3.40	13.45	16.65
0600	Plywood, 3/4" thick with lumber edge, 12" wide		75	.107		1.91	3.86	5.77	8.45
0700	24" wide		70	.114	▼	3.40	4.13	7.53	10.55
0900	Bookcase, clear grade pine, shelves 12" OC, 8" deep, per S.F. shelf		70	.114	S.F.	10.90	4.13	15.03	18.80
1000	12" deep shelves		65	.123	" "	16.35	4.45	20.80	25.50
1200	Adjustable closet rod and shelf, 12" wide, 3' long		20	.400	Ea.	13.80	14.45	28.25	39
1300	8' long		15	.533	"	25.50	19.30	44.80	59.50
1500	Prefinished shelves with supports, stock, 8" wide		75	.107	L.F.	5.85	3.86	9.71	12.80
1600	10" wide	▼	70	.114	"	5.65	4.13	9.78	13.05

# 10 73 Protective Covers

## 10 73 16 – Canopies

### 10 73 16.10 Canopies, Residential

0010 CANOPIES, RESIDENTIAL Prefabricated		Crew	3	5.333	Ea.	4,800	193	4,993	5,600
0500	Carport, free standing, baked enamel, alum., .032", 40 psf	2 Corp	3	5.333	Ea.	4,800	193	4,993	5,600
0520	16' x 8', 4 posts		2	8		4,950	289	5,239	5,925
0600	20' x 10', 6 posts	▼	2	8		7,425	289	7,714	8,650
0605	30' x 10', 8 posts		8	1		212	36	248	293
1000	Door canopies, extruded alum., .032", 42" projection, 4' wide	1 Corp	6	1.333		305	48	353	420
1020	6' wide	"	6	1.333		445	64.50	509.50	595
1040	8' wide	2 Corp	9	1.778		560	82.50	642.50	755
1060	10' wide		7	2.286		620	116	736	870
1080	12' wide	▼	5	3.200		254	36	290	340
1200	54" projection, 4' wide	1 Corp	8	1		320	48	368	435
1220	6' wide	"	6	1.333		425	64.50	489.50	575
1240	8' wide	2 Corp	9	1.778		870	82.50	952.50	1,100
1260	10' wide		7	2.286		940	116	1,056	1,225
1280	12' wide	▼	5	3.200		20%			
1300	Painted, add					50%			
1310	Bronze anodized, add					152	29	181	215
3000	Window awnings, aluminum, window 3' high, 4' wide	1 Corp	10	.800		227	36	263	310
3020	6' wide	"	8	1		400	64.50	464.50	545
3040	9' wide	2 Corp	9	1.778		515	116	631	760
3060	12' wide	"	5	3.200		284	29	313	360
3100	Window, 4' high, 4' wide	1 Corp	10	.800		335	36	371	430
3120	6' wide	"	8	1		600	64.50	664.50	765
3140	9' wide	2 Corp	9	1.778		760	116	876	1,025
3160	12' wide	"	5	3.200		370	29	399	455
3200	Window, 6' high, 4' wide	1 Corp	10	.800		385	36	421	485
3220	6' wide	"	8	1		960	64.50	1,024.50	1,150
3240	9' wide	2 Corp	9	1.778		1,450	116	1,566	1,800
3260	12' wide	"	5	3.200		208	20.50	228.50	263
3400	Roll-up aluminum, 2'-6" wide	1 Corp	14	.571		213	24	237	275
3420	3' wide		12	.667		273	29	302	350
3440	4' wide		10	.800		285	36	321	375
3460	6' wide		8	1					

# 10 73 Protective Covers

## 10 73 16 – Canopies

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				Crew				Labor	Equipment		
3480	9' wide			2 Corp	9	.778	Ea.	400	64.50	464.50	545
3500	12' wide			"	5	3.200		510	116	626	755
3600	Window awnings, canvas, 24" drop, 3' wide			1 Corp	30	.267	L.F.	61	9.65	70.65	83
3620	4' wide				40	.200		46	7.25	53.25	62.50
3700	30" drop, 3' wide				30	.267		61.50	9.65	71.15	83.50
3720	4' wide				40	.200		50	7.25	57.25	67
3740	5' wide				45	.178		47	6.45	53.45	62
3760	6' wide				48	.167		43.50	6.05	49.55	58
3780	8' wide				48	.167		40	6.05	46.05	54
3800	10' wide				50	.160		41.50	5.80	47.30	55

# 10 74 Manufactured Exterior Specialties

## 10 74 23 – Cupolas

### 10 74 23.10 Wood Cupolas

0010	WOOD CUPOLAS										
0020	Stock units, pine, painted, 18" sq., 28" high, alum. roof			1 Corp	4.10	1.951	Ea.	320	70.50	390.50	465
0100	Copper roof			"	3.80	2.105		298	76	374	455
0300	23" square, 33" high, aluminum roof				3.70	2.162		455	78	533	630
0400	Copper roof				3.30	2.424		605	87.50	692.50	810
0600	30" square, 37" high, aluminum roof				3.70	2.162		660	78	738	855
0700	Copper roof				3.30	2.424		785	87.50	872.50	1,000
0900	Hexagonal, 31" wide, 46" high, copper roof				4	2		995	72.50	1,067.50	1,225
1000	36" wide, 50" high, copper roof				3.50	2.286		1,750	82.50	1,832.50	2,050
1200	For deluxe stock units, add to above								25%		
1400	For custom built units, add to above								50%	50%	

## 10 74 33 – Weathervanes

### 10 74 33.10 Residential Weathervanes

0010	RESIDENTIAL WEATHERVANES										
0020	Residential types, 18" to 24"			1 Corp	8	1	Ea.	138	36	174	212
0100	24" to 48"			"	2	4	"	1,900	145	2,045	2,325

## 10 74 46 – Window Wells

### 10 74 46.10 Area Window Wells

0010	AREA WINDOW WELLS, Galvanized steel										
0020	20 ga., 3'-2" wide, 1' deep			1 Sswk	29	.276	Ea.	18.70	11.15	29.85	39.50
0100	2' deep			"	23	.348		30	14.05	44.05	57
0300	16 ga., 3'-2" wide, 1' deep				29	.276		25.50	11.15	36.65	47
0400	3' deep				23	.348		48.50	14.05	62.55	77.50
0600	Welded grating for above, 15 lb., painted				45	.178		103	7.15	110.15	125
0700	Galvanized				45	.178		126	7.15	133.15	150
0900	Translucent plastic cap for above				60	.133		21.50	5.40	26.90	32.50

# 10 75 Flagpoles

## 10 75 16 – Ground-Set Flagpoles

				Daily Crew	Output	Labor- Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
									Labor	Equipment			
<b>10 75 16.10 Flagpoles</b>													
0010	FLAGPOLES, ground set												
0050	Not including base or foundation												
0100	Aluminum, tapered, ground set 20' high			K-1	2	8	Ea.	1,175	277	410	1,862	2,175	
0200	25' high					1.70	9.412		1,275	325	485	2,085	2,475
0300	30' high					1.50	10.667		1,250	370	545	2,165	2,575
0500	40' high					1.20	13.333	↓	3,100	460	685	4,245	4,925

## Estimating Tips

### General

- The items in this division are usually priced per square foot or each. Many of these items are purchased by the owner for installation by the contractor. Check the specifications for responsibilities and include time for receiving, storage, installation, and mechanical and electrical hookups in the appropriate divisions.
- Many items in Division 11 require some type of support system that is not usually furnished with the

item. Examples of these systems include blocking for the attachment of casework and support angles for ceiling-hung projection screens. The required blocking or supports must be added to the estimate in the appropriate division.

- Some items in Division 11 may require assembly or electrical hookups. Verify the amount of assembly required or the need for a hard electrical connection and add the appropriate costs.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

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# 11 30 Residential Equipment

## 11 30 13 – Residential Appliances

11 30 13.15 Cooking Equipment		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
						Material	Labor	Equipment	
0010	<b>COOKING EQUIPMENT</b>								
0020	Cooking range, 30" free standing, 1 oven, minimum	2 Clab	10	1,600	Ea.	465	44.50		509.50
0050	Maximum		4	4		2,200	111		2,311
0150	2 oven, minimum		10	1,600		1,050	44.50		1,094.50
0200	Maximum	↓	10	1,600		3,425	44.50		3,469.50
0350	Built-in, 30" wide, 1 oven, minimum	1 Elec	6	1,333		870	55.50		925.50
0400	Maximum	2 Corp	2	8		2,000	289		2,289
0500	2 oven, conventional, minimum		4	4		1,250	145		1,395
0550	1 conventional, 1 microwave, maximum	↓	2	8		2,750	289		3,039
0700	Free standing, 1 oven, 21" wide range, minimum	2 Clab	10	1,600	Ea.	465	44.50		509.50
0750	21" wide, maximum	"	4	4		755	111		866
0900	Countertop cooktops, 4 burner, standard, minimum	1 Elec	6	1,333		340	55.50		395.50
0950	Maximum		3	2,667		2,025	111		2,136
1050	As above, but with grill and griddle attachment, minimum		6	1,333		1,375	55.50		1,430.50
1100	Maximum		3	2,667		3,875	111		3,986
1250	Microwave oven, minimum		4	2		98.50	83.50		182
1300	Maximum		2	4		470	167		637
5380	Oven, built-in, standard		4	2		960	83.50		1,043.50
5390	Deluxe	↓	2	4	↓	2,975	167		3,142
									3,550

## 11 30 13.16 Refrigeration Equipment

11 30 13.16 Refrigeration Equipment		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
						Material	Labor	Equipment	
0010	<b>REFRIGERATION EQUIPMENT</b>								
2000	Deep freeze, 15 to 23 C.F., minimum	2 Clab	10	1,600	Ea.	680	44.50		724.50
2050	Maximum		5	3,200		785	89		874
2200	30 C.F., minimum		8	2		895	55.50		950.50
2250	Maximum	▼	3	5,333		905	148		1,053
5200	Icemaker, automatic, 20 lbs./day	1 Plum	7	1,143		1,375	46.50		1,421.50
5350	51 lbs./day	"	2	4		1,400	162		1,562
5450	Refrigerator, no frost, 6 C.F.	2 Clab	15	1,067		365	29.50		394.50
5500	Refrigerator, no frost, 10 C.F. to 12 C.F., minimum		10	1,600		455	44.50		499.50
5600	Maximum		6	2,667		560	74		634
5750	14 C.F. to 16 C.F., minimum		9	1,778		605	49.50		654.50
5800	Maximum		5	3,200		1,050	89		1,139
5950	18 C.F. to 20 C.F., minimum		8	2		775	55.50		830.50
6000	Maximum		4	4		1,925	111		2,036
6150	21 C.F. to 29 C.F., minimum		7	2,286		1,100	63.50		1,163.50
6200	Maximum	▼	3	5,333		2,425	148		2,573
6790	Energy-star qualified, 18 C.F., minimum	G 2 Corp	4	4		510	145		655
6795	Maximum	G	2	8		1,950	289		2,239
6797	21.7 C.F., minimum	G	4	4		1,025	145		1,170
6799	Maximum	G	4	4	↓	1,800	145		1,945
									2,225

## 11 30 13.17 Kitchen Cleaning Equipment

11 30 13.17 Kitchen Cleaning Equipment		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P
						Material	Labor	Equipment	
0010	<b>KITCHEN CLEANING EQUIPMENT</b>								
2750	Dishwasher, built-in, 2 cycles, minimum	L-1	4	2,500	Ea.	310	102		412
2800	Maximum		2	5		445	204		649
2950	4 or more cycles, minimum		4	2,500		400	102		502
2960	Average		4	2,500		530	102		632
3000	Maximum		2	5		1,850	204		2,054
3100	Energy-star qualified, minimum	G	4	2,500		405	102		507
3110	Maximum	G	2	5	↓	1,975	204		2,179
									2,500

# 11 30 Residential Equipment

## 11 30 13 – Residential Appliances

11 30 13.18 Waste Disposal Equipment				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	<b>WASTE DISPOSAL EQUIPMENT</b>										
1750	Compactor, residential size, 4 to 1 compaction, minimum		1 Corp	5	1.600	Ea.	705	58		763	870
1800	Maximum		"	3	2.667		1,150	96.50		1,246.50	1,425
3300	Garbage disposal, sink type, minimum		L-1	10	1		111	41		152	189
3350	Maximum		"	10	1		216	41		257	305
<b>11 30 13.19 Kitchen Ventilation Equipment</b>											
0010	<b>KITCHEN VENTILATION EQUIPMENT</b>										
4150	Hood for range, 2 speed, vented, 30" wide, minimum		L-3	5	2	Ea.	107	74.50		181.50	240
4200	Maximum		"	3	3.333		1,000	124		1,124	1,300
4300	42" wide, minimum		"	5	2		151	74.50		225.50	288
4330	Custom		"	5	2		1,800	74.50		1,874.50	2,100
4350	Maximum		"	3	3.333		2,175	124		2,299	2,600
4500	For ventless hood, 2 speed, add						19.05			19.05	21
4650	For vented 1 speed, deduct from maximum						74			74	81.50
<b>11 30 13.24 Washers</b>											
0010	<b>WASHERS</b>										
6650	Washing machine, automatic, minimum		1 Plum	3	2.667	Ea.	560	108		668	790
6700	Maximum		"	1	8		1,400	325		1,725	2,075
6750	Energy star qualified, front loading, minimum		G	3	2.667		880	108		988	1,150
6760	Maximum		G	1	8		1,925	325		2,250	2,625
6764	Top loading, minimum		G	3	2.667		735	108		843	985
6766	Maximum		G	3	2.667		1,125	108		1,233	1,425
<b>11 30 13.25 Dryers</b>											
0010	<b>DRYERS</b>										
6770	Electric, front loading, energy-star qualified, minimum		G	L-2	3	5.333	Ea.	480	170	650	805
6780	Maximum		G	"	2	8		1,500	255	1,755	2,050
7450	Vent kits for dryers		1 Corp	10	.800		48	29		77	100
<b>11 30 15 – Miscellaneous Residential Appliances</b>											
<b>11 30 15.13 Sump Pumps</b>											
0010	<b>SUMP PUMPS</b>										
6400	Cellar drainer, pedestal, 1/3 HP, molded PVC base		1 Plum	3	2.667	Ea.	141	108		249	330
6450	Solid brass		"	2	4	"	243	162		405	535
6460	Sump pump, see also Section 22 14 29.16										
<b>11 30 15.23 Water Heaters</b>											
0010	<b>WATER HEATERS</b>										
6900	Electric, glass lined, 30 gallon, minimum		L-1	5	2	Ea.	970	81.50		1,051.50	1,200
6950	Maximum		"	3	3.333		1,350	136		1,486	1,700
7100	80 gallon, minimum		"	2	5		1,950	204		2,154	2,475
7150	Maximum		"	1	10		2,725	410		3,135	3,675
7180	Gas, glass lined, 30 gallon, minimum		2 Plum	5	3.200		1,900	130		2,030	2,300
7220	Maximum		"	3	5.333		2,625	217		2,842	3,250
7260	50 gallon, minimum		"	2.50	6.400		1,750	260		2,010	2,350
7300	Maximum		"	1.50	10.667		2,450	435		2,885	3,400
7310	Water heater, see also Section 22 33 30.13										
<b>11 30 15.43 Air Quality</b>											
0010	<b>AIR QUALITY</b>										
2450	Dehumidifier, portable, automatic, 15 pint		1 Elec	4	2	Ea.	208	83.50		291.50	365
2550	40 pint		"	3.75	2.133		247	89		336	415
3550	Heater, electric, built-in, 1250 watt, ceiling type, minimum		"	4	2		125	83.50		208.50	273
3600	Maximum		"	3	2.667		184	111		295	385

# 11 30 Residential Equipment

## 11 30 15 – Miscellaneous Residential Appliances

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
<b>11 30 15.43 Air Quality</b>										
3700	Wall type, minimum		1 Elec	4	2	Ea.	221	83.50	304.50	380
3750	Maximum			3	2.667		198	111	309	400
3900	1500 watt wall type, with blower			4	2		186	83.50	269.50	340
3950	3000 watt			3	2.667		515	111	626	745
4850	Humidifier, portable, 8 gallons/day						158		158	174
5000	15 gallons/day						207		207	227

## 11 30 33 – Retractable Stairs

### 11 30 33.10 Disappearing Stairway

0010	<b>DISAPPEARING STAIRWAY</b> No trim included									
0020	One piece, yellow pine, 8'-0" ceiling		2 Corp	4	4	Ea.	278	145	423	545
0030	9'-0" ceiling			4	4		305	145	450	575
0040	10'-0" ceiling			3	5.333		250	193	443	590
0050	11'-0" ceiling			3	5.333		360	193	553	710
0060	12'-0" ceiling			3	5.333		355	193	548	705
0100	Custom grade, pine, 8'-6" ceiling, minimum		1 Carp	4	2		129	72.50	201.50	261
0150	Average			3.50	2.286		292	82.50	374.50	455
0200	Maximum			3	2.667		279	96.50	375.50	465
0500	Heavy duty, pivoted, from 7'-7" to 12'-10" floor to floor			3	2.667		1,375	96.50	1,471.50	1,650
0600	16'-0" ceiling			2	4		1,600	145	1,745	2,000
0800	Economy folding, pine, 8'-6" ceiling			4	2		178	72.50	250.50	315
0900	9'-6" ceiling			4	2		232	72.50	304.50	375
1100	Automatic electric, aluminum, floor to floor height, 8' to 9'		2 Corp	1	16	↓	9,200	580	9,780	11,100

# 11 32 Unit Kitchens

## 11 32 13 – Metal Unit Kitchens

### 11 32 13.10 Commercial Unit Kitchens

0010	<b>COMMERCIAL UNIT KITCHENS</b>									
1500	Combination range, refrigerator and sink, 30" wide, minimum		1-1	2	5	Ea.	710	204	914	1,125
1550	Maximum			1	10		1,100	410	1,510	1,875
1570	60" wide, average			1.40	7.143		1,225	292	1,517	1,825
1590	72" wide, average			1.20	8.333	↓	2,000	340	2,340	2,750

# 11 41 Foodservice Storage Equipment

## 11 41 13 – Refrigerated Food Storage Cases

### 11 41 13.30 Wine Cellar

0010	<b>WINE CELLAR</b> , refrigerated, Redwood interior, carpeted, walk-in type									
0020	6'-8" high, including racks									
0200	80" W x 48" D for 900 bottles		2 Carp	1.50	10.667	Ea.	4,200	385	4,585	5,250
0250	80" W x 72" D for 1300 bottles			1.33	12.030		5,725	435	6,160	7,025
0300	80" W x 94" D for 1900 bottles			1.17	13.675	↓	6,725	495	7,220	8,200

# 11 81 Facility Maintenance Equipment

## 11 81 19 – Vacuum Cleaning Systems

11 81 19.10 Vacuum Cleaning				Daily Crew	Labor-Output	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P	
<b>0010 VACUUM CLEANING</b>													
0020 Central, 3 inlet, residential				1 Skwk	.90	8.889	Total	1,325	330		1,655	2,025	
0400 5 inlet system, residential					.50	16		2,025	590		2,615	3,200	
0600 7 inlet system, commercial					.40	20		2,600	740		3,340	4,075	
0800 9 inlet system, residential							▼ .30	26.667	▼	4,225	985	5,210	6,275

## Division Notes

## Estimating Tips

### General

- The items in this division are usually priced per square foot or each. Most of these items are purchased by the owner and installed by the contractor. Do not assume the items in Division 12 will be purchased and installed by the contractor. Check the specifications for responsibilities and include receiving, storage, installation, and

mechanical and electrical hookups in the appropriate divisions.

- Some items in this division require some type of support system that is not usually furnished with the item. Examples of these systems include blocking for the attachment of casework and heavy drapery rods. The required blocking must be added to the estimate in the appropriate division.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

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# 12 21 Window Blinds

## 12 21 13 – Horizontal Louver Blinds

12 21 13.13 Metal Horizontal Louver Blinds		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Ind O&P
0010	METAL HORIZONTAL LOUVER BLINDS	1 Corp	590	.014	S.F.	5.80	.49		6.29	7.20
0020	Horizontal, 1" aluminum slats, solid color, stock									
<b>12 21 13.33 Vinyl Horizontal Louver Blinds</b>										
0010	VINYL HORIZONTAL LOUVER BLINDS	1 Corp	30	.267	Ea.	32.50	9.65	42.15	52	
0015	1" composite, 48" wide, 48" high									
0020	72" high									
0030	60" wide, 60" high									
0040	72" high									
0050	72" wide x 72" high									

# 12 22 Curtains and Drapes

## 12 22 16 – Drapery Track and Accessories

### 12 22 16.10 Drapery Hardware

0010 DRAPERY HARDWARE		1 Corp	59	.136	L.F.	6.85	4.90	11.75	15.55
0030	Standard traverse, per foot, minimum								
0100	Maximum		51	.157	"	15.10	5.65	20.75	26
0200	Decorative traverse, 28" to 48", minimum		22	.364	Ea.	24.50	13.15	37.65	48.50
0220	Maximum		21	.381		55	13.75	68.75	83
0300	48" to 84", minimum		20	.400		27	14.45	41.45	53.50
0320	Maximum		19	.421		70	15.20	85.20	102
0400	66" to 120", minimum		18	.444		37	16.05	53.05	67
0420	Maximum		17	.471		107	17	124	146
0500	84" to 156", minimum		16	.500		47	18.10	65.10	81.50
0520	Maximum		15	.533		146	19.30	165.30	193
0600	130" to 240", minimum		14	.571		68.50	20.50	89	110
0620	Maximum		13	.615		202	22.50	224.50	259
0700	Slide rings, each, minimum					1.30		1.30	1.43
0720	Maximum					2.17		2.17	2.39
4000	Traverse rods, adjustable, 28" to 48"	1 Corp	22	.364		37	13.15	50.15	62.50
4020	48" to 84"		20	.400		47.50	14.45	61.95	76
4040	66" to 120"		18	.444		57.50	16.05	73.55	89.50
4060	84" to 156"		16	.500		65	18.10	83.10	101
4080	100" to 180"		14	.571		76	20.50	96.50	118
4100	228" to 312"		13	.615		105	22.50	127.50	153
4500	Curtain rod, 28" to 48", single		22	.364		11.55	13.15	24.70	34
4510	Double		22	.364		19.60	13.15	32.75	43
4520	48" to 86", single		20	.400		19.70	14.45	34.15	45.50
4530	Double		20	.400		33	14.45	47.45	60
4540	66" to 120", single		18	.444		33	16.05	49.05	63
4550	Double		18	.444		51.50	16.05	67.55	83
4600	Valance, pinch pleated fabric, 12" deep, up to 54" long, minimum					43		43	47.50
4610	Maximum					107		107	118
4620	Up to 77" long, minimum					87.50		87.50	96
4630	Maximum					173		173	190
5000	Stationary rods, first 2'					8.30		8.30	9.15

# 12 23 Interior Shutters

## 12 23 13 – Wood Interior Shutters

12 23 13.10 Wood Interior Shutters		Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
					Labor	Equipment		
0010	WOOD INTERIOR SHUTTERS, louvered							
0200	Two panel, 27" wide, 36" high	1 Carp	5	1.600	Set	173	58	231
0300	33" wide, 36" high		5	1.600		223	58	281
0500	47" wide, 36" high		5	1.600		299	58	357
1000	Four panel, 27" wide, 36" high		5	1.600		161	58	219
1100	33" wide, 36" high		5	1.600		206	58	264
1300	47" wide, 36" high		5	1.600		275	58	333
1400	Plantation shutters, 16" x 48"		5	1.600	Ea.	146	58	204
1450	16" x 96"		4	2		240	72.50	312.50
1460	36" x 96"		3	2.667		530	96.50	626.50
								740

## 12 23 13.13 Wood Panels

0010 WOOD PANELS		Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
					Pr.			
3000	Wood folding panels with movable louvers, 7" x 20" each	1 Carp	17	.471	Pr.	95.50	17	112.50
3300	8" x 28" each		17	.471		95.50	17	112.50
3450	9" x 36" each		17	.471		110	17	127
3600	10" x 40" each		17	.471		120	17	137
4000	Fixed louver type, stock units, 8" x 20" each		17	.471		107	17	124
4150	10" x 28" each		17	.471		90.50	17	107.50
4300	12" x 36" each		17	.471		107	17	124
4450	18" x 40" each		17	.471		153	17	170
5000	Insert panel type, stock, 7" x 20" each		17	.471		28	17	45
5150	8" x 28" each		17	.471		51	17	68
5300	9" x 36" each		17	.471		64.50	17	81.50
5450	10" x 40" each		17	.471		69.50	17	86.50
5600	Raised panel type, stock, 10" x 24" each		17	.471		118	17	135
5650	12" x 26" each		17	.471		118	17	135
5700	14" x 30" each		17	.471		131	17	148
5750	16" x 36" each		17	.471		144	17	161
6000	For custom built pine, add					22%		
6500	For custom built hardwood blinds, add					42%		

# 12 24 Window Shades

## 12 24 13 – Roller Window Shades

12 24 13.10 Shades		Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
					S.E.			
0010	SHADES							
0020	Basswood, roll-up, stain finish, 3/8" slats	1 Carp	300	.027	S.E.	23	.96	23.96
5011	Insulative shades	G	125	.064		17.15	2.31	19.46
6011	Solar screening, fiberglass	G	85	.094		8.25	3.40	11.65
8011	Interior insulative shutter	G	1 Carp	.471	Pr.	18.35	17	35.35
8111	Stock unit, 15" x 60"							48

# 12 32 Manufactured Wood Casing

## 12 32 23 – Hardwood Casing

		Daily Crew	Labor- Output	Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
<b>12 32 23.10 Manufactured Wood Casing, Stock Units</b>										
0010	<b>MANUFACTURED WOOD CASEWORK, STOCK UNITS</b>									
0700	Kitchen base cabinets, hardwood, not incl. counter tops,									
0710	24" deep, 35" high, prefinished									
0800	One top drawer, one door below, 12" wide	2 Corp	24.80	.645	Ea.	325	23.50		348.50	395
0820	15" wide		24	.667		385	24		409	465
0840	18" wide		23.30	.687		299	25		324	370
0860	21" wide		22.70	.705		315	25.50		340.50	385
0880	24" wide		22.30	.717		435	26		461	525
1000	Four drawers, 12" wide		24.80	.645		330	23.50		353.50	405
1020	15" wide		24	.667		335	24		359	410
1040	18" wide		23.30	.687		370	25		395	445
1060	24" wide		22.30	.717		415	26		441	505
1200	Two top drawers, two doors below, 27" wide		22	.727		455	26.50		481.50	545
1220	30" wide		21.40	.748		515	27		542	615
1240	33" wide		20.90	.766		545	27.50		572.50	645
1260	36" wide		20.30	.788		570	28.50		598.50	675
1280	42" wide		19.80	.808		595	29		624	705
1300	48" wide		18.90	.847		695	30.50		725.50	815
1500	Range or sink base, two doors below, 30" wide		21.40	.748		460	27		487	550
1520	33" wide		20.90	.766		485	27.50		512.50	580
1540	36" wide		20.30	.788		495	28.50		523.50	590
1560	42" wide		19.80	.808		540	29		569	645
1580	48" wide		18.90	.847		545	30.50		575.50	650
1800	For sink front units, deduct					188			188	207
2000	Corner base cabinets, 36" wide, standard	2 Corp	18	.889		790	32		822	925
2100	Lazy Susan with revolving door	"	16.50	.970		1,025	35		1,060	1,175
4000	Kitchen wall cabinets, hardwood, 12" deep with two doors	2 Corp	24.80	.645	Ea.	279	23.50		302.50	345
4050	12" high, 30" wide		24	.667		285	24		309	355
4400	15" high, 30" wide		23.30	.687		350	25		375	425
4420	33" wide		22.70	.705		355	25.50		380.50	430
4440	36" wide		22.70	.705		410	25.50		435.50	490
4450	42" wide		23.30	.687		415	25		440	500
4700	24" high, 30" wide		22.70	.705		485	25.50		510.50	575
4720	36" wide		22.30	.717		296	26		322	370
5000	30" high, one door, 12" wide		22	.727		280	26.50		306.50	355
5020	15" wide		21.40	.748		289	27		316	365
5040	18" wide		20.90	.766		315	27.50		342.50	395
5060	24" wide		20.30	.788		375	28.50		403.50	460
5300	Two doors, 27" wide		19.80	.808		430	29		459	525
5320	30" wide		19.30	.829		485	30		515	585
5340	36" wide		18.80	.851		465	31		496	560
5360	42" wide		18.50	.865		535	31.50		566.50	635
5380	48" wide		18.40	.870		625	31.50		656.50	735
6000	Corner wall, 30" high, 24" wide		18	.889		435	32		467	535
6050	30" wide		17.20	.930		445	33.50		478.50	545
6100	36" wide		16.50	.970		475	35		510	585
6500	Revolving Lazy Susan		15.20	1.053		139	38		177	216
7000	Broom cabinet, 84" high, 24" deep, 18" wide		10	1.600		785	58		843	960
7500	Oven cabinets, 84" high, 24" deep, 27" wide		8	2		1,075	72.50		1,147.50	1,300
7750	Valance board trim		396	.040	L.F.	20.50	1.46		21.96	25.50
7780	Toe kick trim	1 Corp	256	.031	"	3.61	1.13		4.74	5.85
7790	Base cabinet corner filler	*	16	.500	Ea.	50	18.10		68.10	84.50

# 12 32 Manufactured Wood Casing

## 12 32 23 – Hardwood Casing

12 32 23.10 Manufactured Wood Casing, Stock Units				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
		Crew					Labor	Equipment			
7800	Cabinet filler, 3" x 24"	1 Carp	20	.400	Ea.		19.95	14.45		34.40	46
7810	3" x 30"		20	.400			25	14.45		39.45	51.50
7820	3" x 42"		18	.444			35	16.05		51.05	65
7830	3" x 80"		16	.500			66.50	18.10		84.60	103
7850	Cabinet panel		50	.160	S.F.		11.20	5.80		17	22
9000	For deluxe models of all cabinets, add						40%				
9500	For custom built in place, add						25%	10%			
9558	Rule of thumb, kitchen cabinets, not including										
9560	appliances & counter top, minimum	2 Carp	30	.533	L.F.		215	19.30		234.30	268
9600	Maximum	"	25	.640	"		460	23		483	545

## 12 32 23.30 Manufactured Wood Casing Vanities

0010 MANUFACTURED WOOD CASEWORK VANITIES				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
		Crew					Labor	Equipment			
8000	Vanity bases, 2 doors, 30" high, 21" deep, 24" wide	2 Carp	20	.800	Ea.		420	29		449	510
8050	30" wide		16	1			460	36		496	565
8100	36" wide		13.33	1.200			400	43.50		443.50	510
8150	48" wide		11.43	1.400			610	50.50		660.50	755
9000	For deluxe models of all vanities, add to above						40%				
9500	For custom built in place, add to above						25%	10%			

## 12 32 23.35 Manufactured Wood Casing Hardware

0010 MANUFACTURED WOOD CASEWORK HARDWARE				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
		Crew					Labor	Equipment			
1000	Catches, minimum	1 Carp	235	.034	Ea.		1.56	1.23		2.79	3.74
1020	Average		119.40	.067			4.37	2.42		6.79	8.80
1040	Maximum		80	.100			9.25	3.62		12.87	16.15
2000	Door/drawer pulls, handles										
2200	Handles and pulls, projecting, metal, minimum	1 Carp	48	.167	Ea.		5.75	6.05		11.80	16.20
2220	Average		42	.190			8.75	6.90		15.65	21
2240	Maximum		36	.222			11.45	8.05		19.50	26
2300	Wood, minimum		48	.167			5.85	6.05		11.90	16.35
2320	Average		42	.190			7.85	6.90		14.75	19.90
2340	Maximum		36	.222			10.80	8.05		18.85	25
2600	Flush, metal, minimum		48	.167			5.85	6.05		11.90	16.35
2620	Average		42	.190			7.95	6.90		14.85	20
2640	Maximum		36	.222			10.95	8.05		19	25.50
3000	Drawer tracks/glides, minimum		48	.167	Pr.		9.60	6.05		15.65	20.50
3020	Average		32	.250			17	9.05		26.05	33.50
3040	Maximum		24	.333			28	12.05		40.05	50.50
4000	Cabinet hinges, minimum		160	.050			3.40	1.81		5.21	6.70
4020	Average		95.24	.084			5.55	3.04		8.59	11.10
4040	Maximum		68	.118			14.20	4.25		18.45	22.50

# 12 34 Manufactured Plastic Casing

## 12 34 16 – Manufactured Solid-Plastic Casing

### 12 34 16.10 Outdoor Casing

0010 OUTDOOR CASEWORK				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
		Crew					Labor	Equipment			
0020	Cabinet, base, sink/range, 36"	2 Carp	20.30	.788	Ea.		1,600	28.50		1,628.50	1,800
0100	Base, 36"		20.30	.788			1,825	28.50		1,853.50	2,075
0200	Filler strip, 1" x 30"		158	.101			35	3.66		38.66	44.50

# 12 36 Countertops

## 12 36 16 – Metal Countertops

12 36 16.10 Stainless Steel Countertops		Crew	Daily Output	Labor Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
0010	STAINLESS STEEL COUNTERTOPS									
3200	Stainless steel, custom	1 Corp	24	.333	S.F.	184	12.05		196.05	223

## 12 36 19 – Wood Countertops

### 12 36 19.10 Maple Countertops

0010	MAPLE COUNTERTOPS									
2900	Solid, laminated, 1-1/2" thick, no splash	1 Corp	28	.286	L.F.	92	10.35		102.35	118
3000	With square splash		28	.286	"	109	10.35		119.35	137
3400	Recessed cutting block with trim, 16" x 20" x 1"		8	1	Ea.	113	36		149	184
3410	Replace cutting block only		8	1	"	96	36		132	165

## 12 36 23 – Plastic Countertops

### 12 36 23.13 Plastic-Laminate-Clad Countertops

0010	PLASTIC-LAMINATE-CLAD COUNTERTOPS									
0020	Stock, 24" wide w/backsplash, minimum	1 Corp	30	.267	L.F.	17.75	9.65		27.40	35.50
0100	Maximum		25	.320		42.50	11.55		54.05	65.50
0300	Custom plastic, 7/8" thick, aluminum molding, no splash		30	.267		35.50	9.65		45.15	55
0400	Cove splash		30	.267		47	9.65		56.65	67.50
0600	1-1/4" thick, no splash		28	.286		39.50	10.35		49.85	60.50
0700	Square splash		28	.286		44	10.35		54.35	65.50
0900	Square edge, plastic face, 7/8" thick, no splash		30	.267		34.50	9.65		44.15	54
1000	With splash		30	.267		45.50	9.65		55.15	66.50
1200	For stainless channel edge, 7/8" thick, add					3.82			3.82	4.20
1300	1-1/4" thick, add					4.46			4.46	4.91
1500	For solid color suede finish, add					5.95			5.95	6.55
1700	For end splash, add				Ea.	22			22	24
1901	For cut outs, standard, add, minimum	1 Corp	32	.250			9.05		9.05	14.85
2000	Maximum		8	1		7.30	36		43.30	67.50
2010	Cut out in backsplash for elec. wall outlet		38	.211			7.60		7.60	12.50
2020	Cut out for sink		20	.400			14.45		14.45	24
2030	Cut out for stove top		18	.444			16.05		16.05	26.50
2100	Postformed, including backsplash and front edge		30	.267	L.F.	12.55	9.65		22.20	29.50
2110	Mitred, add		12	.667	Ea.		24		24	39.50
2200	Built-in place, 25" wide, plastic laminate		25	.320	L.F.	68.50	11.55		80.05	94

## 12 36 33 – Tile Countertops

### 12 36 33.10 Ceramic Tile Countertops

0010	CERAMIC TILE COUNTERTOPS									
2300	Ceramic tile mosaic	1 Corp	25	.320	L.F.	41	11.55		52.55	64

## 12 36 40 – Stone Countertops

### 12 36 40.10 Natural Stone Countertops

0010	NATURAL STONE COUNTERTOPS									
2500	Marble, stock, with splash, 1/2" thick, minimum	1 Bric	17	.471	L.F.	52.50	16.65		69.15	85.50
2700	3/4" thick, maximum		13	.615		129	22		151	178
2800	Granite, average, 1-1/4" thick, 24" wide, no splash		13.01	.615		171	22		193	224

## 12 36 61 – Simulated Stone Countertops

### 12 36 61.16 Solid Surface Countertops

0010	SOLID SURFACE COUNTERTOPS, Acrylic polymer									
2000	Pricing for order of 1-50 L.F.									
2100	25" wide, solid colors	2 Corp	20	.800	L.F.	70	29		99	125
2200	Patterned colors		20	.800		89.50	29		118.50	146
2300	Premium patterned colors		20	.800		119	29		148	179
2400	With silicone attached 4" backsplash, solid colors		19	.842		82.50	30.50		113	141

# 12 36 Countertops

## 12 36 61 – Simulated Stone Countertops

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
		Crew		L.F.		Labor	Equipment	Total	
12 36 61.16 Solid Surface Countertops									
2500	Patterned colors	2 Carp	19	.842	L.F.	104	30.50	134.50	165
2600	Premium patterned colors		19	.842		130	30.50	160.50	193
2700	With hard seam attached 4" backsplash, solid colors		15	1.067		82.50	38.50	121	154
2800	Patterned colors		15	1.067		104	38.50	142.50	179
2900	Premium patterned colors		15	1.067		130	38.50	168.50	207
3800	Sinks, pricing for order of 1-50 units								
3900	Single bowl, hard seamed, solid colors, 13" x 17"	1 Corp	2	4	Ea.	505	145	650	795
4000	10" x 15"		4.55	1.758		234	63.50	297.50	360
4100	Cutouts for sinks		5.25	1.524			55	55	90.50

## 12 36 61.17 Solid Surface Vanity Tops

0010 SOLID SURFACE VANITY TOPS									
0015	Solid surface, center bowl, 17" x 19"	1 Corp	12	.667	Ea.	171	24	195	228
0020	19" x 25"		12	.667		216	24	240	277
0030	19" x 31"		12	.667		243	24	267	305
0040	19" x 37"		12	.667		283	24	307	350
0050	22" x 25"		10	.800		335	29	364	420
0060	22" x 31"		10	.800		395	29	424	485
0070	22" x 37"		10	.800		460	29	489	555
0080	22" x 43"		10	.800		525	29	554	630
0090	22" x 49"		10	.800		575	29	604	680
0110	22" x 55"		8	1		425	36	461	525
0120	22" x 61"		8	1		480	36	516	590
0220	Double bowl, 22" x 61"		8	1		535	36	571	650
0230	Double bowl, 22" x 73"		8	1		1,075	36	1,111	1,250
0240	For aggregate colors, add						35%		
0250	For faucets and fittings, see Section 22 41 39.10								

## 12 36 61.19 Quartz Agglomerate Countertops

0010 QUARTZ AGGLOMERATE COUNTERTOPS									
0100	25" wide, 4" backsplash, color group A, minimum	2 Corp	15	1.067	L.F.	68	38.50	106.50	139
0110	Maximum		15	1.067		95	38.50	133.50	169
0120	Color group B, minimum		15	1.067		77	38.50	115.50	148
0130	Maximum		15	1.067		108	38.50	146.50	183
0140	Color group C, minimum		15	1.067		82	38.50	120.50	154
0150	Maximum		15	1.067		125	38.50	163.50	202
0160	Color group D, minimum		15	1.067		89	38.50	127.50	162
0170	Maximum		15	1.067		124	38.50	162.50	200

## Division Notes

## Estimating Tips

### General

- The items and systems in this division are usually estimated, purchased, supplied, and installed as a unit by one or more subcontractors. The estimator must ensure that all parties are operating from the same set of specifications and assumptions, and that all necessary items are estimated and will be provided. Many times the complex items and systems are covered, but the more common ones, such as excavation or a crane, are overlooked for the very reason that everyone assumes nobody could miss them. The estimator should be the central focus and be able to ensure that all systems are complete.
- It is important to consider factors such as site conditions, weather, shape and size of building, as well as labor availability as they may impact the overall cost of erecting special structures and systems included in this division.
- Another area where problems can develop in this division is at the interface between systems.

The estimator must ensure, for instance, that anchor bolts, nuts, and washers are estimated and included for the air-supported structures and pre-engineered buildings to be bolted to their foundations. Utility supply is a common area where essential items or pieces of equipment can be missed or overlooked because each subcontractor may feel it is another's responsibility. The estimator should also be aware of certain items which may be supplied as part of a package but installed by others, and ensure that the installing contractor's estimate includes the cost of installation. Conversely, the estimator must also ensure that items are not costed by two different subcontractors, resulting in an inflated overall estimate.

as a shell. Pricing is based on the size and structural design parameters stated in the reference section. Additional features, such as windows and doors with their related structural framing, must also be included by the estimator. Here again, the estimator must have a clear understanding of the scope of each portion of the work and all the necessary interfaces.

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

### 13 30 00 Special Structures

- The foundations and floor slab, as well as rough mechanical and electrical, should be estimated, as this work is required for the assembly and erection of the structure. Generally, as noted in the data set, the pre-engineered building comes

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# 13 11 Swimming Pools

## 13 11 13 – Below-Grade Swimming Pools

13 11 13.50 Swimming Pools			Daily Crew	Output	Labor Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	<b>SWIMMING POOLS</b> Residential in-ground, vinyl lined										
0020	Concrete sides, w/equip, sand bottom	R131113-20	B-52	300	.187	SF Surf	28.50	5.75	1.95	36.20	43
0100	Metal or polystyrene sides		B-14	410	.117		24	3.45	.52	27.97	32.50
0200	Add for vermiculite bottom						1.82			1.82	2
0500	Gunite bottom and sides, white plaster finish										
0600	12' x 30' pool		B-52	145	.386	SF Surf	53	11.90	4.03	68.93	82.50
0720	16' x 32' pool			155	.361		48	11.15	3.77	62.92	75
0750	20' x 40' pool			250	.224		42.50	6.90	2.34	51.74	61
0810	Concrete bottom and sides, tile finish										
0820	12' x 30' pool		B-52	80	.700	SF Surf	53.50	21.50	7.30	82.30	103
0830	16' x 32' pool			95	.589		44.50	18.20	6.15	68.85	86
0840	20' x 40' pool			130	.431		35.50	13.30	4.50	53.30	66
1600	For water heating system, see Section 23 52 28.10										
1700	Filtration and deck equipment only, as % of total						Total			20%	20%
3000	Painting pools, preparation + 3 coats, 20' x 40' pool, epoxy		2 Pord	.33	48.485		1,450	1,475		2,925	3,975
3100	Rubber base paint, 18 gallons		"	.33	48.485		1,250	1,475		2,725	3,750

## 13 11 23 – On-Grade Swimming Pools

13 11 23.50 Swimming Pools			Daily Crew	Output	Labor Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	<b>SWIMMING POOLS</b> Residential above ground, steel construction										
0100	Round, 15' diam.		B-80A	3	8	Ea.	895	222	273	1,390	1,650
0120	18' diam.			2.50	9.600		1,025	267	330	1,622	1,925
0140	21' diam.			2	12		1,175	335	410	1,920	2,300
0160	24' diam.			1.80	13.333		1,350	370	455	2,175	2,600
0180	27' diam.			1.50	16		1,550	445	545	2,540	3,050
0200	30' diam.			1	24		1,575	665	820	3,060	3,750
0220	Oval, 12' x 24'			2.30	10.435		1,700	290	355	2,345	2,725
0240	15' x 30'			1.80	13.333		1,925	370	455	2,750	3,225
0260	18' x 33'			"	1	24	2,150	665	820	3,635	4,350

## 13 11 46 – Swimming Pool Accessories

13 11 46.50 Swimming Pool Equipment			Daily Corp	Output	Labor Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	<b>SWIMMING POOL EQUIPMENT</b>										
0020	Diving stand, stainless steel, 3 meter		2 Corp	.40	40	Ea.	18,000	1,450		19,450	22,200
0300	1 meter			2.70	5.926		10,900	214		11,114	12,400
0600	Diving boards, 16' long, aluminum			2.70	5.926		4,275	214		4,489	5,050
0700	Fiberglass			2.70	5.926		3,475	214		3,689	4,150
0800	14' long, aluminum			2.70	5.926		3,925	214		4,139	4,650
0850	Fiberglass			2.70	5.926		3,675	214		3,889	4,400
1100	Bulkhead, movable, PVC, 8'-2" wide		2 Clab	8	2		3,075	55.50		3,130.50	3,500
1120	7'-9" wide			8	2		2,975	55.50		3,030.50	3,375
1140	7'-3" wide			8	2		2,300	55.50		2,355.50	2,625
1160	6'-9" wide			8	2		2,300	55.50		2,355.50	2,625
1200	Ladders, heavy duty, stainless steel, 2 tread		2 Corp	7	2.286		960	82.50		1,042.50	1,175
1500	4 tread		"	6	2.667		910	96.50		1,006.50	1,150
2100	Lights, underwater, 12 volt, with transformer, 300 watt		1 Elec	1	8		365	335		700	950
2200	110 volt, 500 watt, standard		"	1	8		291	335		626	865
3000	Pool covers, reinforced vinyl		3 Clab	1800	.013	S.F.	1.28	.37		1.65	2.02
3100	Vinyl, for winter, 400 S.F. max pool surface			3200	.008		.23	.21		.44	.59
3200	With water tubes, 400 S.F. max pool surface			3000	.008		.34	.22		.56	.74
3250	Sealed air bubble polyethylene solar blanket, 16 mils						.35			.35	.39
3300	Slides, tubular, fiberglass, aluminum handrails & ladder, 5'-0", straight		2 Corp	1.60	10	Ea.	3,850	360		4,210	4,825
3320	8'-0", curved		"	3	5.333	"	8,000	193		8,193	9,125

# 13 12 Fountains

## 13 12 13 – Exterior Fountains

13 12 13.10 Outdoor Fountains		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	OUTDOOR FOUNTAINS						Labor	Equipment	
0100	Outdoor fountain, 48" high with bowl and figures		2 Clab	2	8 Ea.	435	222	657	845
0200	Commercial, concrete or cast stone, 40-60" H, simple			2	8	955	222	1,177	1,425
0220	Average			2	8	1,850	222	2,072	2,400
0240	Ornate			2	8	4,200	222	4,422	5,000
0260	Metal, 72" high			2	8	1,500	222	1,722	2,025
0280	90" high			2	8	2,250	222	2,472	2,850
0300	120" high			2	8	5,275	222	5,497	6,175
0320	Resin or fiberglass, 40-60" H, wall type			2	8	675	222	897	1,100
0340	Waterfall type			2	8	1,150	222	1,372	1,625

## 13 12 23 – Interior Fountains

### 13 12 23.10 Indoor Fountains

0010	INDOOR FOUNTAINS		2 Clab	2	8 Ea.	425	222	647	830
0100	Commercial, floor type, resin or fiberglass, lighted, cascade type			2	8	490	222	712	905
0120	Tiered type			2	8	315	222	537	710

# 13 17 Tubs and Pools

## 13 17 13 – Hot Tubs

### 13 17 13.10 Redwood Hot Tub System

0010	REDWOOD HOT TUB SYSTEM		Q-1	1	16 Ea.	3,250	585	3,835	4,525
7050	4' diameter x 4' deep			.80	20	4,975	730	5,705	6,675
7150	6' diameter x 4' deep			.80	20	7,300	730	8,030	9,225
7200	8' diameter x 4' deep								

## 13 17 33 – Whirlpool Tubs

### 13 17 33.10 Whirlpool Bath

0010	WHIRLPOOL BATH		Q-1	1	16 Ea.	910	585	1,495	1,950
6000	Whirlpool, bath with vented overflow, molded fiberglass								
6100	66" x 36" x 24"			1	16	1,450	585	2,035	2,550
6400	72" x 36" x 21"			1	16	1,450	585	2,035	2,550
6500	60" x 34" x 21"			1	16	1,450	585	2,035	2,550
6600	72" x 42" x 23"			1	16	1,350	585	1,935	2,450

# 13 24 Special Activity Rooms

## 13 24 16 – Saunas

### 13 24 16.50 Saunas and Heaters

0010	SAUNAS AND HEATERS		L-7	2.20	11.818 Ea.	5,250	370	5,620	6,400
0020	Prefabricated, incl. heater & controls, 7' high, 6' x 4', C/C			2	13	4,325	410	4,735	5,450
0050	6' x 4', C/P			2	13	5,300	410	5,710	6,500
0400	6' x 5', C/C			2	13	5,225	410	5,635	6,425
0450	6' x 5', C/P			1.80	14,444	6,950	455	7,405	8,400
0600	6' x 6', C/C			1.80	14,444	5,525	455	5,980	6,825
0650	6' x 6', C/P			1.60	16,250	7,325	510	7,835	8,900
0800	6' x 9', C/C			1.60	16,250	6,500	510	7,010	8,000
0850	6' x 9', C/P			1.10	23,636	11,500	740	12,240	13,900
1000	8' x 12', C/C			1.10	23,636	8,575	740	9,315	10,700
1050	8' x 12', C/P			1.40	18,571	9,600	580	10,180	11,600
1200	8' x 8', C/C								

# 13 24 Special Activity Rooms

## 13 24 16 – Saunas

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
				Crew			Material	Labor	Equipment		
<b>13 24 16.50 Saunas and Heaters</b>											
1250	8' x 8', C/P			L-7	1.40	18.571	Ea.	7,200	580		7,780
1400	8' x 10', C/C				1.20	21.667		8,925	680		9,605
1450	8' x 10', C/P				1.20	21.667		8,375	680		9,055
1600	10' x 12', C/C				1	26		13,500	815		14,315
1650	10' x 12', C/P				1	26		13,500	815		14,315
1700	Door only, cedar, 2' x 6', w/ 1' x 4' tempered insulated glass window			2 Corp	3.40	4.706		610	170		780
1800	Prehung, incl. jambs, pulls & hardware			"	12	1.333		620	48		668
2500	Heaters only (incl. above), wall mounted, to 200 C.F.							1,025			1,025
2750	To 300 C.F.							1,150			1,150
3000	Floor standing, to 720 C.F., 10,000 watts, w/controls			1 Elec	3	2.667		2,575	111		2,686
3250	To 1,000 C.F., 16,000 watts			"	3	2.667		3,725	111		3,836
											4,275

## 13 24 26 – Steam Baths

### 13 24 26.50 Steam Baths and Components

<b>0010 STEAM BATHS AND COMPONENTS</b>											
0020	Heater, timer & head, single, to 140 C.F.			1 Plum	1.20	6.667	Ea.	2,350	271		2,621
0500	To 300 C.F.			"	1.10	7.273		2,700	295		2,995
2700	Conversion unit for residential tub, including door							4,050			4,050

# 13 34 Fabricated Engineered Structures

## 13 34 13 – Glazed Structures

### 13 34 13.13 Greenhouses

<b>0010 GREENHOUSES</b> , Shell only, stock units, not incl. 2' stub walls, foundation, floors, heat or compartments											
0300 Residential type, free standing, 8'-6" long x 7'-6" wide				2 Corp	59	.271	SF Flr.	24	9.80		33.80
0400 10'-6" wide					85	.188		42.50	6.80		49.30
0600 13'-6" wide					108	.148		45	5.35		50.35
0700 17'-0" wide					160	.100		43.50	3.62		47.12
0900 Lean-to type, 3'-10" wide					34	.471		43.50	17		60.50
1000 6'-10" wide					58	.276		28	9.95		37.95
1100 Wall mounted to existing window, 3' x 3'				1 Corp	4	2	Ea.	2,225	72.50		2,297.50
1120 4' x 5'				"	3	2.667	"	2,600	96.50		2,696.50
1200 Deluxe quality, free standing, 7'-6" wide				2 Corp	55	.291	SF Flr.	87.50	10.50		98
1220 10'-6" wide					81	.198		65	7.15		72.15
1240 13'-6" wide					104	.154		54	5.55		59.55
1260 17'-0" wide					150	.107		51.50	3.86		55.36
1400 Lean-to type, 3'-10" wide					31	.516		107	18.65		125.65
1420 6'-10" wide					55	.291		77	10.50		87.50
1440 8'-0" wide					97	.165		64.50	5.95		70.45
											81

### 13 34 13.19 Swimming Pool Enclosures

<b>0010 SWIMMING POOL ENCLOSURES</b> Translucent, free standing											
0020 not including foundations, heat or light											
0200 Economy				2 Corp	200	.080	SF Hor.	46.50	2.89		49.39
0600 Deluxe				"	70	.229	"	103	8.25		111.25

## 13 34 63 – Natural Fiber Construction

### 13 34 63.50 Straw Bale Construction

<b>0010 STRAW BALE CONSTRUCTION</b>											
2020 Straw bales in walls w/modified post and beam frame				G	2 Corp	320	.050 S.F.	6.85	1.81		8.66

### Estimating Tips

#### General

- Many products in Division 14 will require some type of support or blocking for installation not included with the item itself. Examples are supports for conveyors or tube systems, attachment points for lifts, and footings for hoists or cranes. Add these supports in the appropriate division.

#### 14 10 00 Dumbwaiters

#### 14 20 00 Elevators

- Dumbwaiters and elevators are estimated and purchased in a method similar to buying a car. The manufacturer has a base unit with standard features. Added to this base unit price will be whatever options the owner or specifications require. Increased load capacity, additional vertical travel, additional stops, higher speed, and cab finish options are items to be considered. When developing an estimate for dumbwaiters and elevators, remember that some items needed by the installers may have to be included as part of the general contract.

Examples are:

- shaftway
- rail support brackets
- machine room
- electrical supply
- sill angles
- electrical connections
- pits
- roof penthouses
- pit ladders

Check the job specifications and drawings before pricing.

- Installation of elevators and handicapped lifts in historic structures can require significant additional costs. The associated structural requirements may involve cutting into and repairing finishes, moldings, flooring, etc. The estimator must account for these special conditions.

#### 14 30 00 Escalators and Moving Walks

- Escalators and moving walks are specialty items installed by specialty contractors. There are numerous options associated with these items. For specific options, contact a manufacturer or contractor. In

a method similar to estimating dumbwaiters and elevators, you should verify the extent of general contract work and add items as necessary.

#### 14 40 00 Lifts

#### 14 90 00 Other

#### Conveying Equipment

- Products such as correspondence lifts, chutes, and pneumatic tube systems, as well as other items specified in this subdivision, may require trained installers. The general contractor might not have any choice as to who will perform the installation or when it will be performed. Long lead times are often required for these products, making early decisions in scheduling necessary.

#### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 14 21 Electric Traction Elevators

## 14 21 33 – Electric Traction Residential Elevators

14 21 33.20 Residential Elevators		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Ind O&P
0010	RESIDENTIAL ELEVATORS								
7000	Residential, cab type, 1 floor, 2 stop, economy model	2 Elev	.20	80	Ea.	10,700	4,450	15,150	19,000
7100	Custom model	"	.10	160	"	18,100	8,900	27,000	34,300
7200	2 floor, 3 stop, economy model	"	.12	133	"	15,900	7,425	23,325	29,500
7300	Custom model	↓	.06	267	↓	26,000	14,800	40,800	52,500

# 14 42 Wheelchair Lifts

## 14 42 13 – Inclined Wheelchair Lifts

### 14 42 13.10 Inclined Wheelchair Lifts and Stairclimbers

0010 INCLINED WHEELCHAIR LIFTS AND STAIRCLIMBERS		2 Elev	1	16	Ea.	4,975	890	5,865	6,925
7700	Stair climber (chair lift), single seat, minimum	2 Elev	1	16	Ea.	4,975	890	5,865	6,925
7800	Maximum	"	.20	80	"	6,825	4,450	11,275	14,700

## Estimating Tips

Pipe for fire protection and all uses is located in Subdivisions 21 11 13 and 22 11 13.

The labor adjustment factors listed in Subdivision 22 01 02.20 also apply to Division 21.

Many, but not all, areas in the U.S. require backflow protection in the fire system. Insurance underwriters may have specific requirements for the type of materials to be installed or design requirements based on the hazard to be protected. Local jurisdictions may have requirements not covered by code. It is advisable to be aware of any special conditions.

For your reference, the following is a list of the most applicable Fire Codes and Standards, which may be purchased from the NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471.

- NFPA 1: Uniform Fire Code
- NFPA 10: Portable Fire Extinguishers
- NFPA 11: Low-, Medium-, and High-Expansion Foam
- NFPA 12: Carbon Dioxide Extinguishing Systems (Also companion 12A)
- NFPA 13: Installation of Sprinkler Systems (Also companion 13D, 13E, and 13R)
- NFPA 14: Installation of Standpipe and Hose Systems
- NFPA 15: Water Spray Fixed Systems for Fire Protection
- NFPA 16: Installation of Foam-Water Sprinkler and Foam-Water Spray Systems
- NFPA 17: Dry Chemical Extinguishing Systems (Also companion 17A)
- NFPA 18: Wetting Agents
- NFPA 20: Installation of Stationary Pumps for Fire Protection
- NFPA 22: Water Tanks for Private Fire Protection
- NFPA 24: Installation of Private Fire Service Mains and their Appurtenances
- NFPA 25: Inspection, Testing and Maintenance of Water-Based Fire Protection

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

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*Note: Trade Service, in part, has been used as a reference source for some of the material prices used in Division 21.*

# 21 05 Common Work Results for Fire Suppression

## 21 05 23 – General-Duty Valves for Water-Based Fire-Suppression Piping

21 05 23.50 General-Duty Valves		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Incl O&P	
0010 GENERAL-DUTY VALVES, for water-based fire suppression											
6200 Valves and components											
6210 Wet alarm, includes											
6220 retard chamber, trim, gauges, alarm line strainer											
6260 3" size		Q-12	3	5.333	Ea.	1,725	194		1,919	2,225	
6280 4" size		"	2	8		2,325	291		2,616	3,025	
6300 6" size		Q-13	4	8	▼	2,000	291		2,291	2,675	
6400 Dry alarm, includes											
6405 retard chamber, trim, gauges, alarm line strainer											
6410 1-1/2" size		Q-12	3	5.333	Ea.	5,100	194		5,294	5,925	
6420 2" size		"	3	5.333		5,100	194		5,294	5,925	
6430 3" size		"	3	5.333		5,175	194		5,369	6,025	
6440 4" size		▼	2	8		5,525	291		5,816	6,550	
6450 6" size		Q-13	3	10.667		6,375	390		6,765	7,625	
6460 8" size		"	3	10.667	▼	9,350	390		9,740	10,900	
6500 Check, swing, C.I. body, brass fittings, auto. ball drip											
6520 4" size		Q-12	3	5.333	Ea.	420	194		614	780	
6800 Check, wafer, butterfly type, C.I. body, bronze fittings											
6820 4" size		Q-12	4	4	Ea.	1,375	146		1,521	1,750	
8700 Floor control valve, includes trim and gauges, 2" size						6	2.667	1,000	97	1,097	1,250
8710 2-1/2" size		"	6	2.667		1,150	97		1,247	1,400	
8720 3" size		"	6	2.667		1,150	97		1,247	1,400	
8730 4" size		"	6	2.667		1,150	97		1,247	1,400	
8740 6" size		"	5	3.200		1,150	116		1,266	1,450	
8800 Flow control valve, includes trim and gauges, 2" size						2	8	5,475	291	5,766	6,500
8820 3" size		▼	1.50	10.667		6,275	390		6,665	7,525	
8840 4" size		Q-13	2.80	11.429		6,650	415		7,065	8,000	
8860 6" size		"	2	16		8,325	580		8,905	10,100	
9200 Pressure operated relief valve, brass body		1 Spri	18	.444	▼	695	18		713	795	
9600 Waterflow indicator, vane type, with recycling retard and											
9610 two single pole retard switches, 2" thru 6" pipe size		1 Spri	8	1	Ea.	171	40.50		211.50	256	

## 21 05 53 – Identification For Fire-Suppression Piping and Equipment

### 21 05 53.50 Identification

0010 IDENTIFICATION, for fire suppression piping and equipment										
3010 Plates and escutcheons for identification of fire dept. service/connections										
3100 Wall mount, round, aluminum										
3110 4"		1 Plum	96	.083	Ea.	25.50	3.38		28.88	34
3120 6"		"	96	.083	"	67	3.38		70.38	79
3200 Wall mount, round, cast brass										
3210 2-1/2"		1 Plum	70	.114	Ea.	61.50	4.64		66.14	75.50
3220 3"		"	70	.114		72	4.64		76.64	86.50
3230 4"		"	70	.114		123	4.64		127.64	144
3240 6"		"	70	.114		144	4.64		148.64	166
3250 For polished brass, add										
3260 For rough chrome, add										
3270 For polished chrome, add										
3300 Wall mount, square, cast brass										
3310 2-1/2"		1 Plum	70	.114	Ea.	164	4.64		168.64	189
3320 3"		"	70	.114	"	175	4.64		179.64	200
3330 For polished brass, add										
3340 For rough chrome, add										
3350 For polished chrome, add										

# 21 05 Common Work Results for Fire Suppression

## 21 05 53 – Identification For Fire-Suppression Piping and Equipment

21 05 53.50 Identification	Description	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
3400	Wall mount, cast brass, multiple outlets										
3410	rect. 2 way	Q-1	5	3.200	Ea.	227	117		344		440
3420	rect. 3 way		4	4		535	146		681		830
3430	rect. 4 way		4	4		670	146		816		975
3440	square 4 way		4	4		665	146		811		970
3450	rect. 6 way		3	5.333		915	195		1,110		1,325
3460	For polished brass, add										
3470	For rough chrome, add										
3480	For polished chrome, add										
3500	Base mount, free standing fdc, cast brass										
3510	4"	1 Plum	60	.133	Ea.	123	5.40		128.40		145
3520	6"	"	60	.133	"	164	5.40		169.40		190
3530	For polished brass, add										
3540	For rough chrome, add										
3550	For polished chrome, add										

# 21 11 Facility Fire-Suppression Water-Service Piping

## 21 11 13 – Facility Fire Suppression Piping

### 21 11 13.16 Pipe, Plastic

0010 PIPE, PLASTIC	Description	Q-12	420	.038	L.F.	1.46	1.39		2.85	3.88
0020	CPVC, fire suppression (C-UL-S, FM, NFPA 13, 13D & 13R)									
0030	Socket joint, no couplings or hangers									
0100	SDR 13.5 (ASTM F442)									
0120	3/4" diameter									
0130	1" diameter		340	.047		2.26	1.71		3.97	5.30
0140	1-1/4" diameter		260	.062		3.58	2.24		5.82	7.60
0150	1-1/2" diameter		190	.084		4.94	3.07		8.01	10.45
0160	2" diameter		140	.114		7.70	4.16		11.86	15.30
0170	2-1/2" diameter		130	.123		13.55	4.48		18.03	22.50
0180	3" diameter		120	.133		20.50	4.85		25.35	30.50

### 21 11 13.18 Pipe Fittings, Plastic

0010 PIPE FITTINGS, PLASTIC	Description	1 Plum	26	.308	Ea.	1.88	12.50		14.38	22.50
0020	CPVC, fire suppression (C-UL-S, FM, NFPA 13, 13D & 13R)									
0030	Socket joint									
0100	90° elbow									
0120	3/4"									
0130	1"		22.70	.352		4.12	14.30		18.42	28
0140	1-1/4"		20.20	.396		5.20	16.10		21.30	32.50
0150	1-1/2"		18.20	.440		7.40	17.85		25.25	37
0160	2"	Q-1	33.10	.483		9.20	17.65		26.85	39
0170	2-1/2"		24.20	.661		17.70	24		41.70	59
0180	3"		20.80	.769		24	28		52	72.50
0200	45° elbow									
0210	3/4"	1 Plum	26	.308	Ea.	2.58	12.50		15.08	23.50
0220	1"		22.70	.352		3.03	14.30		17.33	27
0230	1-1/4"		20.20	.396		4.38	16.10		20.48	31.50
0240	1-1/2"		18.20	.440		6.10	17.85		23.95	36
0250	2"	Q-1	33.10	.483		7.60	17.65		25.25	37.50
0260	2-1/2"		24.20	.661		13.65	24		37.65	54.50
0270	3"		20.80	.769		19.55	28		47.55	67.50
0300	Tee									

# 21 11 Facility Fire-Suppression Water-Service Piping

## 21 11 13 – Facility Fire Suppression Piping

21 11 13.18 Pipe Fittings, Plastic		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
					Material	Labor	Equipment		
0310	3/4"	1 Plum	.17.30	.462 Ea.	2.58	18.75		21.33	33.50
0320	1"		.15.20	.526	5.10	21.50		26.60	40.50
0330	1-1/4"		.13.50	.593	7.65	24		31.65	48
0340	1-1/2"		.12.10	.661	11.25	27		38.25	56.50
0350	2"	Q-1	.20	.800	16.65	29		45.65	66.50
0360	2-1/2"		.16.20	.988	27	36		63	89
0370	3"		.13.90	1.151	42	42		84	115
0400	Tee, reducing x any size								
0420	1"	1 Plum	.15.20	.526 Ea.	4.32	21.50		25.82	40
0430	1-1/4"		.13.50	.593	7.90	24		31.90	48
0440	1-1/2"		.12.10	.661	9.60	27		36.60	54.50
0450	2"	Q-1	.20	.800	18.60	29		47.60	68.50
0460	2-1/2"		.16.20	.988	21	36		57	82
0470	3"		.13.90	1.151	24.50	42		66.50	96
0500	Coupling								
0510	3/4"	1 Plum	.26	.308 Ea.	1.81	12.50		14.31	22.50
0520	1"		.22.70	.352	2.39	14.30		16.69	26
0530	1-1/4"		.20.20	.396	3.48	16.10		19.58	30.50
0540	1-1/2"		.18.20	.440	4.96	17.85		22.81	34.50
0550	2"	Q-1	.33.10	.483	6.70	17.65		24.35	36.50
0560	2-1/2"		.24.20	.661	10.25	24		34.25	51
0570	3"		.20.80	.769	13.30	28		41.30	60.50
0600	Coupling, reducing								
0610	1" x 3/4"	1 Plum	.22.70	.352 Ea.	2.39	14.30		16.69	26
0620	1-1/4" x 1"		.20.20	.396	3.61	16.10		19.71	30.50
0630	1-1/2" x 3/4"		.18.20	.440	5.40	17.85		23.25	35
0640	1-1/2" x 1"		.18.20	.440	5.20	17.85		23.05	35
0650	1-1/2" x 1-1/4"		.18.20	.440	4.96	17.85		22.81	34.50
0660	2" x 1"	Q-1	.33.10	.483	6.95	17.65		24.60	36.50
0670	2" x 1-1/2"	"	.33.10	.483	6.70	17.65		24.35	36.50
0700	Cross								
0720	3/4"	1 Plum	.13	.615 Ea.	4.06	25		29.06	45.50
0730	1"		.11.30	.708	5.10	28.50		33.60	52.50
0740	1-1/4"		.10.10	.792	7	32		39	60
0750	1-1/2"		.9.10	.879	9.65	35.50		45.15	69
0760	2"	Q-1	.16.60	.964	15.85	35		50.85	75
0770	2-1/2"	"	.12.10	1.322	35	48.50		83.50	117
0800	Cap								
0820	3/4"	1 Plum	.52	.154 Ea.	1.09	6.25		7.34	11.40
0830	1"		.45	.178	1.55	7.20		8.75	13.50
0840	1-1/4"		.40	.200	2.52	8.10		10.62	16.05
0850	1-1/2"		.36.40	.220	3.48	8.90		12.38	18.45
0860	2"	Q-1	.66	.242	5.20	8.85		14.05	20.50
0870	2-1/2"		.48.40	.331	7.55	12.10		19.65	28
0880	3"		.41.60	.385	12.15	14.05		26.20	36.50
0900	Adapter, sprinkler head, female w/metal thd. insert (s x FNPT)								
0920	3/4" x 1/2"	1 Plum	.52	.154 Ea.	4.96	6.25		11.21	15.65
0930	1" x 1/2"		.45	.178	5.25	7.20		12.45	17.55
0940	1" x 3/4"	"	.45	.178	8.25	7.20		15.45	21

# 21 11 Facility Fire-Suppression Water-Service Piping

## 21 11 16 – Facility Fire Hydrants

21 11 16.50 Fire Hydrants for Buildings		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Equipment	Total	Total Incl O&P
0010	<b>FIRE HYDRANTS FOR BUILDINGS</b>										
3750	Hydrants, wall, w/caps, single, flush, polished brass										
3800	2-1/2" x 2-1/2"	Q-12	5	3.200	Ea.	273	116			389	490
3840	2-1/2" x 3"		5	3.200		495	116			611	735
3860	3" x 3"	↓	4.80	3.333		400	121			521	640
3900	For polished chrome, add					20%					
3950	Double, flush, polished brass										
4000	2-1/2" x 2-1/2" x 4"	Q-12	5	3.200	Ea.	775	116			891	1,050
4040	2-1/2" x 2-1/2" x 6"		4.60	3.478		1,300	127			1,427	1,625
4080	3" x 3" x 4"		4.90	3.265		1,175	119			1,294	1,475
4120	3" x 3" x 6"	↓	4.50	3.556		1,575	129			1,704	1,925
4200	For polished chrome, add					10%					
4350	Double, projecting, polished brass										
4400	2-1/2" x 2-1/2" x 4"	Q-12	5	3.200	Ea.	290	116			406	510
4450	2-1/2" x 2-1/2" x 6"	"	4.60	3.478	"	595	127			722	855
4460	Valve control, dbl. flush/projecting hydrant, cap &										
4470	chain, extension rod & cplg., escutcheon, polished brass	Q-12	8	2	Ea.	268	73			341	415
4480	Four-way square, flush, polished brass										
4540	2-1/2" (4) x 6"	Q-12	3.60	4.444	Ea.	3,900	162			4,062	4,550

## 21 11 19 – Fire-Department Connections

### 21 11 19.50 Connections for the Fire-Department

21 11 19.50 Connections for the Fire-Department		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Equipment	Total	Total Incl O&P
0010	<b>CONNECTIONS FOR THE FIRE-DEPARTMENT</b>										
4000	Storz type, with cap and chain										
6000	Roof manifold, horiz., brass, without valves & caps										
6040	2-1/2" x 2-1/2" x 4"	Q-12	4.80	3.333	Ea.	228	121			349	450
6060	2-1/2" x 2-1/2" x 6"		4.60	3.478		236	127			363	465
6080	2-1/2" x 2-1/2" x 2-1/2" x 4"		4.60	3.478		380	127			507	625
6090	2-1/2" x 2-1/2" x 2-1/2" x 6"	↓	4.60	3.478		405	127			532	650
7000	Sprinkler line tester, cast brass					38.50				38.50	42.50
7140	Standpipe connections, wall, w/plugs & chains										
7160	Single, flush, brass, 2-1/2" x 2-1/2", Fire Dept Conn.	Q-12	5	3.200	Ea.	186	116			302	395
7180	2-1/2" x 3"	"	5	3.200	"	191	116			307	400
7240	For polished chrome, add					15%					
7280	Double, flush, polished brass										
7300	2-1/2" x 2-1/2" x 4"	Q-12	5	3.200	Ea.	775	116			891	1,050
7330	2-1/2" x 2-1/2" x 6"		4.60	3.478		855	127			982	1,150
7340	3" x 3" x 4"		4.90	3.265		1,150	119			1,269	1,475
7370	3" x 3" x 6"	↓	4.50	3.556		1,300	129			1,429	1,650
7400	For polished chrome, add					15%					
7440	For sill cock combination, add					Ea.	101			101	112
7580	Double projecting, polished brass										
7600	2-1/2" x 2-1/2" x 4"	Q-12	5	3.200	Ea.	610	116			726	860
7630	2-1/2" x 2-1/2" x 6"	"	4.60	3.478	"	1,025	127			1,152	1,325
7680	For polished chrome, add					15%					
7900	Three way, flush, polished brass										
7920	2-1/2" (3) x 4"	Q-12	4.80	3.333	Ea.	2,000	121			2,121	2,400
7930	2-1/2" (3) x 6"	"	4.60	3.478		2,150	127			2,277	2,575
8000	For polished chrome, add					9%					
8020	Three way, projecting, polished brass										
8040	2-1/2" (3) x 4"	Q-12	4.80	3.333	Ea.	910	121			1,031	1,200
8070	2-1/2" (3) x 6"	"	4.60	3.478		1,800	127			1,927	2,175
8100	For polished chrome, add					12%					

# 21 11 Facility Fire-Suppression Water-Service Piping

## 21 11 19 – Fire-Department Connections

21 11 19.50 Connections for the Fire-Department		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
8200	Four way, square, flush, polished brass,										
8240	2-1/2" (4) x 6"	Q-12	3.60	4.444	Ea.	1,750		162		1,912	2,200
8300	For polished chrome, add					"	10%				
8550	Wall, vertical, flush, cast brass										
8600	Two way, 2-1/2" x 2-1/2" x 4"	Q-12	5	3.200	Ea.	400		116		516	630
8660	Four way, 2-1/2" (4) x 6"			3.80	4.211		1,350	153		1,503	1,725
8680	Six way, 2-1/2" (6) x 6"	▼		3.40	4.706		1,600	171		1,771	2,025
8700	For polished chrome, add					10%					
8800	Free standing siamese unit, polished brass, two way										
8820	2-1/2" x 2-1/2" x 4"	Q-12	2.50	6.400	Ea.	750		233		983	1,200
8850	2-1/2" x 2-1/2" x 6"		2	8		830		291		1,121	1,375
8860	3" x 3" x 4"			2.50	6.400		570	233		803	1,000
8890	3" x 3" x 6"	▼		2	8	▼	1,475	291		1,766	2,100
8940	For polished chrome, add					12%					
9100	Free standing siamese unit, polished brass, three way										
9120	2-1/2" x 2-1/2" x 2-1/2" x 6"	Q-12	2	8	Ea.	980		291		1,271	1,550
9160	For polished chrome, add					"	15%				

# 21 12 Fire-Suppression Standpipes

## 21 12 19 – Fire-Suppression Hose Racks

### 21 12 19.50 Fire Hose Racks

0010 FIRE HOSE RACKS											
2600	Hose rack, swinging, for 1-1/2" diameter hose,										
2620	Enameled steel, 50' and 75' lengths of hose	Q-12	20	.800	Ea.	72		29		101	127
2640	100' and 125' lengths of hose		20	.800		89		29		118	145
2680	Chrome plated, 50' and 75' lengths of hose	▼	20	.800		73.50		29		102.50	128
2700	100' and 125' lengths of hose	▼	20	.800		153		29		182	216
2780	For hose rack nipple, 1-1/2" polished brass, add					32.50				32.50	35.50
2820	2-1/2" polished brass, add					55.50				55.50	61
2840	1-1/2" polished chrome, add					38.50				38.50	42
2860	2-1/2" polished chrome, add					75.50				75.50	83

## 21 12 23 – Fire-Suppression Hose Valves

### 21 12 23.70 Fire Hose Valves

0010 FIRE HOSE VALVES											
0020	Angle, combination pressure adjust/restricting, rough brass										
0030	1-1/2"	1 Spri	12	.667	Ea.	110		27		137	165
0040	2-1/2"	"	7	1.143	"	202		46		248	298
0042	Nonpressure adjustable/restricting, rough brass										
0044	1-1/2"	1 Spri	12	.667	Ea.	48		27		75	96.50
0046	2-1/2"	"	7	1.143	"	143		46		189	233
0050	For polished brass, add					30%					
0060	For polished chrome, add					40%					
1000	Ball drip, automatic, rough brass, 1/2"	1 Spri	20	.400	Ea.	20.50		16.20		36.70	49
1010	3/4"	"	20	.400	"	26		16.20		42.20	55.50
1100	Ball, 175 lb., sprinkler system, FM/UL, threaded, bronze										
1120	Slow close										
1150	1" size	1 Spri	19	.421	Ea.	305		17.05		322.05	365
1160	1-1/4" size		15	.533		330		21.50		351.50	395
1170	1-1/2" size	▼	13	.615		425		25		450	510
1180	2" size	▼	11	.727		525		29.50		554.50	630

# 21 12 Fire-Suppression Standpipes

## 21 12 23 – Fire-Suppression Hose Valves

21 12 23.70 Fire Hose Valves			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
							Labor	Equipment			
1190	2-1/2" size		Q-12	15	1.067	Ea.	710	39		749	845
1230	For supervisory switch kit, all sizes										
1240	One circuit, add		1 Spri	48	.167	Ea.	157	6.75		163.75	184
1280	Quarter turn for trim										
1300	1/2" size		1 Spri	22	.364	Ea.	42	14.70		56.70	70
1310	3/4" size			20	.400		45	16.20		61.20	76
1320	1" size			19	.421		50	17.05		67.05	83
1330	1-1/4" size			15	.533		81.50	21.50		103	126
1340	1-1/2" size			13	.615		102	25		127	154
1350	2" size			11	.727		122	29.50		151.50	182
1400	Caps, polished brass with chain, 3/4"						68			68	74.50
1420	1"						85			85	93.50
1440	1-1/2"						20.50			20.50	22.50
1460	2-1/2"						30			30	33
1480	3"						40			40	44
1900	Escutcheon plate, for angle valves, polished brass, 1-1/2"						16.60			16.60	18.25
1920	2-1/2"						24			24	26.50
1940	3"						31.50			31.50	34.50
1980	For polished chrome, add						15%				
3000	Gate, hose, wheel handle, N.R.S., rough brass, 1-1/2"		1 Spri	12	.667		166	27		193	226
3040	2-1/2", 300 lb.		"	7	1.143		217	46		263	315
3080	For polished brass, add						40%				
3090	For polished chrome, add						50%				
5000	Pressure reducing rough brass, 1-1/2"		1 Spri	12	.667		325	27		352	400
5020	2-1/2"		"	7	1.143		445	46		491	565
5080	For polished brass, add						105%				
5090	For polished chrome, add						140%				

# 21 13 Fire-Suppression Sprinkler Systems

## 21 13 13 – Wet-Pipe Sprinkler Systems

### 21 13 13.50 Wet-Pipe Sprinkler System Components

21 13 13.50 Wet-Pipe Sprinkler System Components			1 Spri	26	.308	Ea.	112	12.45		124.45	144
0010	<b>WET-PIPE SPRINKLER SYSTEM COMPONENTS</b>										
1100	Alarm, electric pressure switch (circuit closer)		1 Spri	26	.308	Ea.	112	12.45		124.45	144
1140	For explosion proof, max 20 psi, contacts close or open			26	.308		740	12.45		752.45	835
1220	Water motor gong		"	4	2		480	81		561	665
1900	Flexible sprinkler head connectors										
1910	Braided stainless steel hose with mounting bracket										
1920	1/2" and 3/4" outlet size										
1940	40" length		1 Spri	30	.267	Ea.	73	10.80		83.80	97.50
1960	60" length		"	22	.364	"	85	14.70		99.70	118
1982	May replace hard-pipe armovers										
1984	for wet and pre-action systems.										
2000	Release, emergency, manual, for hydraulic or pneumatic system		1 Spri	12	.667	Ea.	206	27		233	271
2060	Release, thermostatic, for hydraulic or pneumatic release line			20	.400		800	16.20		816.20	905
2200	Sprinkler cabinets, 6 head capacity			16	.500		77.50	20		97.50	118
2260	12 head capacity			16	.500		88	20		108	130
2340	Sprinkler head escutcheons, standard, brass tone, 1" size			40	.200		3.56	8.10		11.66	17.15
2360	Chrome, 1" size			40	.200		3.50	8.10		11.60	17.10
2400	Recessed type, bright brass			40	.200		11	8.10		19.10	25.50
2440	Chrome or white enamel		"	40	.200	"	4.22	8.10		12.32	17.90
2600	Sprinkler heads, not including supply piping										

# 21 13 Fire-Suppression Sprinkler Systems

## 21 13 13 – Wet-Pipe Sprinkler Systems

21 13 13.50 Wet-Pipe Sprinkler System Components		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Ind O&P
3700	Standard spray, pendent or upright, brass, 135°F to 286°F									36.75	51.50
3720	1/2" NPT, K5.6	1 Spri	16	.500	Ea.	16.75	20			36.75	51.50
3730	1/2" NPT, 7/16" orifice		16	.500		16.80	20			36.80	51.50
3732	1/2" NPT, 7/16" orifice, chrome		16	.500		17.65	20			37.65	52.50
3740	1/2" NPT, K5.6		16	.500		11.20	20			31.20	45.50
3760	1/2" NPT, 17/32" orifice		16	.500		13.75	20			33.75	48
3780	3/4" NPT, 17/32" orifice		16	.500		13.45	20			33.45	48
3840	For chrome, add					4.06				4.06	4.47
4200	Sidewall, vertical brass, 135°F to 286°F									49.50	65.50
4240	1/2" NPT, 1/2" orifice	1 Spri	16	.500	Ea.	29.50	20			101.50	123
4280	3/4" NPT, 17/32" orifice	"	16	.500		81.50	20			4.66	5.15
4360	For satin chrome, add					4.66					
4500	Sidewall, horizontal, brass, 135°F to 286°F									49.50	65.50
4520	1/2" NPT, 1/2" orifice	1 Spri	16	.500	Ea.	29.50	20				
5600	Concealed, complete with cover plate									63.50	89.50
5620	1/2" NPT, 1/2" orifice, 135°F to 212°F	1 Spri	9	.889	Ea.	27.50	36				
6025	Residential sprinkler components (one and two family)									561	665
6026	Water motor alarm with strainer	1 Spri	4	2	Ea.	480	81				
6027	Fast response, glass bulb, 135°F to 155°F										
6028	1/2" NPT, pendent, brass	1 Spri	16	.500	Ea.	34	20			54	70.50
6029	1/2" NPT, sidewall, brass		16	.500		36	20			56	72.50
6030	1/2" NPT, pendent, brass, extended coverage		16	.500		28.50	20			48.50	64
6031	1/2" NPT, sidewall, brass, extended coverage		16	.500		26	20			46	62
6032	3/4" NPT sidewall, brass, extended coverage		16	.500		29	20			49	64.50
6033	For chrome, add					15%					
6034	For polyester/teflon coating, add					20%					
6100	Sprinkler head wrenches, standard head				Ea.	28				28	30.50
6120	Recessed head					42				42	46
6160	Tamper switch (valve supervisory switch)	1 Spri	16	.500		265	20			285	325
6165	Flow switch (valve supervisory switch)	"	16	.500		265	20			285	325

## 21 13 16 – Dry-Pipe Sprinkler Systems

### 21 13 16.50 Dry-Pipe Sprinkler System Components

DRY-PIPE SPRINKLER SYSTEM COMPONENTS		Crew	8	1	Unit	900	40.50			940.50	1,050
0600	Accelerator	1 Spri									
0800	Air compressor for dry pipe system, automatic, complete										
0820	30 gal. system capacity, 3/4 HP	1 Spri	1.30	6.154	Ea.	1,200	249			1,449	1,725
0860	30 gal. system capacity, 1 HP		1.30	6.154		1,575	249			1,824	2,150
0960	Air pressure maintenance control		24	.333		375	13.50			388.50	430
1600	Dehydrator package, incl. valves and nipples		12	.667		845	27			872	975
2600	Sprinkler heads, not including supply piping										
2640	Dry, pendent, 1/2" orifice, 3/4" or 1" NPT										
2660	3" to 6" length	1 Spri	14	.571	Ea.	145	23			168	198
2670	6-1/4" to 8" length		14	.571		147	23			170	200
2680	8-1/4" to 12" length		14	.571		158	23			181	212
2800	For each inch or fraction, add					4.07				4.07	4.48
6330	Valves and components										
6340	Alarm test/shut off valve, 1/2"	1 Spri	20	.400	Ea.	26	16.20			42.20	55
8000	Dry pipe air check valve, 3" size	Q-12	2	8		2,100	291			2,391	2,800
8200	Dry pipe valve, incl. trim and gauges, 3" size		2	8		3,075	291			3,366	3,850
8220	4" size		1	16		3,300	580			3,880	4,575
8240	6" size	Q-13	2	16		4,000	580			4,580	5,350
8280	For accelerator trim with gauges, add	1 Spri	8	1		284	40.50			324.50	375

## Estimating Tips

### 22 10 00 Plumbing

#### Piping and Pumps

This subdivision is primarily basic pipe and related materials. The pipe may be used by any of the mechanical disciplines, i.e., plumbing, fire protection, heating, and air conditioning.

*Note: CPVC plastic piping approved for fire protection is located in 21 11 13.*

- The labor adjustment factors listed in Subdivision 22 01 02.20 apply throughout Divisions 21, 22, and 23.

**CAUTION:** the correct percentage may vary for the same items. For example, the percentage add for the basic pipe installation should be based on the maximum height that the installer must install for that particular section. If the pipe is to be located 14' above the floor but it is suspended on threaded rod from beams, the bottom flange of which is 18' high (4' rods), then the height is actually 18' and the add is 20%. The pipe cover, however, does not have to go above the 14' and so the add should be 10%.

- Most pipe is priced first as straight pipe with a joint (coupling, weld, etc.) every 10' and a hanger usually every 10'. There are exceptions with hanger spacing such as for cast iron pipe (5')

and plastic pipe (3 per 10'). Following each type of pipe there are several lines listing sizes and the amount to be subtracted to delete couplings and hangers. This is for pipe that is to be buried or supported together on trapeze hangers. The reason that the couplings are deleted is that these runs are usually long, and frequently longer lengths of pipe are used. By deleting the couplings, the estimator is expected to look up and add back the correct reduced number of couplings.

- When preparing an estimate, it may be necessary to approximate the fittings. Fittings usually run between 25% and 50% of the cost of the pipe. The lower percentage is for simpler runs, and the higher number is for complex areas, such as mechanical rooms.
- For historic restoration projects, the systems must be as invisible as possible, and pathways must be sought for pipes, conduit, and ductwork. While installations in accessible spaces (such as basements and attics) are relatively straightforward to estimate, labor costs may be more difficult to determine when delivery systems must be concealed.

### 22 40 00 Plumbing Fixtures

- Plumbing fixture costs usually require two lines: the fixture itself and its "rough-in, supply, and waste."
- In the Assemblies Section (Plumbing D2010) for the desired fixture, the System Components Group at the center of the page shows the fixture on the first line. The rest of the list (fittings, pipe, tubing, etc.) will total up to what we refer to in the Unit Price section as "Rough-in, supply, waste, and vent." Note that for most fixtures we allow a nominal 5' of tubing to reach from the fixture to a main or riser.
- Remember that gas- and oil-fired units need venting.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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*Note: Trade Service, in part, has been used as a reference source for some of the material prices used in Division 22.*

# 22 05 Common Work Results for Plumbing

## 22 05 05 – Selective Demolition for Plumbing

22 05 05.10 Plumbing Demolition		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	PLUMBING DEMOLITION						Labor	Equipment	
1020	Fixtures, including 10' piping								
1101	Bathtubs, cast iron	1 Clab	4	2	Ea.		55.50	55.50	91.50
1121	Fiberglass		6	1.333			37		37
1141	Steel	↓	5	1.600			44.50		44.50
1200	Lavatory, wall hung	1 Plum	10	.800			32.50		32.50
1221	Counter top	1 Clab	16	.500			13.90		13.90
1301	Sink, single compartment		16	.500			13.90		13.90
1321	Double	↓	10	.800			22		36.50
1400	Water closet, floor mounted	1 Plum	8	1			40.50		40.50
1421	Wall mounted	1 Clab	7	1.143	↓		32		52
2001	Piping, metal, to 1-1/2" diameter		200	.040	L.F.		1.11		1.83
2051	2" thru 3-1/2" diameter		150	.053			1.48		2.43
2101	4" thru 6" diameter	↓	100	.080			2.22		3.65
2160	Plastic pipe with fittings, up thru 1-1/2" diameter	1 Plum	250	.032			1.30		2.13
2162	2" thru 3" diameter	"	200	.040			1.62		2.66
2164	4" thru 6" diameter	Q-1	200	.080			2.92		4.79
2166	8" thru 14" diameter		150	.107			3.90		6.40
2168	16" diameter	↓	100	.160	↓		5.85		9.55
3000	Submersible sump pump	1 Plum	24	.333	Ea.		13.55		13.55
6000	Remove and reset fixtures, easy access		6	1.333			54		88.50
6100	Difficult access	↓	4	2	↓		81		133

## 22 05 23 – General-Duty Valves for Plumbing Piping

### 22 05 23.20 Valves, Bronze

0010 VALVES, BRONZE									
1750	Check, swing, class 150, regrinding disc, threaded								
1860	3/4"	1 Plum	20	.400	Ea.	94	16.25	110.25	130
1870	1"	"	19	.421	"	178	17.10	195.10	224
2850	Gate, N.R.S., soldered, 125 psi								
2940	3/4"	1 Plum	20	.400	Ea.	74	16.25	90.25	108
2950	1"	"	19	.421	"	78.50	17.10	95.60	115
5600	Relief, pressure & temperature, self-closing, ASME, threaded								
5640	3/4"	1 Plum	28	.286	Ea.	257	11.60	268.60	300
5650	1"		24	.333		425	13.55	438.55	485
5660	1-1/4"	↓	20	.400	↓	805	16.25	821.25	910
6400	Pressure, water, ASME, threaded								
6440	3/4"	1 Plum	28	.286	Ea.	119	11.60	130.60	150
6450	1"	"	24	.333	"	340	13.55	353.55	395
6900	Reducing, water pressure								
6920	300 psi to 25-75 psi, threaded or sweat								
6940	1/2"	1 Plum	24	.333	Ea.	470	13.55	483.55	540
6950	3/4"		20	.400		550	16.25	566.25	630
6960	1"		19	.421		850	17.10	867.10	965
8350	Tempering, water, sweat connections								
8400	1/2"	1 Plum	24	.333	Ea.	118	13.55	131.55	152
8440	3/4"	"	20	.400	"	167	16.25	183.25	210
8650	Threaded connections								
8700	1/2"	1 Plum	24	.333	Ea.	162	13.55	175.55	200
8740	3/4"	"	20	.400	"	1,050	16.25	1,066.25	1,200
8800	Water heater water & gas safety shut off								
8810	Protection against a leaking water heater								
8814	Shut off valve	1 Plum	16	.500	Ea.	196	20.50	216.50	249

# 22 05 Common Work Results for Plumbing

## 22 05 23 – General-Duty Valves for Plumbing Piping

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				1 Plum.	.250	Ea.	32.50	10.15		42.65	52
8818	Water heater dam										
8822	Gas control wiring harness			↓	.32	.250	↓	24.50	10.15		34.65
8830	Whole house flood safety shut off										43.50
8834	Connections										
8838	3/4" NPT			1 Plum.	.12	.667	Ea.	1,025	27		1,052
8842	1" NPT							1,100	29.50		1,129.50
8846	1-1/4" NPT							1,100	32.50		1,132.50

## 22 05 29 – Hangers and Supports for Plumbing Piping and Equipment

### 22 05 29.10 Hangers & Supp. for Plumb'g/HVAC Pipe/Equip.

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				1 Plum.	.100	Ea.	.20	4.06		4.26	6.85
0010	HANGERS AND SUPPORTS FOR PLUMB'G/HVAC PIPE/EQUIP.										
8000	Pipe clamp, plastic, 1/2" CTS										
8010	3/4" CTS				73	.110		.24	4.45		4.69
8020	1" CTS				68	.118		.54	4.78		5.32
8080	Economy clamp, 1/4" CTS				175	.046		.05	1.86		1.91
8090	3/8" CTS				168	.048		.05	1.93		1.98
8100	1/2" CTS				160	.050		.05	2.03		2.08
8110	3/4" CTS				145	.055		.05	2.24		2.29
8200	Half clamp, 1/2" CTS				80	.100		.07	4.06		4.13
8210	3/4" CTS				73	.110		.10	4.45		4.55
8300	Suspension clamp, 1/2" CTS				80	.100		.24	4.06		4.30
8310	3/4" CTS				73	.110		.22	4.45		4.67
8320	1" CTS				68	.118		.53	4.78		5.31
8400	Insulator, 1/2" CTS				80	.100		.36	4.06		4.42
8410	3/4" CTS				73	.110		.37	4.45		4.82
8420	1" CTS				68	.118		.39	4.78		5.17
8500	J hook clamp with nail, 1/2" CTS				240	.033		.09	1.35		1.44
8501	3/4" CTS				240	.033		.11	1.35		1.46

## 22 05 48 – Vibration and Seismic Controls for Plumbing Piping and Equipment

### 22 05 48.10 Seismic Bracing Supports

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				1 Skwk	.160	Ea.	.38	1.85		5.23	6.75
0010	SEISMIC BRACING SUPPORTS										
0020	Clamps										
0030	C-clamp, for mounting on steel beam										
0040	3/8" threaded rod			1 Skwk	.160	.050	Ea.	3.38	1.85		5.23
0050	1/2" threaded rod				160	.050		4.76	1.85		6.61
0060	5/8" threaded rod				160	.050		5.30	1.85		7.15
0070	3/4" threaded rod			↓	160	.050	↓	6.85	1.85		8.70
0100	Brackets										10.55
0110	Beam side or wall malleable iron										
0120	3/8" threaded rod			1 Skwk	48	.167	Ea.	5.10	6.15		11.25
0130	1/2" threaded rod				48	.167		4	6.15		10.15
0140	5/8" threaded rod				48	.167		11.70	6.15		17.85
0150	3/4" threaded rod			↓	48	.167	↓	21.50	6.15		27.65
0160	7/8" threaded rod			↓	48	.167	↓	13.95	6.15		20.10
0170	For concrete installation, add								30%		
0180	Wall, welded steel										
0190	0 size 12" wide 18" deep			1 Skwk	34	.235	Ea.	183	8.70		191.70
0200	1 size 18" wide 24" deep				34	.235		218	8.70		226.70
0210	2 size 24" wide 30" deep				34	.235	↓	289	8.70		297.70
0300	Rod, carbon steel										
0310	Continuous thread										
0320	1/4" thread			1 Skwk	144	.056	L.F.	2.43	2.05		4.48
0330	3/8" thread			↓	144	.056	↓	2.59	2.05		4.64

# 22 05 Common Work Results for Plumbing

## 22 05 48 – Vibration and Seismic Controls for Plumbing Piping and Equipment

22 05 48.10 Seismic Bracing Supports			Daily Crew	Labor-Hours	Unit	2020	Bare Costs	Total	Total Incl O&P	
						Material	Labor	Equipment		
0340	1/2" thread		1 Skwk	144	.056	L.F.	4.07	2.05	6.12	7.85
0350	5/8" thread			144	.056		5.75	2.05	7.80	9.75
0360	3/4" thread			144	.056		10.60	2.05	12.65	15.10
0370	7/8" thread			144	.056		13.35	2.05	15.40	18.05
0380	For galvanized, odd						30%			
0400	Channel, steel									
0410	3/4" x 1-1/2"		1 Skwk	80	.100	L.F.	2.98	3.70	6.68	9.40
0420	1-1/2" x 1-1/2"			70	.114		3.68	4.22	7.90	11.05
0430	1-7/8" x 1-1/2"			60	.133		21	4.93	25.93	31.50
0440	3" x 1-1/2"			50	.160		19.85	5.90	25.75	32
0450	Spring nuts		1 Skwk	100	.080	Ea.	1.70	2.96	4.66	6.75
0470	3/8"		"	80	.100	"	1.81	3.70	5.51	8.10
0490	1/2"									
0500	Welding, field									
0510	Cleaning and welding plates, bars, or rods									
0520	To existing beams, columns, or trusses									
0530	1" weld		1 Skwk	144	.056	Ea.	.27	2.05	2.32	3.69
0540	2" weld			72	.111		.54	4.11	4.65	7.40
0550	3" weld			54	.148		.81	5.45	6.26	9.95
0560	4" weld			36	.222		1.08	8.20	9.28	14.75
0570	5" weld			30	.267		1.35	9.85	11.20	17.80
0580	6" weld			24	.333		1.62	12.30	13.92	22.50
0600	Vibration absorbers									
0610	Hangers, neoprene flex									
0620	10-120 lb. capacity		1 Skwk	8	1	Ea.	24	37	61	87.50
0630	75-550 lb. capacity			8	1		42	37	79	107
0640	250-1,100 lb. capacity			6	1.333		78	49.50	127.50	168
0650	1,000-4,000 lb. capacity			6	1.333		144	49.50	193.50	240

## 22 05 76 – Facility Drainage Piping Cleanouts

### 22 05 76.10 Cleanouts

0010 CLEANOUTS			Daily	Labor-Hours	Unit	2020	Bare Costs	Total	Total Incl O&P	
						Material	Labor	Equipment		
0060	Floor type									
0080	Round or square, scoriated nickel bronze top									
0100	2" pipe size		1 Plum	10	.800	Ea.	183	32.50	215.50	255
0120	3" pipe size			8	1		264	40.50	304.50	355
0140	4" pipe size			6	1.333		284	54	338	400

### 22 05 76.20 Cleanout Tees

0010 CLEANOUT TEES			Daily	Labor-Hours	Unit	2020	Bare Costs	Total	Total Incl O&P		
						Material	Labor	Equipment			
0100	Cast iron, B&S, with countersunk plug										
0220	3" pipe size		1 Plum	3.60	2.222	Ea.	181	90	271	345	
0240	4" pipe size			"	3.30	2.424	"	275	98.50	373.50	460
0500	For round smooth access cover, same price										
4000	Plastic, tees and adapters. Add plugs										
4010	ABS, DWV										
4020	Cleanout tee, 1-1/2" pipe size		1 Plum	15	.533	Ea.	14.15	21.50	35.65	51	

# 22 07 Plumbing Insulation

## 22 07 16 – Plumbing Equipment Insulation

22 07 16.10 Insulation for Plumbing Equipment		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 INSULATION FOR PLUMBING EQUIPMENT											
2900 Domestic water heater wrap kit		G	1 Plum	8	1 Ea.	16.70	40.50			57.20	85
2920 1-1/2" with vinyl jacket, 20 to 60 gal.											

## 22 07 19 – Plumbing Piping Insulation

### 22 07 19.10 Piping Insulation

0010 PIPING INSULATION			1 Plum	32	.250	Ea.	16.95	10.15		27.10	35.50
Code	Description										
0230	Insulated protectors (ADA)										
0235	For exposed piping under sinks or lavatories										
0240	Vinyl coated foam, velcro tabs										
0245	P Trap, 1-1/4" or 1-1/2"		1 Plum	32	.250	Ea.	16.95	10.15		27.10	35.50
0260	Valve and supply cover										
0265	1/2", 3/8", and 7/16" pipe size		1 Plum	32	.250	Ea.	16.40	10.15		26.55	34.50
0285	1-1/4" pipe size		"	32	.250	"	13.15	10.15		23.30	31
0600	Pipe covering (price copper tube one size less than IPS)										
6600	Fiberglass, with all service jacket										
6840	1" wall, 1/2" iron pipe size	G	Q-14	240	.067	L.F.	.92	2.22		3.14	4.72
6860	3/4" iron pipe size	G		230	.070		.98	2.31		3.29	4.96
6870	1" iron pipe size	G		220	.073		1.08	2.42		3.50	5.25
6900	2" iron pipe size	G		200	.080		1.78	2.66		4.44	6.40
7879	Rubber tubing, flexible closed cell foam										
8100	1/2" wall, 1/4" iron pipe size	G	1 Asbe	90	.089	L.F.	.99	3.28		4.27	6.60
8130	1/2" iron pipe size	G		89	.090		1.06	3.32		4.38	6.70
8140	3/4" iron pipe size	G		89	.090		1.22	3.32		4.54	6.90
8150	1" iron pipe size	G		88	.091		.86	3.36		4.22	6.60
8170	1-1/2" iron pipe size	G		87	.092		1.89	3.40		5.29	7.80
8180	2" iron pipe size	G		86	.093		2.38	3.44		5.82	8.35
8300	3/4" wall, 1/4" iron pipe size	G		90	.089		.94	3.28		4.22	6.55
8330	1/2" iron pipe size	G		89	.090		1.13	3.32		4.45	6.80
8340	3/4" iron pipe size	G		89	.090		2.13	3.32		5.45	7.90
8350	1" iron pipe size	G		88	.091		2.10	3.36		5.46	7.95
8380	2" iron pipe size	G		86	.093		4.27	3.44		7.71	10.45
8444	1" wall, 1/2" iron pipe size	G		86	.093		3.18	3.44		6.62	9.25
8445	3/4" iron pipe size	G		84	.095		3.90	3.52		7.42	10.20
8446	1" iron pipe size	G		84	.095		3.49	3.52		7.01	9.75
8447	1-1/4" iron pipe size	G		82	.098		3.83	3.60		7.43	10.25
8448	1-1/2" iron pipe size	G		82	.098		6.15	3.60		9.75	12.80
8449	2" iron pipe size	G		80	.100		7.55	3.70		11.25	14.50
8450	2-1/2" iron pipe size	G		80	.100		8.45	3.70		12.15	15.50
8456	Rubber insulation tape, 1/8" x 2" x 30'	G				Ea.	23			23	25

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

### 22 11 13.23 Pipe/Tube, Copper

0010 PIPE/TUBE, COPPER, Solder joints											
1000	Type K tubing, couplings & clevis hanger assemblies 10' OC										
1180	3/4" diameter	1 Plum	74	.108	L.F.	8.65	4.39			13.04	16.70
1200	1" diameter	"	66	.121	"	12.80	4.92			17.72	22
2000	Type L tubing, couplings & clevis hanger assemblies 10' OC										
2140	1/2" diameter	1 Plum	81	.099	L.F.	3.68	4.01			7.69	10.60
2160	5/8" diameter	"	79	.101	"	5.75	4.11			9.86	13.05

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

22 11 13.23 Pipe/Tube, Copper			Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
							Labor	Equipment		
2180	3/4" diameter		1 Plum	.76	.105	L.F.	4.71	4.27	8.98	12.20
2200	1" diameter			68	.118		7.60	4.78	12.38	16.15
2220	1-1/4" diameter			58	.138		12	5.60	17.60	22.50
3000	Type M tubing, couplings & clevis hanger assemblies 10' OC									
3140	1/2" diameter		1 Plum	84	.095	L.F.	3.56	3.87	7.43	10.25
3180	3/4" diameter			78	.103		5.05	4.16	9.21	12.35
3200	1" diameter			70	.114		8.50	4.64	13.14	16.95
3220	1-1/4" diameter			60	.133		12.30	5.40	17.70	22.50
3240	1-1/2" diameter			54	.148		14.45	6	20.45	26
3260	2" diameter			44	.182		21.50	7.40	28.90	35.50
4000	Type DWV tubing, couplings & clevis hanger assemblies 10' OC									
4100	1-1/4" diameter		1 Plum	60	.133	L.F.	12.45	5.40	17.85	22.50
4120	1-1/2" diameter			54	.148		12.60	6	18.60	23.50
4140	2" diameter			44	.182		18.30	7.40	25.70	32
4160	3" diameter		Q-1	58	.276		29	10.10	39.10	48.50
4180	4" diameter		"	40	.400		60.50	14.60	75.10	90.50

## 22 11 13.25 Pipe/Tube Fittings, Copper

0010	PIPE/TUBE FITTINGS, COPPER, Wrought unless otherwise noted									
0040	Solder joints, copper x copper									
0070	90° elbow, 1/4"		1 Plum	.22	.364	Ea.	3.88	14.75	18.63	28.50
0100	1/2"			20	.400		1.26	16.25	17.51	28
0120	3/4"			19	.421		2.68	17.10	19.78	31
0250	45° elbow, 1/4"			22	.364		7.75	14.75	22.50	32.50
0280	1/2"			20	.400		2.75	16.25	19	29.50
0290	5/8"			19	.421		11.45	17.10	28.55	40.50
0300	3/4"			19	.421		4.46	17.10	21.56	33
0310	1"			16	.500		11.20	20.50	31.70	45.50
0320	1-1/4"			15	.533		16	21.50	37.50	53
0450	Tee, 1/4"			14	.571		8.45	23	31.45	47.50
0480	1/2"			13	.615		2.44	25	27.44	43.50
0490	5/8"			12	.667		16.25	27	43.25	62.50
0500	3/4"			12	.667		6.05	27	33.05	51
0510	1"			10	.800		17.05	32.50	49.55	72
0520	1-1/4"			9	.889		24.50	36	60.50	86
0612	Tee, reducing on the outlet, 1/4"			15	.533		17.05	21.50	38.55	54.50
0613	3/8"			15	.533		15.55	21.50	37.05	52.50
0614	1/2"			14	.571		15.60	23	38.60	55
0615	5/8"			13	.615		30.50	25	55.50	74.50
0616	3/4"			12	.667		8	27	35	53.50
0617	1"			11	.727		29	29.50	58.50	80.50
0618	1-1/4"			10	.800		32.50	32.50	65	88.50
0619	1-1/2"			9	.889		32	36	68	94
0620	2"			8	1		64.50	40.50	105	138
0621	2-1/2"		Q-1	9	1.778		137	65	202	256
0622	3"			8	2		163	73	236	299
0623	4"			6	2.667		299	97.50	396.50	490
0624	5"			5	3.200		1,725	117	1,842	2,100
0625	6"		Q-2	7	3.429		2,150	121	2,271	2,575
0626	8"		"	6	4		10,800	141	10,941	12,100
0630	Tee, reducing on the run, 1/4"		1 Plum	15	.533		23.50	21.50	45	61.50
0631	3/8"			15	.533		31	21.50	52.50	69.50
0632	1/2"			14	.571		20.50	23	43.50	60.50

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

22 11 13.25 Pipe/Tube Fittings, Copper		Crew	Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Ind O&P
						Material	Labor	Equipment		
0633	5/8"	1 Plum	13	.615	Ea.	29	25		54	73
0634	3/4"		12	.667		21	27		48	67.50
0635	1"		11	.727		26	29.50		55.50	77
0636	1-1/4"		10	.800		41	32.50		73.50	98
0637	1-1/2"		9	.889		72	36		108	138
0638	2"		8	1		82.50	40.50		123	158
0639	2-1/2"	Q-1	9	1.778		177	65		242	300
0640	3"		8	2		320	73		393	475
0641	4"		6	2.667		585	97.50		682.50	805
0642	5"		5	3.200		1,950	117		2,067	2,350
0643	6"	Q-2	7	3.429		2,950	121		3,071	3,450
0644	8"	"	6	4		10,200	141		10,341	11,400
0650	Coupling, 1/4"	1 Plum	24	.333		1.07	13.55		14.62	23
0680	1/2"		22	.364		.96	14.75		15.71	25
0690	5/8"		21	.381		4.23	15.45		19.68	30
0700	3/4"		21	.381		2.71	15.45		18.16	28.50
0710	1"		18	.444		5.30	18.05		23.35	35.50
0715	1-1/4"		17	.471		7.80	19.10		26.90	40
2000	DWV, solder joints, copper x copper	1 Plum	13	.615	Ea.	18.50	25		43.50	61.50
2030	90° elbow, 1-1/4"		12	.667		24.50	27		51.50	71.50
2050	1-1/2"									
2070	2"									
2090	3"	Q-1	10	1.600		85.50	58.50		144	190
2100	4"	"	9	1.778		545	65		610	705
2250	Tee, sanitary, 1-1/4"	1 Plum	9	.889		28.50	36		64.50	90.50
2270	1-1/2"		8	1		35.50	40.50		76	106
2290	2"		7	1.143		55	46.50		101.50	137
2310	3"	Q-1	7	2.286		213	83.50		296.50	370
2330	4"	"	6	2.667		520	97.50		617.50	735
2400	Coupling, 1-1/4"	1 Plum	14	.571		7.75	23		30.75	46.50
2420	1-1/2"		13	.615		9.60	25		34.60	51.50
2440	2"									
2460	3"	Q-1	11	1.455		13.35	29.50		42.85	63
2480	4"	"	10	1.600		30.50	53		83.50	121
						68	58.50		126.50	170

## 22 11 13.44 Pipe, Steel

0010	PIPE, STEEL									
0050	Schedule 40, threaded, with couplings, and clevis hanger									
0060	assemblies sized for covering, 10' OC									
0540	Black, 1/4" diameter	1 Plum	66	.121	L.F.	6.15	4.92		11.07	14.85
0560	1/2" diameter		63	.127		4.03	5.15		9.18	12.90
0570	3/4" diameter		61	.131		4.40	5.30		9.70	13.55
0580	1" diameter		53	.151		7.80	6.15		13.95	18.60
0590	1-1/4" diameter	Q-1	89	.180		8.20	6.55		14.75	19.75
0600	1-1/2" diameter		80	.200		8.75	7.30		16.05	21.50
0610	2" diameter		64	.250		6.90	9.15		16.05	22.50

## 22 11 13.45 Pipe Fittings, Steel, Threaded

0010	PIPE FITTINGS, STEEL, THREADED									
5000	Malleable iron, 150 lb.									
5020	Black									
5040	90° elbow, straight									
5090	3/4"	1 Plum	14	.571	Ea.	4.12	23		27.12	42.50
5100	1"	"	13	.615		8.35	25		33.35	50

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Ind O&P
22 11 13.45 Pipe Fittings, Steel, Threaded		Crew				Labor	Equipment				
5120	1-1/2"	Q-1	20	.800	Ea.	14.60	29			43.60	64
5130	2"	"	18	.889	↓	25.50	32.50			58	81
5450	Tee, straight										
5500	3/4"	1 Plum	9	.889	Ea.	7.85	36			43.85	67.50
5510	1"	"	8	1		13.40	40.50			53.90	81.50
5520	1-1/4"	Q-1	14	1.143		21.50	42			63.50	92.50
5530	1-1/2"		13	1.231	↓	27	45			72	103
5540	2"	↓	11	1.455	↓	46	53			99	138
5650	Coupling										
5700	3/4"	1 Plum	18	.444	Ea.	6.60	18.05			24.65	37
5710	1"	"	15	.533		9.90	21.50			31.40	46.50
5720	1-1/4"	Q-1	26	.615		11.95	22.50			34.45	50
5730	1-1/2"		24	.667	↓	15.80	24.50			40.30	57.50
5740	2"	↓	21	.762	↓	23.50	28			51.50	71

## 22 11 13.74 Pipe, Plastic

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Ind O&P
0010 PIPE, PLASTIC		Crew				Labor	Equipment				
1800	PVC, couplings 10' OC, clevis hanger assemblies, 3 per 10'										
1820	Schedule 40										
1860	1/2" diameter	1 Plum	54	.148	L.F.	4.90	6			10.90	15.25
1870	3/4" diameter		51	.157		5.40	6.35			11.75	16.30
1880	1" diameter		46	.174		9.45	7.05			16.50	22
1890	1-1/4" diameter		42	.190		9.95	7.75			17.70	23.50
1900	1-1/2" diameter	↓	36	.222		10.25	9			19.25	26
1910	2" diameter	Q-1	59	.271		12.15	9.90			22.05	29.50
1920	2-1/2" diameter		56	.286		20	10.45			30.45	39.50
1930	3" diameter		53	.302		22	11.05			33.05	42.50
1940	4" diameter	↓	48	.333	↓	14.80	12.20			27	36.50
4100	DWV type, schedule 40, couplings 10' OC, clevis hanger assy's, 3 per 10'										
4210	ABS, schedule 40, foam core type										
4212	Plain end block										
4214	1-1/2" diameter	1 Plum	39	.205	L.F.	8.60	8.35			16.95	23
4216	2" diameter	Q-1	62	.258		9.25	9.45			18.70	25.50
4218	3" diameter		56	.286		17.60	10.45			28.05	36.50
4220	4" diameter		51	.314		9.80	11.45			21.25	29.50
4222	6" diameter	↓	42	.381	↓	21.50	13.90			35.40	46.50
4240	To delete coupling & hangers, subtract										
4244	1-1/2" diam. to 6" diam.					43%	48%				
4400	PVC										
4410	1-1/4" diameter	1 Plum	42	.190	L.F.	9.10	7.75			16.85	22.50
4420	1-1/2" diameter	"	36	.222		8.25	9			17.25	24
4460	2" diameter	Q-1	59	.271		9.15	9.90			19.05	26.50
4470	3" diameter		53	.302		17.45	11.05			28.50	37.50
4480	4" diameter		48	.333		19.20	12.20			31.40	41
5300	CPVC, socket joint, couplings 10' OC, clevis hanger assemblies, 3 per 10'										
5302	Schedule 40										
5304	1/2" diameter	1 Plum	54	.148	L.F.	5.80	6			11.80	16.25
5305	3/4" diameter		51	.157		6.95	6.35			13.30	18.05
5306	1" diameter		46	.174		11.35	7.05			18.40	24
5307	1-1/4" diameter		42	.190		12.85	7.75			20.60	27
5308	1-1/2" diameter		36	.222		12.45	9			21.45	28.50
5309	2" diameter	Q-1	59	.271		15.70	9.90			25.60	33.50
5360	CPVC, threaded, couplings 10' OC, clevis hanger assemblies, 3 per 10'										

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

22 11 13.74 Pipe, Plastic	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
						Labor	Equipment	Total		
5380 Schedule 40									12.65	17.20
5460 1/2" diameter	1 Plum	54	.148	L.F.	6.65	6				
5470 3/4" diameter		51	.157		8.45	6.35			14.80	19.70
5480 1" diameter		46	.174		12.90	7.05			19.95	26
5490 1-1/4" diameter		42	.190		14.05	7.75			21.80	28
5500 1-1/2" diameter		36	.222		13.45	9			22.45	29.50
5510 2" diameter	Q-1	59	.271		16.90	9.90			26.80	35
6500 Residential installation, plastic pipe										
6510 Couplings 10' OC, strap hangers 3 per 10'										
6520 PVC, Schedule 40										
6530 1/2" diameter	1 Plum	138	.058	L.F.	1.06	2.35			3.41	5
6540 3/4" diameter		128	.063		1.30	2.54			3.84	5.60
6550 1" diameter		119	.067		1.87	2.73			4.60	6.55
6560 1-1/4" diameter		111	.072		2.13	2.93			5.06	7.15
6570 1-1/2" diameter		104	.077		2.53	3.12			5.65	7.90
6580 2" diameter	Q-1	197	.081		3.45	2.97			6.42	8.65
6590 2-1/2" diameter		162	.099		5.70	3.61			9.31	12.20
6600 4" diameter		123	.130		8.15	4.75			12.90	16.75
6700 PVC, DWV, Schedule 40										
6720 1-1/4" diameter	1 Plum	100	.080	L.F.	2.14	3.25			5.39	7.65
6730 1-1/2" diameter	"	94	.085		1.54	3.46			5	7.35
6740 2" diameter	Q-1	178	.090		2.16	3.29			5.45	7.80
6760 4" diameter	"	110	.145		6.20	5.30			11.50	15.50
7280 PEX, flexible, no couplings or hangers										
7282 Note: For labor costs add 25% to the couplings and fittings labor total.										
7285 For fittings see section 23 83 16.10 7000										
7300 Non-barrier type, hot/cold tubing rolls										
7310 1/4" diameter x 100'					L.F.	.56			.56	.62
7350 3/8" diameter x 100'						.55			.55	.61
7360 1/2" diameter x 100'						.76			.76	.84
7370 1/2" diameter x 500'						.74			.74	.81
7380 1/2" diameter x 1000'						.72			.72	.79
7400 3/4" diameter x 100'						1.04			1.04	1.14
7410 3/4" diameter x 500'						1.17			1.17	1.29
7420 3/4" diameter x 1000'						1.17			1.17	1.29
7460 1" diameter x 100'						2.02			2.02	2.22
7470 1" diameter x 300'						2.02			2.02	2.22
7480 1" diameter x 500'						2.03			2.03	2.23
7500 1-1/4" diameter x 100'						3.44			3.44	3.78
7510 1-1/4" diameter x 300'						3.44			3.44	3.78
7540 1-1/2" diameter x 100'						4.71			4.71	5.20
7550 1-1/2" diameter x 300'						4.72			4.72	5.20
7596 Most sizes available in red or blue										
7700 Non-barrier type, hot/cold tubing straight lengths										
7710 1/2" diameter x 20'					L.F.	.68			.68	.75
7750 3/4" diameter x 20'						1.20			1.20	1.32
7760 1" diameter x 20'						2.04			2.04	2.24
7770 1-1/4" diameter x 20'						3.65			3.65	4.02
7780 1-1/2" diameter x 20'						4.73			4.73	5.20
7790 2" diameter						9.30			9.30	10.25
7796 Most sizes available in red or blue										

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

22 11 13.76 Pipe Fittings, Plastic		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Ind Q&P
						Labor	Equipment		
0010	PIPE FITTINGS, PLASTIC								
2700	PVC (white), schedule 40, socket joints								
2760	90° elbow, 1/2"	1 Plum	33.30	.240	Ea.	.52	9.75	10.27	16.50
2770	3/4"		28.60	.280		.59	11.35	11.94	19.25
2780	1"		25	.320		1.05	13	14.05	22.50
2790	1-1/4"		22.20	.360		1.83	14.65	16.48	26
2800	1-1/2"		20	.400		1.99	16.25	18.24	28.50
2810	2"	Q-1	36.40	.440		3.11	16.05	19.16	30
2820	2-1/2"		26.70	.599		9.60	22	31.60	46.50
2830	3"		22.90	.699		11.35	25.50	36.85	54.50
2840	4"		18.20	.879		20.50	32	52.50	75
3180	Tee, 1/2"	1 Plum	22.20	.360		.65	14.65	15.30	24.50
3190	3/4"		19	.421		.75	17.10	17.85	29
3200	1"		16.70	.479		1.39	19.45	20.84	33.50
3210	1-1/4"		14.80	.541		2.16	22	24.16	38.50
3220	1-1/2"		13.30	.602		2.64	24.50	27.14	43
3230	2"	Q-1	24.20	.661		3.84	24	27.84	43.50
3240	2-1/2"		17.80	.899		12.60	33	45.60	68
3250	3"		15.20	1.053		17.15	38.50	55.65	82
3260	4"		12.10	1.322		30	48.50	78.50	112
3380	Coupling, 1/2"	1 Plum	33.30	.240		.34	9.75	10.09	16.30
3390	3/4"		28.60	.280		.47	11.35	11.82	19.10
3400	1"		25	.320		.83	13	13.83	22.50
3410	1-1/4"		22.20	.360		1.13	14.65	15.78	25
3420	1-1/2"		20	.400		1.22	16.25	17.47	28
3430	2"	Q-1	36.40	.440		1.86	16.05	17.91	28.50
3440	2-1/2"		26.70	.599		4.11	22	26.11	40.50
3450	3"		22.90	.699		7.70	25.50	33.20	50.50
3460	4"		18.20	.879	▼	9.60	32	41.60	63
4500	DWV, ABS, non pressure, socket joints								
4540	1/4 bend, 1-1/4"	1 Plum	20.20	.396	Ea.	4.48	16.10	20.58	31.50
4560	1-1/2"	"	18.20	.440		3.44	17.85	21.29	33
4570	2"	Q-1	33.10	.483	▼	5.30	17.65	22.95	35
4650	1/8 bend, same as 1/4 bend								
4800	Tee, sanitary								
4820	1-1/4"	1 Plum	13.50	.593	Ea.	5.95	24	29.95	46
4830	1-1/2"	"	12.10	.661		5.15	27	32.15	49.50
4840	2"	Q-1	20	.800	▼	7.90	29	36.90	56.50
5000	DWV, PVC, schedule 40, socket joints								
5040	1/4 bend, 1-1/4"	1 Plum	20.20	.396	Ea.	8.80	16.10	24.90	36
5060	1-1/2"	"	18.20	.440		2.48	17.85	20.33	31.50
5070	2"	Q-1	33.10	.483		3.91	17.65	21.56	33.50
5080	3"		20.80	.769		11.65	28	39.65	59
5090	4"		16.50	.970		23	35.50	58.50	83
5110	1/4 bend, long sweep, 1-1/2"	1 Plum	18.20	.440		5.85	17.85	23.70	35.50
5112	2"	Q-1	33.10	.483		6.50	17.65	24.15	36
5114	3"		20.80	.769		15.05	28	43.05	62.50
5116	4"		16.50	.970		28.50	35.50	64	89.50
5250	Tee, sanitary 1-1/4"	1 Plum	13.50	.593		9.45	24	33.45	50
5254	1-1/2"	"	12.10	.661		4.41	27	31.41	49
5255	2"	Q-1	20	.800		6.50	29	35.50	55
5256	3"		13.90	1.151		17.05	42	59.05	88

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

22 11 13.76 Pipe Fittings, Plastic		Crew	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours			Labor	Equipment	Total		
5257	4"	Q-1	11	1.455	Ea.	31	53		84	122	
5259	6"	↓	6.70	2.388		126	87.50		213.50	282	
5261	8"	Q-2	6.20	3.871		293	136		429	550	
5264	2" x 1-1/2"	Q-1	22	.727		5.75	26.50		32.25	50	
5266	3" x 1-1/2"		15.50	1.032		12.45	37.50		49.95	75.50	
5268	4" x 3"		12.10	1.322		37	48.50		85.50	120	
5271	6" x 4"	↓	6.90	2.319		122	85		207	273	
5314	Combination Y & 1/8 bend, 1-1/2"	1 Plum	12.10	.661		10.75	27		37.75	56	
5315	2"	Q-1	20	.800		12.90	29		41.90	62	
5317	3"		13.90	1.151		29	42		71	101	
5318	4"	↓	11	1.455	↓	58	53		111	151	
5324	Combination Y & 1/8 bend, reducing										
5325	2" x 2" x 1-1/2"	Q-1	22	.727	Ea.	15.15	26.50		41.65	60	
5327	3" x 3" x 1-1/2"		15.50	1.032		27	37.50		64.50	91.50	
5328	3" x 3" x 2"		15.30	1.046		19.95	38		57.95	84.50	
5329	4" x 4" x 2"	↓	12.20	1.311		30.50	48		78.50	112	
5331	Wye, 1-1/4"	1 Plum	13.50	.593		12.10	24		36.10	53	
5332	1-1/2"	"	12.10	.661		8.20	27		35.20	53	
5333	2"	Q-1	20	.800		7.90	29		36.90	56.50	
5334	3"		13.90	1.151		21.50	42		63.50	92.50	
5335	4"		11	1.455		39	53		92	130	
5336	6"	↓	6.70	2.388		114	87.50		201.50	269	
5337	8"	Q-2	6.20	3.871		217	136		353	460	
5341	2" x 1-1/2"	Q-1	22	.727		9.85	26.50		36.35	54.50	
5342	3" x 1-1/2"		15.50	1.032		14.60	37.50		52.10	78	
5343	4" x 3"		12.10	1.322		32	48.50		80.50	114	
5344	6" x 4"	↓	6.90	2.319		87	85		172	235	
5345	8" x 6"	Q-2	6.40	3.750		188	132		320	420	
5347	Double wye, 1-1/2"	1 Plum	9.10	.879		18.25	35.50		53.75	78.50	
5348	2"	Q-1	16.60	.964		20.50	35		55.50	80	
5349	3"		10.40	1.538		42.50	56		98.50	139	
5350	4"	↓	8.25	1.939	↓	85.50	71		156.50	211	
5353	Double wye, reducing										
5354	2" x 2" x 1-1/2" x 1-1/2"	Q-1	16.80	.952	Ea.	18.60	35		53.60	77.50	
5355	3" x 3" x 2" x 2"		10.60	1.509		31.50	55		86.50	125	
5356	4" x 4" x 3" x 3"		8.45	1.893		68	69		137	188	
5357	6" x 6" x 4" x 4"		7.25	2.207		239	80.50		319.50	395	
5374	Coupling, 1-1/4"	1 Plum	20.20	.396		5.70	16.10		21.80	33	
5376	1-1/2"	"	18.20	.440		1.19	17.85		19.04	30.50	
5378	2"	Q-1	33.10	.483		1.62	17.65		19.27	31	
5380	3"		20.80	.769		5.65	28		33.65	52	
5390	4"		16.50	.970		9.65	35.50		45.15	68.50	
5410	Reducer bushing, 2" x 1-1/4"		36.50	.438		3.38	16		19.38	29.50	
5412	3" x 1-1/2"		27.30	.586		10.10	21.50		31.60	46	
5414	4" x 2"		18.20	.879		17.35	32		49.35	71.50	
5416	6" x 4"		11.10	1.441		45	52.50		97.50	136	
5418	8" x 6"	Q-2	10.20	2.353		89	83		172	234	
5500	CPVC, Schedule 80, threaded joints.										
5540	90° elbow, 1/4"	1 Plum	32	.250	Ea.	13	10.15		23.15	31	
5560	1/2"		30.30	.264		7.55	10.70		18.25	26	
5570	3/4"		26	.308		11.30	12.50		23.80	33	
5580	1"		22.70	.352		15.85	14.30		30.15	41	
5590	1-1/4"		20.20	.396		30.50	16.10		46.60	60	

# 22 11 Facility Water Distribution

## 22 11 13 – Facility Water Distribution Piping

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Ind O&P
22 11 13.76 Pipe Fittings, Plastic						Labor	Equipment	Total	
5600	1-1/2"			1 Plum	18.20	.440	Ea.	33	17.85
5610	2"			Q-1	33.10	.483		44	17.65
5730	Coupling, 1/4"			1 Plum	32	.250		16.65	10.15
5732	1/2"				30.30	.264		13.75	10.70
5734	3/4"				26	.308		22	12.50
5736	1"				22.70	.352		25	14.30
5738	1-1/4"				20.20	.396		26.50	16.10
5740	1-1/2"				18.20	.440		28.50	17.85
5742	2"			Q-1	33.10	.483		33.50	17.65
5900	CPVC, Schedule 80, socket joints								
5904	90° elbow, 1/4"			1 Plum	32	.250	Ea.	12.45	10.15
5906	1/2"				30.30	.264		4.88	10.70
5908	3/4"				26	.308		6.25	12.50
5910	1"				22.70	.352		9.90	14.30
5912	1-1/4"				20.20	.396		21.50	16.10
5914	1-1/2"				18.20	.440		24	17.85
5916	2"			Q-1	33.10	.483		29	17.65
5930	45° elbow, 1/4"			1 Plum	32	.250		18.50	10.15
5932	1/2"				30.30	.264		5.95	10.70
5934	3/4"				26	.308		7.80	12.50
5936	1"				22.70	.352		13.70	14.30
5938	1-1/4"				20.20	.396		27	16.10
5940	1-1/2"				18.20	.440		27.50	17.85
5942	2"			Q-1	33.10	.483		27.50	17.65
5990	Coupling, 1/4"			1 Plum	32	.250		13.25	10.15
5992	1/2"				30.30	.264		5.15	10.70
5994	3/4"				26	.308		7.20	12.50
5996	1"				22.70	.352		9.70	14.30
5998	1-1/4"				20.20	.396		14.55	16.10
6000	1-1/2"				18.20	.440		18.25	17.85
6002	2"			Q-1	33.10	.483		21.50	17.65

## 22 11 19 – Domestic Water Piping Specialties

### 22 11 19.38 Water Supply Meters

0010	<b>WATER SUPPLY METERS</b>								
2000	Domestic/commercial, bronze								
2020	Threaded								
2060	5/8" diameter, to 20 GPM			1 Plum	16	.500	Ea.	54	20.50
2080	3/4" diameter, to 30 GPM				14	.571		98.50	23
2100	1" diameter, to 50 GPM				12	.667		149	27

### 22 11 19.42 Backflow Preventers

0010	<b>BACKFLOW PREVENTERS</b> , Includes valves								
0020	and four test cocks, corrosion resistant, automatic operation								
4000	Reduced pressure principle								
4100	Threaded, bronze, valves are ball								
4120	3/4" pipe size			1 Plum	16	.500	Ea.	530	20.50

### 22 11 19.50 Vacuum Breakers

0010	<b>VACUUM BREAKERS</b>								
0013	See also backflow preventers Section 22 11 19.42								
1000	Anti-siphon continuous pressure type								
1010	Max. 150 psi - 210°F								
1020	Bronze body								
1030	1/2" size			1 Stpi	24	.333	Ea.	192	14

# 22 11 Facility Water Distribution

## 22 11 19 – Domestic Water Piping Specialties

22 11 19.50 Vacuum Breakers		Daily Crew	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P	
		Stpi	Output	Unit	Material	Labor	Equipment	Total	Incl O&P	
1040	3/4" size				192	16.80		208.80	239	
1050	1" size		19	Ea.	197	17.65		214.65	245	
1060	1-1/4" size		15	.533	390	22.50		412.50	465	
1070	1-1/2" size		13	.615	475	26		501	570	
1080	2" size		11	.727	490	30.50		520.50	590	
1200	Max. 125 psi with atmospheric vent									
1210	Brass, in-line construction									
1220	1/4" size	1 Stpi	24	.333	Ea.	143	14		157	180
1230	3/8" size	"	24	.333		143	14		157	180
1260	For polished chrome finish, add					13%				
2000	Anti-siphon, non-continuous pressure type									
2010	Hot or cold water 125 psi - 210°F									
2020	Bronze body									
2030	1/4" size	1 Stpi	24	.333	Ea.	88.50	14		102.50	120
2040	3/8" size		24	.333		88.50	14		102.50	120
2050	1/2" size		24	.333		99	14		113	132
2060	3/4" size		20	.400		119	16.80		135.80	158
2070	1" size		19	.421		183	17.65		200.65	231
2080	1-1/4" size		15	.533		320	22.50		342.50	390
2090	1-1/2" size		13	.615		350	26		376	430
2100	2" size		11	.727		585	30.50		615.50	695
2110	2-1/2" size		8	1		1,675	42		1,717	1,925
2120	3" size		6	1.333		2,225	56		2,281	2,550
2150	For polished chrome finish, add					50%				

## 22 11 19.54 Water Hammer Arresters/Shock Absorbers

0010 WATER HAMMER ARRESTERS/SHOCK ABSORBERS		1 Plum	12	.667	Ea.	31	27	58	78.50
0490	Copper								
0500	3/4" male IPS for 1 to 11 fixtures								

# 22 13 Facility Sanitary Sewerage

## 22 13 16 – Sanitary Waste and Vent Piping

### 22 13 16.20 Pipe, Cast Iron

0010 PIPE, CAST IRON, Soil, on clevis hanger assemblies, 5' OC		R221113-50	Q-1	63	.254	LF	17.10	9.30		26.40	34
Single hub, service wt., lead & oakum joints 10' OC				60	.267		26.50	9.75		36.25	45
2" diameter				55	.291		24.50	10.65		35.15	44.50
3" diameter											
4" diameter											
No hub, couplings 10' OC			Q-1	71	.225	L.F.	16.85	8.25		25.10	32
1-1/2" diameter				67	.239		20	8.75		28.75	36.50
2" diameter				64	.250		27	9.15		36.15	44.50
3" diameter				58	.276		25	10.10		35.10	44
4" diameter											

### 22 13 16.30 Pipe Fittings, Cast Iron

0010 PIPE FITTINGS, CAST IRON, Soil		Q-1	16	1	Ea.	23.50	36.50		60	85.50
0040	Hub and spigot, service weight, lead & oakum joints									
0080	1/4 bend, 2"	Q-1	16	1	Ea.	23.50	36.50		60	85.50
0120	3"		14	1.143		31	42		73	103
0140	4"		13	1.231		49	45		94	128
0340	1/8 bend, 2"		16	1		16.65	36.50		53.15	78.50
0350	3"		14	1.143		26	42		68	97

# 22 13 Facility Sanitary Sewerage

## 22 13 16 – Sanitary Waste and Vent Piping

22 13 16.30 Pipe Fittings, Cast Iron		Crew	Daily	Labor-	Unit	2020 Bare Costs			Total	Total
			Output	Hours		Material	Labor	Equipment		Incl O&P
0360	4"	Q-1	13	1.231	Ea.	38	45		83	116
0500	Sanitary tee, 2"		10	1.600		32.50	58.50		91	132
0540	3"		9	1.778		53	65		118	164
0620	4"		8	2		65.50	73		138.50	192
5990	No hub									
6000	Cplg. & labor required at joints not incl. in fitting									
6010	price. Add 1 coupling per joint for installed price									
6020	1/4 bend, 1-1/2"				Ea.	11.65			11.65	12.80
6060	2"					12.60			12.60	13.85
6080	3"					17.65			17.65	19.40
6120	4"					26			26	28.50
6184	1/4 bend, long sweep, 1-1/2"					29.50			29.50	32.50
6186	2"					28			28	30.50
6188	3"					33.50			33.50	37
6189	4"					53			53	58.50
6190	5"					103			103	114
6191	6"					118			118	129
6192	8"					310			310	345
6193	10"					655			655	725
6200	1/8 bend, 1-1/2"					9.70			9.70	10.70
6210	2"					10.90			10.90	12
6212	3"					14.55			14.55	16
6214	4"					19.15			19.15	21
6380	Sanitary tee, tapped, 1-1/2"					23.50			23.50	26
6382	2" x 1-1/2"					21			21	23
6384	2"					22			22	24
6386	3" x 2"					33.50			33.50	36.50
6388	3"					56			56	62
6390	4" x 1-1/2"					30			30	32.50
6392	4" x 2"					34			34	37
6393	4"					34			34	37
6394	6" x 1-1/2"					76.50			76.50	84
6396	6" x 2"					77.50			77.50	85
6459	Sanitary tee, 1-1/2"					16.25			16.25	17.85
6460	2"					17.40			17.40	19.15
6470	3"					21.50			21.50	23.50
6472	4"					41			41	45
8000	Coupling, standard (by CISPI Mfrs.)									
8020	1-1/2"	Q-1	48	.333	Ea.	16.70	12.20		28.90	38.50
8040	2"		44	.364		17.80	13.30		31.10	41.50
8080	3"		38	.421		20	15.40		35.40	47
8120	4"		33	.485		23	17.70		40.70	54.50

## 22 13 16.50 Shower Drains

0010	SHOWER DRAINS									
2780	Shower, with strainer, uniform diam. trap, bronze top									
2800	2" and 3" pipe size	Q-1	8	2	Ea.	360	73		433	515
2820	4" pipe size	"	7	2.286		415	83.50		498.50	590
2840	For galvanized body, add					239			239	263

# 22 13 Facility Sanitary Sewerage

## 22 13 16 – Sanitary Waste and Vent Piping

22 13 16.60 Traps		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Incl O&P
0010	TRAPS						Labor	Equipment	Total	
0030	Cast iron, service weight									
0050	Running P trap, without vent									
1100	2"	Q-1	16	1	Ea.	167	36.50		203.50	244
1150	4"	"	13	1.231		167	45		212	258
1160	6"	Q-2	17	1.412		770	49.50		819.50	930
3000	P trap, B&S, 2" pipe size	Q-1	16	1		41.50	36.50		78	106
3040	3" pipe size	"	14	1.143	↓	61.50	42		103.50	136
4700	Copper, drainage, drum trap									
4840	3" x 6" swivel, 1-1/2" pipe size	1 Plum	16	.500	Ea.	315	20.50		335.50	380
5100	P trap, standard pattern									
5200	1-1/4" pipe size	1 Plum	18	.444	Ea.	102	18.05		120.05	143
5240	1-1/2" pipe size	"	17	.471		111	19.10		130.10	155
5260	2" pipe size	"	15	.533		184	21.50		205.50	238
5280	3" pipe size	↓	11	.727	↓	525	29.50		554.50	630
6710	ABS DWV P trap, solvent weld joint									
6720	1-1/2" pipe size	1 Plum	18	.444	Ea.	10.50	18.05		28.55	41
6722	2" pipe size	"	17	.471		14.05	19.10		33.15	47
6724	3" pipe size	"	15	.533		55.50	21.50		77	96.50
6726	4" pipe size	↓	14	.571	↓	114	23		137	164
6732	PVC DWV P trap, solvent weld joint									
6733	1-1/2" pipe size	1 Plum	18	.444	Ea.	8.95	18.05		27	39.50
6734	2" pipe size	"	17	.471		11.15	19.10		30.25	44
6735	3" pipe size	"	15	.533		38	21.50		59.50	77
6736	4" pipe size	"	14	.571		85	23		108	132
6860	PVC DWV hub x hub, basin trap, 1-1/4" pipe size	"	18	.444		54	18.05		72.05	88.50
6870	Sink P trap, 1-1/2" pipe size	"	18	.444		14.45	18.05		32.50	45.50
6880	Tubular S trap, 1-1/2" pipe size	↓	17	.471	↓	26.50	19.10		45.60	60.50
6890	PVC sch. 40 DWV, drum trap									
6900	1-1/2" pipe size	1 Plum	16	.500	Ea.	37	20.50		57.50	73.50
6910	P trap, 1-1/2" pipe size	"	18	.444		8.80	18.05		26.85	39
6920	2" pipe size	"	17	.471		11.85	19.10		30.95	44.50
6930	3" pipe size	"	15	.533		40.50	21.50		62	80.50
6940	4" pipe size	"	14	.571		91.50	23		114.50	139
6950	P trap w/clean out, 1-1/2" pipe size	"	18	.444		14.90	18.05		32.95	46
6960	2" pipe size	↓	17	.471	↓	24.50	19.10		43.60	58.50

## 22 13 16.80 Vent Flashing and Caps

0010 VENT FLASHING AND CAPS										
0120	Vent caps									
0140	Cast iron									
0160	1-1/4" to 1-1/2" pipe	1 Plum	23	.348	Ea.	41.50	14.10		55.60	68.50
0170	2" to 2-1/8" pipe	"	22	.364		48	14.75		62.75	77
0180	2-1/2" to 3-5/8" pipe	"	21	.381		52	15.45		67.45	83
0190	4" to 4-1/8" pipe	"	19	.421		75	17.10		92.10	111
0200	5" to 6" pipe	↓	17	.471	↓	104	19.10		123.10	146
0300	PVC									
0320	1-1/4" to 1-1/2" pipe	1 Plum	24	.333	Ea.	13.70	13.55		27.25	37
0330	2" to 2-1/8" pipe	"	23	.348	"	15.50	14.10		29.60	40
0900	Vent flashing									
1350	Copper with neoprene ring									
1400	1-1/4" pipe	1 Plum	20	.400	Ea.	74	16.25		90.25	108
1430	1-1/2" pipe	↓	20	.400	↓	74	16.25		90.25	108

# 22 13 Facility Sanitary Sewerage

## 22 13 16 – Sanitary Waste and Vent Piping

22 13 16.80 Vent Flashing and Caps			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
			Crew			Labor	Equipment		
1440	2" pipe		1 Plum	18	.444	Ea.	74	18.05	92.05
1450	3" pipe			17	.471		89.50	19.10	108.60
1460	4" pipe			16	.500		89.50	20.50	110
2980	Neoprene, one piece								
3000	1-1/4" pipe		1 Plum	24	.333	Ea.	3.29	13.55	16.84
3030	1-1/2" pipe			24	.333		3.35	13.55	16.90
3040	2" pipe			23	.348		4.79	14.10	18.89
3050	3" pipe			21	.381		7	15.45	22.45
3060	4" pipe			20	.400		10.45	16.25	26.70

## 22 13 19 – Sanitary Waste Piping Specialties

### 22 13 19.13 Sanitary Drains

0010 SANITARY DRAINS			Q-1	12	1.333	Ea.	227	48.50	275.50	330
2000 Floor, medium duty, CI, deep flange, 7" diam. top										
2040 2" and 3" pipe size										
2080 For galvanized body, add							140		140	154
2120 With polished bronze top							375		375	410

# 22 14 Facility Storm Drainage

## 22 14 26 – Facility Storm Drains

### 22 14 26.13 Roof Drains

0010 ROOF DRAINS			Q-1	14	1.143	Ea.	410	42	452	525
3860 Roof, flat metal deck, CI body, 12" CI dome										
3890 3" pipe size										

## 22 14 29 – Sump Pumps

### 22 14 29.16 Submersible Sump Pumps

0010 SUBMERSIBLE SUMP PUMPS			1 Plum	6.40	1.250	Ea.	168	51	219	267
7000 Sump pump, automatic										
7100 Plastic, 1-1/4" discharge, 1/4 HP										
7500 Cast iron, 1-1/4" discharge, 1/4 HP			"	6	1.333	"	225	54	279	335

# 22 31 Domestic Water Softeners

## 22 31 13 – Residential Domestic Water Softeners

### 22 31 13.10 Residential Water Softeners

0010 RESIDENTIAL WATER SOFTENERS			2 Plum	5	3.200	Ea.	395	130	525	650
7350 Water softener, automatic, to 30 grains per gallon										
7400 To 100 grains per gallon			"	4	4	"	940	162	1,102	1,300

# 22 33 Electric Domestic Water Heaters

## 22 33 30 – Residential, Electric Domestic Water Heaters

22 33 30.13 Residential, Small-Capacity Elec. Water Heaters	0010 RESIDENTIAL, SMALL-CAPACITY ELECTRIC DOMESTIC WATER HEATERS	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
		Crew	Output			Labor	Equipment	Total		
1000	Residential, electric, glass lined tank, 5 yr., 10 gal., single element	1	Plum	2.30	3.478	Ea.	470	141	611	745
1060	30 gallon, double element			2.20	3.636		1,075	148	1,223	1,425
1080	40 gallon, double element			2	4		1,250	162	1,412	1,650
1100	52 gallon, double element			2	4		1,425	162	1,587	1,850
1120	66 gallon, double element			1.80	4.444		1,925	180	2,105	2,425
1140	80 gallon, double element			1.60	5		2,175	203	2,378	2,725

# 22 34 Fuel-Fired Domestic Water Heaters

## 22 34 13 – Instantaneous, Tankless, Gas Domestic Water Heaters

### 22 34 13.10 Instantaneous, Tankless, Gas Water Heaters

0010 INSTANTANEOUS, TANKLESS, GAS WATER HEATERS	9410 Natural gas/propane, 3.2 GPM	G	1 Plum	2	4	Ea.	575	162	737	900
9420	6.4 GPM	G		1.90	4.211		780	171	951	1,150
9430	8.4 GPM	G		1.80	4.444		880	180	1,060	1,250
9440	9.5 GPM	G		1.60	5		1,050	203	1,253	1,475

## 22 34 30 – Residential Gas Domestic Water Heaters

### 22 34 30.13 Residential, Atmos, Gas Domestic Wtr Heaters

0010 RESIDENTIAL, ATMOSPHERIC, GAS DOMESTIC WATER HEATERS	2000 Gas fired, foam lined tank, 10 yr., vent not incl.	1 Plum	2	4	Ea.	2,100	162	2,262	2,600
2100	30 gallon	"	1.50	5.333	"	2,650	217	2,867	3,275
3000	Tank leak safety, water & gas shut off see 22 05 23.20 8800								

## 22 34 46 – Oil-Fired Domestic Water Heaters

### 22 34 46.10 Residential Oil-Fired Water Heaters

0010 RESIDENTIAL OIL-FIRED WATER HEATERS	3000 Oil fired, glass lined tank, 5 yr., vent not included, 30 gallon	1 Plum	2	4	Ea.	1,400	162	1,562	1,825
3040	50 gallon	"	1.80	4.444	"	1,375	180	1,555	1,825

# 22 41 Residential Plumbing Fixtures

## 22 41 13 – Residential Water Closets, Urinals, and Bidets

### 22 41 13.13 Water Closets

0010 WATER CLOSETS	0150 Tank type, vitreous china, incl. seat, supply pipe w/stop, 1.6 gpf or noted	Q-1	5.30	3.019	Ea.	420	110	530	640
0200	Wall hung								
0400	Two piece, close coupled	Q-1	5.30	3.019	Ea.	900	110	1,010	1,175
0960	For rough-in, supply, waste, vent and carrier	"	2.73	5.861	"	1,275	214	1,489	1,750
0999	Floor mounted								
1020	One piece, low profile	Q-1	5.30	3.019	Ea.	219	110	329	420
1100	Two piece, close coupled								
1102	Economy								
1110	Two piece, close coupled, dual flush								
1140	Two piece, close coupled, 1.28 gpf, ADA	G	5.30	3.019		280	110	390	490
1960	For color, add								
1980	For rough-in, supply, waste and vent	Q-1	3.05	5.246	Ea.	320	192	532	690

# 22 41 Residential Plumbing Fixtures

## 22 41 16 – Residential Lavatories and Sinks

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total
						Labor	Equipment	Total	Incl O&P
<b>22 41 16.13 Lavatories</b>									
0010	<b>LAVATORIES, With trim, white unless noted otherwise</b>								
0500	Vanity top, porcelain enamel on cast iron								
0600	20" x 18"	Q-1	6.40	2.500	Ea.	305	91.50	396.50	490
0640	33" x 19" oval					520	91.50	611.50	725
0720	19" round	↓	6.40	2.500	↓	455	91.50	546.50	650
0860	For color, add					25%			
1000	Cultured marble, 19" x 17", single bowl	Q-1	6.40	2.500	Ea.	124	91.50	215.50	287
1120	25" x 22", single bowl		6.40	2.500		164	91.50	255.50	330
1160	37" x 22", single bowl	↓	6.40	2.500		203	91.50	294.50	375
1580	For color, same price								
1900	Stainless steel, self-rimming, 25" x 22", single bowl, ledge	Q-1	6.40	2.500	Ea.	315	91.50	406.50	500
1960	17" x 22", single bowl		6.40	2.500		305	91.50	396.50	485
2600	Steel, enameled, 20" x 17", single bowl		5.80	2.759		126	101	227	305
2900	Vitreous china, 20" x 16", single bowl		5.40	2.963		211	108	319	410
3200	22" x 13", single bowl		5.40	2.963		216	108	324	415
3580	Rough-in, supply, waste and vent for all above lavatories	↓	2.30	6.957	↓	278	254	532	720
4000	Wall hung								
4040	Porcelain enamel on cast iron, 16" x 14", single bowl	Q-1	8	2	Ea.	435	73	508	595
4180	20" x 18", single bowl	"	8	2	"	246	73	319	390
4580	For color, add					30%			
6000	Vitreous china, 18" x 15", single bowl with backsplash	Q-1	7	2.286	Ea.	170	83.50	253.50	325
6060	19" x 17", single bowl		7	2.286		122	83.50	205.50	271
6960	Rough-in, supply, waste and vent for above lavatories	↓	1.66	9.639	↓	475	350	825	1,100
7000	Pedestal type								
7600	Vitreous china, 27" x 21", white	Q-1	6.60	2.424	Ea.	685	88.50	773.50	900
7610	27" x 21", colored		6.60	2.424		875	88.50	963.50	1,100
7620	27" x 21", premium color		6.60	2.424		995	88.50	1,083.50	1,250
7660	26" x 20", white		6.60	2.424		665	88.50	753.50	875
7670	26" x 20", colored		6.60	2.424		855	88.50	943.50	1,075
7680	26" x 20", premium color		6.60	2.424		1,025	88.50	1,113.50	1,275
7700	24" x 20", white		6.60	2.424		465	88.50	553.50	655
7710	24" x 20", colored		6.60	2.424		580	88.50	668.50	780
7720	24" x 20", premium color		6.60	2.424		640	88.50	728.50	850
7760	21" x 18", white		6.60	2.424		258	88.50	346.50	430
7770	21" x 18", colored		6.60	2.424		289	88.50	377.50	460
7990	Rough-in, supply, waste and vent for pedestal lavatories	↓	1.66	9.639	↓	475	350	825	1,100
<b>22 41 16.16 Sinks</b>									
0010	<b>SINKS, With faucets and drain</b>								
2000	Kitchen, counter top style, PE on CI, 24" x 21" single bowl	Q-1	5.60	2.857	Ea.	310	104	414	510
2100	31" x 22" single bowl		5.60	2.857		860	104	964	1,125
2200	32" x 21" double bowl		4.80	3.333		390	122	512	630
3000	Stainless steel, self rimming, 19" x 18" single bowl		5.60	2.857		625	104	729	855
3100	25" x 22" single bowl		5.60	2.857		690	104	794	930
3200	33" x 22" double bowl		4.80	3.333		1,000	122	1,122	1,300
3300	43" x 22" double bowl		4.80	3.333		1,150	122	1,272	1,475
4000	Steel, enameled, with ledge, 24" x 21" single bowl		5.60	2.857		535	104	639	760
4100	32" x 21" double bowl		4.80	3.333		520	122	642	770
4960	For color sinks except stainless steel, add					10%			
4980	For rough-in, supply, waste and vent, counter top sinks	Q-1	2.14	7.477	▼	320	273	593	795
5000	Kitchen, raised deck, PE on CI								
5100	32" x 21", dual level, double bowl	Q-1	2.60	6.154	Ea.	485	225	710	900
5790	For rough-in, supply, waste & vent, sinks	"	1.85	8.649	"	320	315	635	865

# 22 41 Residential Plumbing Fixtures

## 22 41 19 – Residential Bathtubs

22 41 19.10 Baths		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
<b>0010 BATHS</b>										
0100      Tubs, recessed porcelain enamel on cast iron, with trim										
0180	48" x 42"	Q-1	4	4	Ea.	3,150	146		3,296	3,700
0220	72" x 36"	"	3	5.333	"	2,975	195		3,170	3,600
0300      Mat bottom										
0380	5' long	Q-1	4.40	3.636	Ea.	1,275	133		1,408	1,625
0480	Above floor drain, 5' long	"	4	4		825	146		971	1,150
0560	Corner 48" x 44"		4.40	3.636		2,925	133		3,058	3,425
2000	Enamelled formed steel, 4'-6" long					515	101		616	730
4600	Module tub & showerwall surround, molded fiberglass									
4610	5' long x 34" wide x 76" high	Q-1	4	4	Ea.	790	146		936	1,100
9600	Rough-in, supply, waste and vent, for all above tubs, add	"	2.07	7.729	"	445	283		728	950

## 22 41 23 – Residential Showers

22 41 23.20 Showers		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
<b>0010 SHOWERS</b>										
1500      Stall, with drain only. Add for valve and door/curtain										
1520	32" square	Q-1	5	3.200	Ea.	1,175	117		1,292	1,475
1530	36" square	"	4.80	3.333		2,950	122		3,072	3,425
1540      Terrazzo receptor, 32" square						1,375	117		1,492	1,725
1560	36" square		4.80	3.333		1,650	122		1,772	2,025
1580	36" corner angle		4.80	3.333		2,050	122		2,172	2,450
3000	Fiberglass, one piece, with 3 walls, 32" x 32" square		5.50	2.909		355	106		461	565
3100	36" x 36" square		5.50	2.909		465	106		571	685
4200	Rough-in, supply, waste and vent for above showers		2.05	7.805		410	285		695	915

## 22 41 36 – Residential Laundry Trays

22 41 36.10 Laundry Sinks		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
<b>0010 LAUNDRY SINKS, With trim</b>										
0020      Porcelain enamel on cast iron, black iron frame										
0050	24" x 21", single compartment	Q-1	6	2.667	Ea.	615	97.50		712.50	835
0100	26" x 21", single compartment	"	6	2.667	"	630	97.50		727.50	855
3000      Plastic, on wall hanger or legs										
3020	18" x 23", single compartment	Q-1	6.50	2.462	Ea.	145	90		235	305
3100	20" x 24", single compartment	"	6.50	2.462		165	90		255	330
3200	36" x 23", double compartment		5.50	2.909		219	106		325	415
3300	40" x 24", double compartment		5.50	2.909		287	106		393	490
5000	Stainless steel, counter top, 22" x 17" single compartment		6	2.667		77.50	97.50		175	246
5200	33" x 22", double compartment		5	3.200		93	117		210	293
9600	Rough-in, supply, waste and vent, for all laundry sinks		2.14	7.477		320	273		593	795

## 22 41 39 – Residential Faucets, Supplies and Trim

22 41 39.10 Faucets and Fittings		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
<b>0010 FAUCETS AND FITTINGS</b>										
0150      Bath, faucets, diverter spout combination, sweat		1 Plum	8	1	Ea.	87	40.50		127.50	162
0200	For integral stops, IPS unions, add					111			111	123
0420	Bath, press-bal mix valve w/diverter, spout, shower head, arm/flange	1 Plum	8	1		185	40.50		225.50	271
0500	Drain, central lift, 1-1/2" IPS male		20	.400		50.50	16.25		66.75	82
0600	Trip lever, 1-1/2" IPS male		20	.400		60.50	16.25		76.75	93
1000	Kitchen sink faucets, top mount, cast spout		10	.800		84	32.50		116.50	146
1100	For spray, add					24	.333		17.25	21
1300	Single control lever handle								30.80	41
1310	With pull out spray									

# 22 41 Residential Plumbing Fixtures

## 22 41 39 – Residential Faucets, Supplies and Trim

		Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
22 41 39.10 Faucets and Fittings						Labor	Equipment		
1320	Polished chrome	1 Plum	10	.800	Ea.	196	32.50	228.50	269
2000	Laundry faucet, shelf type, IPS or copper unions		12	.667		62	27	89	113
2100	Lavatory faucet, centerset, without drain		10	.800		67.50	32.50	100	128
2120	With pop-up drain	↓	6.66	1.201	↓	54.50	49	103.50	140
2210	Porcelain cross handles and pop-up drain								
2220	Polished chrome	1 Plum	6.66	1.201	Ea.	222	49	271	325
2230	Polished brass	"	6.66	1.201	"	293	49	342	405
2260	Single lever handle and pop-up drain								
2280	Satin nickel	1 Plum	6.66	1.201	Ea.	280	49	329	390
2290	Polished chrome		6.66	1.201		200	49	249	300
2800	Self-closing, center set		10	.800		151	32.50	183.50	219
4000	Shower by-pass valve with union		18	.444		57.50	18.05	75.55	93
4200	Shower thermostatic mixing valve, concealed, with shower head trim kit	↓	8	1	↓	385	40.50	425.50	485
4220	Shower pressure balancing mixing valve								
4230	With shower head, arm, flange and diverter tub spout								
4240	Chrome	1 Plum	6.14	1.303	Ea.	415	53	468	540
4250	Satin nickel		6.14	1.303		560	53	613	700
4260	Polished graphite		6.14	1.303		545	53	598	685
5000	Sillcock, compact, brass, IPS or copper to hose	↓	24	.333	↓	12.05	13.55	25.60	35.50

## 22 41 39.70 Washer/Dryer Accessories

0010 WASHER/DRYER ACCESSORIES									
1020	Valves ball type single lever								
1030	1/2" diam., IPS	1 Plum	21	.381	Ea.	65	15.45	80.45	97
1040	1/2" diam., solder	"	21	.381	"	65	15.45	80.45	97
1050	Recessed box, 16 ga., two hose valves and drain								
1060	1/2" size, 1-1/2" drain	1 Plum	18	.444	Ea.	152	18.05	170.05	197
1070	1/2" size, 2" drain	"	17	.471	"	135	19.10	154.10	181
1080	With grounding electric receptacle								
1090	1/2" size, 1-1/2" drain	1 Plum	18	.444	Ea.	167	18.05	185.05	213
1100	1/2" size, 2" drain	"	17	.471	"	179	19.10	198.10	229
1110	With grounding and dryer receptacle								
1120	1/2" size, 1-1/2" drain	1 Plum	18	.444	Ea.	205	18.05	223.05	255
1130	1/2" size, 2" drain	"	17	.471	"	207	19.10	226.10	260
1140	Recessed box, 16 ga., ball valves with single lever and drain								
1150	1/2" size, 1-1/2" drain	1 Plum	19	.421	Ea.	286	17.10	303.10	345
1160	1/2" size, 2" drain	"	18	.444	"	247	18.05	265.05	300
1170	With grounding electric receptacle								
1180	1/2" size, 1-1/2" drain	1 Plum	19	.421	Ea.	305	17.10	322.10	365
1190	1/2" size, 2" drain	"	18	.444	"	275	18.05	293.05	335
1200	With grounding and dryer receptacles								
1210	1/2" size, 1-1/2" drain	1 Plum	19	.421	Ea.	272	17.10	289.10	325
1220	1/2" size, 2" drain	"	18	.444	"	300	18.05	318.05	360
1300	Recessed box, 20 ga., two hose valves and drain (economy type)								
1310	1/2" size, 1-1/2" drain	1 Plum	19	.421	Ea.	118	17.10	135.10	158
1320	1/2" size, 2" drain		18	.444		110	18.05	128.05	151
1330	Box with drain only		24	.333		68.50	13.55	82.05	97
1340	1/2" size, 1-1/2" ABS/PVC drain		19	.421		126	17.10	143.10	166
1350	1/2" size, 2" ABS/PVC drain		18	.444		134	18.05	152.05	178
1352	Box with drain and 15 A receptacle		24	.333		72.50	13.55	86.05	102
1360	1/2" size, 2" drain ABS/PVC, 15 A receptacle	↓	24	.333	↓	134	13.55	147.55	169
1400	Wall mounted								
1410	1/2" size, 1-1/2" plastic drain	1 Plum	19	.421	Ea.	34.50	17.10	51.60	65.50

# 22 41 Residential Plumbing Fixtures

## 22 41 39 - Residential Faucets, Supplies and Trim

22 41 39.70 Washer/Dryer Accessories	Description	Crew	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours			Labor	Equipment	Total		
1420	1/2" size, 2" plastic drain	1 Plum	18	.444	Ea.	20	18.05		38.05	51.50	
1500	Dryer vent kit	1 Plum	20	.400	Ea.	13.95	16.25		30.20	42	
1510	8' flex duct, clamps and outside hood		3.46	2.310		355	94		449	545	
1980	Rough-in, supply, waste, and vent for washer boxes					82.50	40.50		123	158	
9605	Washing machine valve assembly, hot & cold water supply, recessed		8	1		65	40.50		105.50	138	
9610	Washing machine valve assembly, hot & cold water supply, mounted	↓	8	1	↓						

# 22 42 Commercial Plumbing Fixtures

## 22 42 13 - Commercial Water Closets, Urinals, and Bidets

### 22 42 13.13 Water Closets

0010	WATER CLOSETS									
3000	Bowl only, with flush valve, seat, 1.6 gpf unless noted									
3100	Wall hung	Q-1	5.80	2.759	Ea.	1,100	101		1,201	1,375
3200	For rough-in, supply, waste and vent, single WC		2.56	6.250		1,300	228		1,528	1,825
3300	Floor mounted		5.80	2.759		360	101		461	560
3370	For rough-in, supply, waste and vent, single WC	↓	2.84	5.634	↓	385	206		591	755
3390	Floor mounted children's size, 10-3/4" high									
3392	With automatic flush sensor, 1.6 gpf	Q-1	6.20	2.581	Ea.	660	94.50		754.50	880
3396	With automatic flush sensor, 1.28 gpf		6.20	2.581		610	94.50		704.50	825
3400	For rough-in, supply, waste and vent, single WC		2.84	5.634		385	206		591	755

## 22 42 16 - Commercial Lavatories and Sinks

### 22 42 16.13 Lavatories

0010	LAVATORIES, With trim, white unless noted otherwise									
0020	Commercial lavatories same as residential. See Section 22 41 16									

### 22 42 16.40 Service Sinks

0010	SERVICE SINKS									
6650	Service, floor, corner, PE on CI, 28" x 28"	Q-1	4.40	3.636	Ea.	1,125	133		1,258	1,475
6750	Vinyl coated rim guard, add					65.50			65.50	72
6755	Mop sink, molded stone, 22" x 18"	1 Plum	3.33	2.402		545	97.50		642.50	760
6760	Mop sink, molded stone, 24" x 36"		3.33	2.402		279	97.50		376.50	465
6770	Mop sink, molded stone, 24" x 36", w/rim 3 sides	↓	3.33	2.402	↓	264	97.50		361.50	450
6790	For rough-in, supply, waste & vent, floor service sinks	Q-1	1.64	9.756	↓	1,075	355		1,430	1,750

## 22 42 39 - Commercial Faucets, Supplies, and Trim

### 22 42 39.10 Faucets and Fittings

0010	FAUCETS AND FITTINGS									
2790	Faucets for lavatories									
2800	Self-closing, center set	1 Plum	10	.800	Ea.	151	32.50		183.50	219
2810	Automatic sensor and operator, with faucet head		6.15	1.301		495	53		548	625
3000	Service sink faucet, cast spout, pail hook, hose end	↓	14	.571	↓	76.50	23		99.50	122

### 22 42 39.30 Carriers and Supports

0010	CARRIERS AND SUPPORTS, For plumbing fixtures									
0600	Plate type with studs, top back plate	1 Plum	7	1.143	Ea.	61.50	46.50		108	144
3000	Lavatory, concealed arm									
3050	Floor mounted, single	1 Plum	6	1.333	Ea.	655	54		709	810
3100	High back fixture	"	6	1.333	"	575	54		629	725
3200	Flat slab fixture									
8200	Water closet, residential	1 Plum	6	1.333	Ea.	875	54		929	1,050
8220	Vertical centerline, floor mount									
8240	Single, 3" caulk, 2" or 3" vent	1 Plum	6	1.333	Ea.					

## 22 42 Commercial Plumbing Fixtures

### 22 42 39 - Commercial Faucets, Supplies, and Trim

22 42 39.30 Carriers and Supports	8260	4" caulk, 2" or 4" vent	Daily	Labor-	Unit	2020 Bare Costs			Total	Total	Incl O&P
			Crew Output	Hours		Material	Labor	Equipment			
			1 Plum	6	1.333 Ea.	1,125	54		1,179	1,350	

## 22 51 Swimming Pool Plumbing Systems

### 22 51 19 - Swimming Pool Water Treatment Equipment

#### 22 51 19.50 Swimming Pool Filtration Equipment

0010	SWIMMING POOL FILTRATION EQUIPMENT	2 Plum	1.80	8.889 Total	2,375	360	2,735	3,225
0900	Filter system, sand or diatomite type, incl. pump, 6,000 gal./hr.	"	3	5.333 Ea.	235	217	452	615
1020	Add for chlorination system, 800 S.F. pool							

### Estimating Tips

The labor adjustment factors listed in Subdivision 22 01 02.20 also apply to Division 23.

### 23 10 00 Facility Fuel Systems

- The prices in this subdivision for above- and below-ground storage tanks do not include foundations or hold-down slabs, unless noted. The estimator should refer to Divisions 3 and 31 for foundation system pricing. In addition to the foundations, required tank accessories, such as tank gauges, leak detection devices, and additional manholes and piping, must be added to the tank prices.

### 23 50 00 Central Heating Equipment

- When estimating the cost of an HVAC system, check to see who is responsible for providing and installing the temperature control system. It is possible to overlook controls, assuming that they would be included in the electrical estimate.
- When looking up a boiler, be careful on specified capacity. Some

manufacturers rate their products on output while others use input.

- Include HVAC insulation for pipe, boiler, and duct (wrap and liner).
- Be careful when looking up mechanical items to get the correct pressure rating and connection type (thread, weld, flange).

### 23 70 00 Central HVAC Equipment

- Combination heating and cooling units are sized by the air conditioning requirements. (See Reference No. R236000-20 for the preliminary sizing guide.)
- A ton of air conditioning is nominally 400 CFM.
- Rectangular duct is taken off by the linear foot for each size, but its cost is usually estimated by the pound. Remember that SMACNA standards now base duct on internal pressure.
- Prefabricated duct is estimated and purchased like pipe: straight sections and fittings.
- Note that cranes or other lifting equipment are not included on any

lines in Division 23. For example, if a crane is required to lift a heavy piece of pipe into place high above a gym floor, or to put a rooftop unit on the roof of a four-story building, etc., it must be added. Due to the potential for extreme variation—from nothing additional required to a major crane or helicopter—we feel that including a nominal amount for "lifting contingency" would be useless and detract from the accuracy of the estimate. When using equipment rental cost data from RSMeans, do not forget to include the cost of the operator(s).

### Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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Note: Trade Service, in part, has been used as a reference source for some of the material prices used in Division 23.

# 23 05 Common Work Results for HVAC

## 23 05 05 – Selective Demolition for HVAC

23 05 05.10 HVAC Demolition				Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0010	HVAC DEMOLITION											
0100	Air conditioner, split unit, 3 ton			Q-5	2	8	Ea.		300		300	495
0150	Package unit, 3 ton			Q-6	3	8	"		291		291	475
0260	Baseboard, hydronic fin tube, 1/2"			Q-5	117	.137	L.F.		5.15		5.15	8.45
0298	Boilers											
0300	Electric, up thru 148 kW			Q-19	2	12	Ea.		470		470	765
0310	150 thru 518 kW			"	1	24			940		940	1,525
0320	550 thru 2,000 kW			Q-21	.40	80			3,175		3,175	5,200
0330	2,070 kW and up			"	.30	107			4,250		4,250	6,950
0340	Gas and/or oil, up thru 150 MBH			Q-7	2.20	14.545			550		550	900
0350	160 thru 2,000 MBH				.80	40			1,500		1,500	2,475
0360	2,100 thru 4,500 MBH				.50	64			2,425		2,425	3,950
0370	4,600 thru 7,000 MBH				.30	107			4,025		4,025	6,600
0390	12,200 thru 25,000 MBH				.12	267			10,100		10,100	16,500
1000	Ductwork, 4" high, 8" wide			1 Clab	200	.040	L.F.		1.11		1.11	1.83
1100	6" high, 8" wide				165	.048			1.35		1.35	2.21
1200	10" high, 12" wide				125	.064			1.78		1.78	2.92
1300	12"-14" high, 16"-18" wide				85	.094			2.62		2.62	4.30
1500	30" high, 36" wide				56	.143			3.97		3.97	6.50
2200	Furnace, electric			Q-20	2	10	Ea.		365		365	605
2300	Gas or oil, under 120 MBH			Q-9	4	4			141		141	234
2340	Over 120 MBH			"	3	5.333			188		188	310
2800	Heat pump, package unit, 3 ton			Q-5	2.40	6.667			252		252	410
2840	Split unit, 3 ton				2	8			300		300	495
2950	Tank, steel, oil, 275 gal., above ground				10	1.600			60.50		60.50	99
2951	Tank, steel, oil, 550 gal., above ground				5	3.200			121		121	198
2952	Tank, steel, oil, 1000 gal., above ground				2.50	6.400			242		242	395
2960	Remove and reset				3	5.333			201		201	330
5090	Remove refrigerant from system			1 Stpi	40	.200	Lb.		8.40		8.40	13.75

# 23 07 HVAC Insulation

## 23 07 13 – Duct Insulation

### 23 07 13.10 Duct Thermal Insulation

0010 DUCT THERMAL INSULATION													
3000	Ductwork												
3020	Blanket type, fiberglass, flexible												
3030	Fire rated for grease and hazardous exhaust ducts												
3060	1-1/2" thick			Q-14	84	.190	S.F.		4.49	6.35	10.84	15.55	
3090	Fire rated for plenums												
3100	1/2" x 24" x 25'			Q-14	1.94	8.247	Roll		177	274	451	655	
3110	1/2" x 24" x 25'				98	.163	S.F.		3.54	5.45	8.99	13	
3120	1/2" x 48" x 25'				1.04	15.385	Roll		350	510	860	1,250	
3126	1/2" x 48" x 25'				104	.154	S.F.		3.49	5.10	8.59	12.40	
3140	FSK vapor barrier wrap, .75 lb. density												
3160	1" thick			G	Q-14	.350	.046	S.F.		.22	1.52	1.74	2.79
3170	1-1/2" thick			G	"	.320	.050	"		.27	1.66	1.93	3.09
3210	Vinyl jacket, same as FSK												

# 23 09 Instrumentation and Control for HVAC

## 23 09 53 – Pneumatic and Electric Control System for HVAC

23 09 53.10 Control Components		Daily Crew	Labor-Output	Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 CONTROL COMPONENTS											
5000 Thermostats											
5030 Manual		1 Stpi	8	1	Ea.	42.50	42			84.50	115
5040 1 set back, electric, timed		G	8	1		77.50	42			119.50	154
5050 2 set back, electric, timed		G	↓	8	1	257	42			299	350

# 23 13 Facility Fuel-Storage Tanks

## 23 13 13 – Facility Underground Fuel-Oil, Storage Tanks

### 23 13 13.09 Single-Wall Steel Fuel-Oil Tanks

0010 SINGLE-WALL STEEL FUEL-OIL TANKS		Q-5	2.70	5.926	Ea.	1,875	224			2,099	2,450
5000 Tanks, steel ugnd., sti-p3, not incl. hold-down bars											
5500 Excavation, pad, pumps and piping not included											
5510 Single wall, 500 gallon capacity, 7 ga. shell		Q-5	2.70	5.926	Ea.	1,875	224			2,099	2,450
5520 1,000 gallon capacity, 7 ga. shell		"	2.50	6.400		2,925	242			3,167	3,625
5530 2,000 gallon capacity, 1/4" thick shell		Q-7	4.60	6.957		3,725	263			3,988	4,525
5535 2,500 gallon capacity, 7 ga. shell		Q-5	3	5.333		5,675	201			5,876	6,550
5610 25,000 gallon capacity, 3/8" thick shell		Q-7	1.30	24.615		29,600	930			30,530	34,100
5630 40,000 gallon capacity, 3/8" thick shell		↓	.90	35.556		44,500	1,350			45,850	51,000
5640 50,000 gallon capacity, 3/8" thick shell		↓	.80	40	↓	49,800	1,500			51,300	57,000

### 23 13 13.23 Glass-Fiber-Reinfcd-Plastic, Fuel-Oil, Storage

0010 GLASS-FIBER-REINFCD-PLASTIC, UNDERGRND. FUEL-OIL, STORAGE		Q-5	2.46	6.504	Ea.	5,275	246			5,521	6,200
0210 Fiberglass, underground, single wall, UL listed, not including											
0220 manway or hold-down strap											
0230 1,000 gallon capacity		Q-5	2.46	6.504	Ea.	5,275	246			5,521	6,200
0240 2,000 gallon capacity		Q-7	4.57	7.002		8,275	264			8,539	9,525
0245 3,000 gallon capacity		↓	3.90	8.205		8,400	310			8,710	9,750
0255 5,000 gallon capacity		↓	3.20	10	↓	10,400	380			10,780	12,000
0500 For manway, fittings and hold-downs, add						20%	15%				
2210 Fiberglass, underground, single wall, UL listed, including											
2220 hold-down straps, no manways											
2230 1,000 gallon capacity		Q-5	1.88	8.511	Ea.	5,775	320			6,095	6,875
2240 2,000 gallon capacity		Q-7	3.55	9.014	"	8,775	340			9,115	10,200

## 23 13 23 – Facility Aboveground Fuel-Oil, Storage Tanks

### 23 13 23.16 Steel

3001 STEEL, storage, above ground, including supports, coating		Q-5	5	3.200	Ea.	510	121			631	760
3020 fittings, not including foundation, pumps or piping											
3040 Single wall, 275 gallon		Q-5	5	3.200	Ea.	510	121			631	760
3060 550 gallon		↓	2.70	5.926		4,400	224			4,624	5,225
3080 1,000 gallon		Q-7	5	6.400		7,175	242			7,417	8,275
3320 Double wall, 500 gallon capacity		Q-5	2.40	6.667		2,000	252			2,252	2,600
3330 2,000 gallon capacity		Q-7	4.15	7.711		6,650	291			6,941	7,800
3340 4,000 gallon capacity		↓	3.60	8.889		14,500	335			14,835	16,500
3350 6,000 gallon capacity				2.40	13.333		16,400	505		16,905	18,900
3360 8,000 gallon capacity				2	16		19,500	605		20,105	22,500
3370 10,000 gallon capacity				1.80	17.778		30,500	670		31,170	34,600
3380 15,000 gallon capacity				1.50	21.333		41,100	805		41,905	46,500
3390 20,000 gallon capacity				1.30	24.615		48,400	930		49,330	54,500
3400 25,000 gallon capacity				1.15	27.826		60,000	1,050		61,050	67,500
3410 30,000 gallon capacity		↓	1	32	↓	67,000	1,200			68,200	75,500

# 23 13 Facility Fuel-Storage Tanks

## 23 13 23 – Facility Aboveground Fuel-Oil, Storage Tanks

23 13 23.26 Horizontal, Conc., Abvgrd Fuel-Oil, Stor. Tanks	Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
						Labor	Equipment		
<b>0010 HORIZONTAL, CONCRETE, ABOVEGROUND FUEL-OIL, STORAGE TANKS</b>									
0050 Concrete, storage, aboveground, including pad & pump									
0100 500 gallon	F-3	2	20	Ea.	10,500	665	236	11,401	12,900
0200 1,000 gallon	"	2	20	"	14,700	665	236	15,601	17,500

# 23 21 Hydronic Piping and Pumps

## 23 21 20 – Hydronic HVAC Piping Specialties

### 23 21 20.46 Expansion Tanks

0010 EXPANSION TANKS									
1507 Underground fuel-oil storage tanks, see Section 23 13 13									
2000 Steel, liquid expansion, ASME, painted, 15 gallon capacity	Q-5	17	.941	Ea.	855	35.50		890.50	1,000
2040 30 gallon capacity		12	1.333		985	50.50		1,035.50	1,150
3000 Steel ASME expansion, rubber diaphragm, 19 gal. cap. accept.		12	1.333		3,200	50.50		3,250.50	3,600
3020 31 gallon capacity		8	2		3,575	75.50		3,650.50	4,075

### 23 21 23 – Hydronic Pumps

#### 23 21 23.13 In-Line Centrifugal Hydronic Pumps

0010 IN-LINE CENTRIFUGAL HYDRONIC PUMPS									
0600 Bronze, sweat connections, 1/40 HP, in line									
0640 3/4" size	Q-1	16	1	Ea.	275	36.50		311.50	360
1000 Flange connection, 3/4" to 1-1/2" size									
1040 1/12 HP	Q-1	6	2.667	Ea.	710	97.50		807.50	945
1060 1/8 HP		6	2.667		1,250	97.50		1,347.50	1,525
2101 Pumps, circulating, 3/4" to 1-1/2" size, 1/3 HP	↓	6	2.667	↓	1,025	97.50		1,122.50	1,275

# 23 23 Refrigerant Piping

## 23 23 16 – Refrigerant Piping Specialties

### 23 23 16.16 Refrigerant Line Sets

0010 REFRIGERANT LINE SETS, Standard									
0100 Copper tube									
0110 1/2" insulation, both tubes									
0120 Combination 1/4" and 1/2" tubes									
0130 10' set	Q-5	42	.381	Ea.	48.50	14.40		62.90	77
0135 15' set		42	.381		70.50	14.40		84.90	101
0140 20' set		40	.400		76	15.10		91.10	108
0150 30' set		37	.432		107	16.30		123.30	145
0160 40' set		35	.457		134	17.25		151.25	175
0170 50' set		32	.500		166	18.90		184.90	214
0180 100' set	↓	22	.727	↓	360	27.50		387.50	440
0300 Combination 1/4" and 3/4" tubes									
0310 10' set	Q-5	40	.400	Ea.	54.50	15.10		69.60	84.50
0320 20' set		38	.421		96.50	15.90		112.40	132
0330 30' set		35	.457		144	17.25		161.25	186
0340 40' set		33	.485		188	18.30		206.30	237
0350 50' set		30	.533		237	20		257	294
0380 100' set		20	.800		540	30		570	645
0500 Combination 3/8" & 3/4" tubes									
0510 10' set	Q-5	28	.571	Ea.	62.50	21.50		84	105
0520 20' set	↓	36	.444	↓	97.50	16.80		114.30	135

# 23 23 Refrigerant Piping

## 23 23 16 – Refrigerant Piping Specialties

23 23 16.16 Refrigerant Line Sets			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0530	30' set		Q-5	34	.471	Ea.	132	17.75		149.75	175
0540	40' set			31	.516		174	19.50		193.50	223
0550	50' set			28	.571		204	21.50		225.50	261
0580	100' set		▼	18	.889	▼	605	33.50		638.50	720
0700	Combination 3/8" & 1-1/8" tubes										
0710	10' set		Q-5	36	.444	Ea.	109	16.80		125.80	148
0720	20' set			33	.485		183	18.30		201.30	231
0730	30' set			31	.516		246	19.50		265.50	300
0740	40' set			28	.571		370	21.50		391.50	440
0750	50' set		▼	26	.615	▼	355	23		378	435
0900	Combination 1/2" & 3/4" tubes										
0910	10' set		Q-5	37	.432	Ea.	66	16.30		82.30	99
0920	20' set			35	.457		117	17.25		134.25	157
0930	30' set			33	.485		176	18.30		194.30	224
0940	40' set			30	.533		232	20		252	288
0950	50' set			27	.593		292	22.50		314.50	355
0980	100' set		▼	17	.941	▼	660	35.50		695.50	785
2100	Combination 1/2" & 1-1/8" tubes										
2110	10' set		Q-5	35	.457	Ea.	113	17.25		130.25	152
2120	20' set			31	.516		193	19.50		212.50	244
2130	30' set			29	.552		290	21		311	355
2140	40' set			25	.640		390	24		414	470
2150	50' set			14	1.143		475	43		518	595
2300	For 1" thick insulation add						30%	15%			
3000	Refrigerant line sets, min-split, flared										
3100	Combination 1/4" & 3/8" tubes										
3120	15' set		Q-5	41	.390	Ea.	69.50	14.75		84.25	101
3140	25' set			38.50	.416		98.50	15.70		114.20	134
3160	35' set			37	.432		124	16.30		140.30	164
3180	50' set		▼	30	.533	▼	169	20		189	219
3200	Combination 1/4" & 1/2" tubes										
3220	15' set		Q-5	41	.390	Ea.	74.50	14.75		89.25	106
3240	25' set			38.50	.416		101	15.70		116.70	137
3260	35' set			37	.432		130	16.30		146.30	170
3280	50' set		▼	30	.533	▼	176	20		196	226

# 23 31 HVAC Ducts and Casings

## 23 31 13 – Metal Ducts

### 23 31 13.13 Rectangular Metal Ducts

#### 0010 RECTANGULAR METAL DUCTS

0020 Fabricated rectangular, includes fittings, joints, supports,  
allowance for flexible connections and field sketches.  
0030 Does not include "as-built dwgs." or insulation.  
NOTE: Fabrication and installation are combined  
as LABOR cost. Approx. 25% fittings assumed.  
Fabrication/Inst. is to commercial quality standards  
(SMACNA or equiv.) for structure, sealing, leak testing, etc.

0100	Aluminum, alloy 3003-H14, under 100 lb.	Q-10	75	.320	Lb.	3.20	11.70		14.90	23
0110	100 to 500 lb.		80	.300		1.89	11		12.89	20.50
0120	500 to 1,000 lb.		95	.253		1.91	9.25		11.16	17.45
0140	1,000 to 2,000 lb.		120	.200		1.86	7.35		9.21	14.20

# 23 31 HVAC Ducts and Casings

## 23 31 13 – Metal Ducts

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				Crew			Labor	Equipment			
23 31 13.13 Rectangular Metal Ducts											
0500	Galvanized steel, under 200 lb.			Q-10	.235	.102	Lb.	.60	3.74		4.34
0520		200 to 500 lb.			245	.098		.57	3.59		4.16
0540		500 to 1,000 lb.			255	.094		.54	3.45		3.99
											6.30

## 23 31 16.22 Duct Board

### 0010 DUCT BOARD

3800	Rigid, resin bonded fibrous glass, FSK										
3810	Temperature, bacteria and fungi resistant										
3820	1" thick			Q-14	.150	.107	S.F.	1.68	3.55		5.23
3830	1-1/2" thick				130	.123		2.22	4.09		6.31
3840	2" thick				120	.133		3.82	4.43		8.25
											11.65

# 23 33 Air Duct Accessories

## 23 33 13 – Dampers

### 23 33 13.13 Volume-Control Dampers

0010	VOLUME-CONTROL DAMPERS										
6000	12" x 12"			1 Shee	21	.381	Ea.	46	14.95		60.95
8000	Multi-blade dampers, parallel blade										
8100	8" x 8"			1 Shee	24	.333	Ea.	119	13.10		132.10
											153

### 23 33 13.16 Fire Dampers

0010	FIRE DAMPERS										
3000	Fire damper, curtain type, 1-1/2 hr. rated, vertical, 6" x 6"			1 Shee	24	.333	Ea.	35	13.10		48.10
3020	8" x 6"			"	22	.364	"	35	14.25		49.25
											62

## 23 33 46 – Flexible Ducts

### 23 33 46.10 Flexible Air Ducts

0010	FLEXIBLE AIR DUCTS										
1300	Flexible, coated fiberglass fabric on corr. resist. metal helix										
1400	pressure to 12" (WG) UL-181										
1500	Noninsulated, 3" diameter			Q-9	.400	.040	L.F.	1.36	1.41		2.77
1540	5" diameter				320	.050		1.57	1.77		3.34
1560	6" diameter				280	.057		1.85	2.02		3.87
1580	7" diameter				240	.067		2.05	2.36		4.41
1900	Insulated, 1" thick, PE jacket, 3" diameter	G			380	.042		2.68	1.49		4.17
1910	4" diameter	G			340	.047		3.26	1.66		4.92
1920	5" diameter	G			300	.053		3.42	1.88		5.30
1940	6" diameter	G			260	.062		3.61	2.17		5.78
1960	7" diameter	G			220	.073		4.16	2.57		6.73
1980	8" diameter	G			180	.089		4.04	3.14		7.18
2040	12" diameter	G			100	.160		6.05	5.65		11.70
											16.05

## 23 33 53 – Duct Liners

### 23 33 53.10 Duct Liner Board

0010	DUCT LINER BOARD										
3490	Board type, fiberglass liner, 3 lb. density										
3940	Board type, non-fibrous foam										
3950	Temperature, bacteria and fungi resistant										
3960	1" thick	G	Q-14	.150	.107	S.F.		2.76	3.55		6.31
3970	1-1/2" thick	G		130	.123			4.89	4.09		8.98
3980	2" thick	G		120	.133			4.13	4.43		8.56
											12

# 23 34 HVAC Fans

## 23 34 23 - HVAC Power Ventilators

23 34 23.10 HVAC Power Circulators and Ventilators		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010	HVAC POWER CIRCULATORS AND VENTILATORS										
6650	Residential, bath exhaust, grille, back draft damper										
6660	50 CFM	Q-20	24	.833	Ea.	61	30.50			91.50	118
6670	110 CFM		22	.909		116	33.50			149.50	183
6900	Kitchen exhaust, grille, complete, 160 CFM		22	.909		104	33.50			137.50	170
6910	180 CFM		20	1		97	36.50			133.50	168
6920	270 CFM		18	1.111		214	40.50			254.50	300
6930	350 CFM		16	1.250		146	46			192	237
6940	Residential roof jacks and wall caps										
6944	Wall cap with back draft damper										
6946	3" & 4" diam. round duct	1 Shee	11	.727	Ea.	26.50	28.50			55	76.50
6948	6" diam. round duct	"	11	.727	"	76	28.50			104.50	132
6958	Roof jack with bird screen and back draft damper										
6960	3" & 4" diam. round duct	1 Shee	11	.727	Ea.	18.85	28.50			47.35	68.50
6962	3-1/4" x 10" rectangular duct	"	10	.800	"	35	31.50			66.50	90.50
8020	Attic, roof type										
8030	Aluminum dome, damper & curb										
8080	12" diameter, 1,000 CFM (gravity)	1 Elec	10	.800	Ea.	640	33.50			673.50	760
8090	16" diameter, 1,500 CFM (gravity)		9	.889		775	37			812	910
8100	20" diameter, 2,500 CFM (gravity)		8	1		950	41.50			991.50	1,125
8160	Plastic, ABS dome										
8180	1,050 CFM	1 Elec	14	.571	Ea.	189	24			213	246
8200	1,600 CFM	"	12	.667	"	282	28			310	355
8240	Attic, wall type, with shutter, one speed										
8250	12" diameter, 1,000 CFM	1 Elec	14	.571	Ea.	430	24			454	515
8260	14" diameter, 1,500 CFM		12	.667		465	28			493	560
8270	16" diameter, 2,000 CFM		9	.889		530	37			567	640
8290	Whole house, wall type, with shutter, one speed										
8300	30" diameter, 4,800 CFM	1 Elec	7	1.143	Ea.	1,125	47.50			1,172.50	1,325
8310	36" diameter, 7,000 CFM		6	1.333		1,225	55.50			1,280.50	1,450
8320	42" diameter, 10,000 CFM		5	1.600		1,375	66.50			1,441.50	1,625
8330	48" diameter, 16,000 CFM		4	2		1,700	83.50			1,783.50	2,000
8340	For two speed, add					103				103	113
8350	Whole house, lay-down type, with shutter, one speed										
8360	30" diameter, 4,500 CFM	1 Elec	8	1	Ea.	1,200	41.50			1,241.50	1,400
8370	36" diameter, 6,500 CFM		7	1.143		1,300	47.50			1,347.50	1,500
8380	42" diameter, 9,000 CFM		6	1.333		1,425	55.50			1,480.50	1,650
8390	48" diameter, 12,000 CFM		5	1.600		1,600	66.50			1,666.50	1,875
8440	For two speed, add					77.50				77.50	85
8450	For 12 hour timer switch, add	1 Elec	32	.250		77.50	10.45			87.95	102

# 23 37 Air Outlets and Inlets

## 23 37 13 - Diffusers, Registers, and Grilles

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs Labor	Equipment	Total	Total Incl O&P
<b>23 37 13.10 Diffusers</b>										
0010 DIFFUSERS, Aluminum, opposed blade damper unless noted										
0100 Ceiling, linear, also for sidewall										
0120 2" wide		1 Shee	32	.250	L.F.	21	9.80		30.80	39.50
0160 4" wide			26	.308	"	24	12.10		36.10	46.50
0500 Perforated, 24" x 24" lay-in panel size, 6" x 6"			16	.500	Ea.	166	19.65		185.65	215
0520 8" x 8"			15	.533		181	21		202	234
0530 9" x 9"			14	.571		177	22.50		199.50	231
0590 16" x 16"			11	.727		207	28.50		235.50	276
1000 Rectangular, 1 to 4 way blow, 6" x 6"			16	.500		43.50	19.65		63.15	80.50
1010 8" x 8"			15	.533		63	21		84	104
1014 9" x 9"			15	.533		53.50	21		74.50	93.50
1016 10" x 10"			15	.533		83.50	21		104.50	127
1020 12" x 6"			15	.533		78	21		99	121
1040 12" x 9"			14	.571		84.50	22.50		107	130
1060 12" x 12"			12	.667		76	26		102	127
1070 14" x 6"			13	.615		85	24		109	134
1074 14" x 14"			12	.667		133	26		159	191
1150 18" x 18"			9	.889		129	35		164	199
1170 24" x 12"			10	.800		177	31.50		208.50	246
1180 24" x 24"			7	1.143		298	45		343	405
1500 Round, butterfly damper, steel, diffuser size, 6" diameter			18	.444		13.80	17.45		31.25	44
1520 8" diameter			16	.500		14.70	19.65		34.35	48.50
2000 T-bar mounting, 24" x 24" lay-in frame, 6" x 6"			16	.500		73.50	19.65		93.15	114
2020 8" x 8"			14	.571		73.50	22.50		96	118
2040 12" x 12"			12	.667		90	26		116	143
2060 16" x 16"			11	.727		125	28.50		153.50	185
2080 18" x 18"			10	.800		123	31.50		154.50	187
6000 For steel diffusers instead of aluminum, deduct							10%			

## 23 37 13.30 Grilles

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs Labor	Equipment	Total	Total Incl O&P
0010 GRILLES										
0020 Aluminum, unless noted otherwise										
1000 Air return, steel, 6" x 6"		1 Shee	26	.308	Ea.	23.50	12.10		35.60	46
1020 10" x 6"			24	.333		23.50	13.10		36.60	47.50
1080 16" x 8"			22	.364		35	14.25		49.25	62
1100 12" x 12"			22	.364		33.50	14.25		47.75	60
1120 24" x 12"			18	.444		43.50	17.45		60.95	77
1180 16" x 16"			22	.364		42	14.25		56.25	70

## 23 37 13.60 Registers

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs Labor	Equipment	Total	Total Incl O&P
0010 REGISTERS										
0980 Air supply										
3000 Baseboard, hand adj. damper, enameled steel										
3012 8" x 6"		1 Shee	26	.308	Ea.	8.10	12.10		20.20	29
3020 10" x 6"			24	.333		8.80	13.10		21.90	31
3040 12" x 5"			23	.348		7.70	13.65		21.35	31
3060 12" x 6"			23	.348		11.45	13.65		25.10	35
4000 Floor, toe operated damper, enameled steel										
4020 4" x 8"		1 Shee	32	.250	Ea.	14.65	9.80		24.45	32.50
4040 4" x 12"			26	.308	"	17.20	12.10		29.30	39
4300 Spiral pipe supply register										
4310 Steel, with air scoop										
4320 4" x 12", for 8" thru 13" diameter duct		1 Shee	25	.320	Ea.	84	12.55		96.55	114
4330 4" x 18", for 8" thru 13" diameter duct			18	.444		99.50	17.45		116.95	138

# 23 37 Air Outlets and Inlets

## 23 37 13 – Diffusers, Registers, and Grilles

23 37 13.60 Registers		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl Q&P
		Crew		Unit		Labor	Equipment	Total	
4340	6" x 12", for 14" thru 21" diameter duct	1 Shee	19	.421	Ea.	91	16.55	107.55	128
4350	6" x 16", for 14" thru 21" diameter duct		18	.444		102	17.45	119.45	141
4360	6" x 20", for 14" thru 21" diameter duct		17	.471		109	18.45	127.45	151
4370	6" x 24", for 14" thru 21" diameter duct		16	.500		132	19.65	151.65	178
4380	8" x 14", for 22" thru 31" diameter duct		19	.421		104	16.55	120.55	142
4390	8" x 18", for 22" thru 31" diameter duct		18	.444		112	17.45	129.45	152
4400	8" x 24", for 22" thru 31" diameter duct	↓	15	.533	↓	140	21	161	189

# 23 41 Particulate Air Filtration

## 23 41 13 – Panel Air Filters

### 23 41 13.10 Panel Type Air Filters

0010 PANEL TYPE AIR FILTERS		MCFM				
2950	Mechanical media filtration units					
3000	High efficiency type, with frame, non-supported	G		MCFM	41	41
3100	Supported type	G	"		52.50	52.50
5500	Throwaway glass or paper media type, 12" x 36" x 1"		Ea.		2.48	2.48
						2.73

## 23 41 16 – Renewable-Media Air Filters

### 23 41 16.10 Disposable Media Air Filters

0010 DISPOSABLE MEDIA AIR FILTERS		C.S.F.				
5000	Renewable disposable roll					5.25

## 23 41 19 – Washable Air Filters

### 23 41 19.10 Permanent Air Filters

0010 PERMANENT AIR FILTERS		MCFM				
4500	Permanent washable	G		25		25

## 23 41 23 – Extended Surface Filters

### 23 41 23.10 Expanded Surface Filters

0010 EXPANDED SURFACE FILTERS		MCFM				
4000	Medium efficiency, extended surface	G		6.65		6.65

# 23 42 Gas-Phase Air Filtration

## 23 42 13 – Activated-Carbon Air Filtration

### 23 42 13.10 Charcoal Type Air Filtration

0010 CHARCOAL TYPE AIR FILTRATION		MCFM				
0050	Activated charcoal type, full flow					650
0060	Full flow, impregnated media 12" deep					225
0070	HEPA filter & frame for field erection					410
0080	HEPA filter-diffuser, ceiling install.	↓		340		340
						375

# 23 43 Electronic Air Cleaners

## 23 43 13 – Washable Electronic Air Cleaners

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total		Total Ind O&P
							Labor	Equipment			
<b>23 43 13.10 Electronic Air Cleaners</b>											
0010	<b>ELECTRONIC AIR CLEANERS</b>										
2000	Electronic air cleaner, duct mounted										
2150	1,000 CFM	1 Shee	4	2	Ea.		425	78.50		503.50	600
2200	1,200 CFM			3.80	2.105		570	82.50		652.50	760
2250	1,400 CFM			3.60	2.222		600	87		687	805

# 23 51 Breechings, Chimneys, and Stacks

## 23 51 23 – Gas Vents

### 23 51 23.10 Gas Chimney Vents

0010	<b>GAS CHIMNEY VENTS</b> , Prefab metal, UL listed										
0020	Gas, double wall, galvanized steel										
0080	3" diameter	Q-9	72	.222	V.L.F.		7.60	7.85		15.45	21.50
0100	4" diameter	"	68	.235	"		9.35	8.30		17.65	24

# 23 52 Heating Boilers

## 23 52 13 – Electric Boilers

### 23 52 13.10 Electric Boilers, ASME

0010	<b>ELECTRIC BOILERS, ASME</b> , Standard controls and trim										
1000	Steam, 6 KW, 20.5 MBH	Q-19	1.20	20	Ea.		4,450	780		5,230	6,150
1160	60 KW, 205 MBH		1	24			7,250	940		8,190	9,525
2000	Hot water, 7.5 KW, 25.6 MBH		1.30	18.462			5,425	720		6,145	7,125
2040	30 KW, 102 MBH		1.20	20			5,850	780		6,630	7,700
2060	45 KW, 164 MBH		1.20	20			5,700	780		6,480	7,525

## 23 52 23 – Cast-Iron Boilers

### 23 52 23.20 Gas-Fired Boilers

0010	<b>GAS-FIRED BOILERS</b> , Natural or propane, standard controls, packaged										
1000	Cast iron, with insulated jacket										
3000	Hot water, gross output, 80 MBH	Q-7	1.46	21.918	Ea.		1,975	825		2,800	3,525
3020	100 MBH	"	1.35	23.704			2,575	895		3,470	4,300
7000	For tankless water heater, add						10%				
7050	For additional zone valves up to 312 MBH, add						199			199	219

### 23 52 23.30 Gas/Oil Fired Boilers

0010	<b>GAS/OIL FIRED BOILERS</b> , Combination with burners and controls, packaged										
1000	Cast iron with insulated jacket										
2000	Steam, gross output, 720 MBH	Q-7	.43	74.074	Ea.		15,200	2,800		18,000	21,300
2900	Hot water, gross output										
2910	200 MBH	Q-6	.62	39.024	Ea.		11,400	1,425		12,825	14,800
2920	300 MBH		.49	49.080			11,400	1,775		13,175	15,400
2930	400 MBH		.41	57.971			13,300	2,100		15,400	18,200
2940	500 MBH		.36	67.039			14,300	2,425		16,725	19,800
3000	584 MBH	Q-7	.44	72.072			14,100	2,725		16,825	20,100

### 23 52 23.40 Oil-Fired Boilers

0010	<b>OIL-FIRED BOILERS</b> , Standard controls, flame retention burner, packaged										
1000	Cast iron, with insulated flush jacket										
2000	Steam, gross output, 109 MBH	Q-7	1.20	26.667	Ea.		2,375	1,000		3,375	4,250
2060	207 MBH	"	.90	35.556	"		3,225	1,350		4,575	5,725
3000	Hot water, same price as steam										

# 23 52 Heating Boilers

## 23 52 26 – Steel Boilers

23 52 26.40 Oil-Fired Boilers				Daily Crew	Labor-Output	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
							Labor	Equipment		
0010	OIL-FIRED BOILERS, Standard controls, flame retention burner									
5000	Steel, with insulated flush jacket									
7000	Hot water, gross output, 103 MBH	Q-6	1.60	15	Ea.		2,000	545	2,545	3,100
7020	122 MBH		1.45	16.506			2,150	600	2,750	3,350
7060	168 MBH		1.30	18.405			2,275	670	2,945	3,625
7080	225 MBH		1.22	19.704			4,000	715	4,715	5,575

## 23 52 28 – Swimming Pool Boilers

### 23 52 28.10 Swimming Pool Heaters

0010	SWIMMING POOL HEATERS, Not including wiring, external piping, base or pad									
0160	Gas fired, input, 155 MBH	Q-6	1.50	16	Ea.		1,850	580	2,430	2,975
0200	199 MBH		1	24			1,975	870	2,845	3,600
0280	500 MBH	▼	.40	60			8,500	2,175	10,675	12,900
2000	Electric, 12 KW, 4,800 gallon pool	Q-19	3	8			2,200	315	2,515	2,925
2020	15 KW, 7,200 gallon pool		2.80	8.571			2,225	335	2,560	3,000
2040	24 KW, 9,600 gallon pool		2.40	10			2,575	390	2,965	3,500
2100	57 KW, 24,000 gallon pool	▼	1.20	20	▼		3,875	780	4,655	5,525

## 23 52 88 – Burners

### 23 52 88.10 Replacement Type Burners

0010	REPLACEMENT TYPE BURNERS									
0990	Residential, conversion, gas fired, LP or natural									
1000	Gun type, atmospheric input 50 to 225 MBH	Q-1	2.50	6.400	Ea.		1,025	234	1,259	1,500
1020	100 to 400 MBH	"	2	8			1,725	292	2,017	2,375
1025	Burner, gas, 100 to 400 MBH	G					1,725		1,725	1,900
1040	300 to 1,000 MBH	Q-1	1.70	9.412	▼		5,125	345	5,470	6,225

# 23 54 Furnaces

## 23 54 13 – Electric-Resistance Furnaces

### 23 54 13.10 Electric Furnaces

0010	ELECTRIC FURNACES, Hot air, blowers, std. controls									
0011	not including gas, oil or flue piping									
1000	Electric, UL listed									
1070	10.2 MBH	Q-20	4.40	4.545	Ea.		350	166	516	660
1080	17.1 MBH		4.60	4.348			430	159	589	735
1100	34.1 MBH	▼	4.40	4.545	▼		535	166	701	865

## 23 54 16 – Fuel-Fired Furnaces

### 23 54 16.13 Gas-Fired Furnaces

0010	GAS-FIRED FURNACES									
3000	Gas, AGA certified, upflow, direct drive models									
3020	45 MBH input	Q-9	4	4	Ea.		700	141	841	1,000
3040	60 MBH input		3.80	4.211			730	149	879	1,050
3060	75 MBH input		3.60	4.444			835	157	992	1,175
3100	100 MBH input		3.20	5			825	177	1,002	1,200
3120	125 MBH input		3	5.333			855	188	1,043	1,250
3130	150 MBH input		2.80	5.714			1,750	202	1,952	2,250
3140	200 MBH input		2.60	6.154			3,525	217	3,742	4,225
4000	For starter plenum, add		16	1			102	35.50	137.50	171

# 23 54 Furnaces

## 23 54 16 – Fuel-Fired Furnaces

23 54 16.16 Oil-Fired Furnaces		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
0010	OIL-FIRED FURNACES									
6000	Oil, UL listed, atomizing gun type burner									
6020	56 MBH output	Q-9	3.60	4.444	Ea.	3,275	157		3,432	3,850
6030	84 MBH output		3.50	4.571		3,400	162		3,562	4,025
6040	95 MBH output		3.40	4.706		3,400	166		3,566	4,000
6060	134 MBH output		3.20	5		3,325	177		3,502	3,975
6080	151 MBH output		3	5.333		3,700	188		3,888	4,375
6100	200 MBH input	↓	2.60	6.154	↓	4,175	217		4,392	4,950

## 23 54 16.21 Solid Fuel-Fired Furnaces

0010 SOLID FUEL-FIRED FURNACES		G	Q-9	4	4	Ea.	4,500	141	4,641	5,175
6020	Wood fired furnaces									
6030	Includes hot water coil, thermostat, and auto draft control									
6040	24" long firebox	G	Q-9	4	4	Ea.	4,500	141	4,641	5,175
6050	30" long firebox	G	↓	3.60	4.444		5,225	157	5,382	6,000
6060	With fireplace glass doors	G	↓	3.20	5	↓	6,750	177	6,927	7,725
6200	Wood/oil fired furnaces, includes two thermostats									
6210	Includes hot water coil and auto draft control									
6240	24" long firebox	G	Q-9	3.40	4.706	Ea.	5,525	166	5,691	6,350
6250	30" long firebox	G		3	5.333		6,975	188	7,163	7,975
6260	With fireplace glass doors	G		2.80	5.714		7,800	202	8,002	8,900
6400	Wood/gas fired furnaces, includes two thermostats									
6410	Includes hot water coil and auto draft control									
6440	24" long firebox	G	Q-9	2.80	5.714	Ea.	6,100	202	6,302	7,050
6450	30" long firebox	G	↓	2.40	6.667		6,975	236	7,211	8,075
6460	With fireplace glass doors	G	↓	2	8	↓	8,725	283	9,008	10,100
6600	Wood/oil/gas fired furnaces, optional accessories									
6610	Hot air plenum		Q-9	16	1	Ea.	120	35.50	155.50	191
6620	Safety heat dump			24	.667		104	23.50	127.50	153
6630	Auto air intake			18	.889		161	31.50	192.50	230
6640	Cold air return package	↓	14	1.143		↓	175	40.50	215.50	259
6650	Wood fork						56.50		56.50	62
6700	Wood fired outdoor furnace									
6740	24" long firebox	G	Q-9	3.80	4.211	Ea.	4,200	149	4,349	4,875
6760	Wood fired outdoor furnace, optional accessories									
6770	Chimney section, stainless steel, 6" ID x 3' long	G	Q-9	36	.444	Ea.	210	15.70	225.70	257
6780	Chimney cap, stainless steel	G	"	40	.400	"	127	14.15	141.15	164
6800	Wood fired hot water furnace									
6820	Includes 200 gal. hot water storage, thermostat, and auto draft control									
6840	30" long firebox	G	Q-9	2.10	7.619	Ea.	9,325	269	9,594	10,700
6850	Water to air heat exchanger									
6870	Includes mounting kit and blower relay									
6880	140 MBH, 18.75" W x 18.75" L		Q-9	7.50	2.133	Ea.	385	75.50	460.50	550
6890	200 MBH, 24" W x 24" L		"	7	2.286	"	550	81	631	740
6900	Water to water heat exchanger									
6940	100 MBH		Q-9	6.50	2.462	Ea.	390	87	477	575
6960	290 MBH		"	6	2.667	"	560	94	654	770
7000	Optional accessories									
7010	Large volume circulation pump (2 included)		Q-9	14	1.143	Ea.	253	40.50	293.50	345
7020	Air bleed fittings (package)			24	.667		54	23.50	77.50	98.50
7030	Domestic water preheater				6	2.667	229	94	323	410
7040	Smoke pipe kit			4	4		96	141	237	340

# 23 54 Furnaces

## 23 54 24 – Furnace Components for Cooling

23 54 24.10 Furnace Components and Combinations		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Equipment	Total	Total Incl O&P
<b>0010 FURNACE COMPONENTS AND COMBINATIONS</b>										
0080	Coils, A.C. evaporator, for gas or oil furnaces									
0090	Add-on, with holding charge									
0100	Upflow									
0120	1-1/2 ton cooling	Q-5	4	4	Ea.	244	151		395	515
0130	2 ton cooling		3.70	4.324		305	163		468	600
0140	3 ton cooling		3.30	4.848		430	183		613	770
0150	4 ton cooling		3	5.333		570	201		771	955
0160	5 ton cooling		2.70	5.926		615	224		839	1,050
0300	Downflow									
0330	2-1/2 ton cooling	Q-5	3	5.333	Ea.	365	201		566	730
0340	3-1/2 ton cooling		2.60	6.154		495	232		727	925
0350	5 ton cooling		2.20	7.273		510	275		785	1,025
0600	Horizontal									
0630	2 ton cooling	Q-5	3.90	4.103	Ea.	440	155		595	740
0640	3 ton cooling		3.50	4.571		450	173		623	775
0650	4 ton cooling		3.20	5		540	189		729	905
0660	5 ton cooling		2.90	5.517		540	208		748	935
2000	Cased evaporator coils for air handlers									
2100	1-1/2 ton cooling	Q-5	4.40	3.636	Ea.	310	137		447	570
2110	2 ton cooling		4.10	3.902		375	147		522	650
2120	2-1/2 ton cooling		3.90	4.103		400	155		555	695
2130	3 ton cooling		3.70	4.324		470	163		633	780
2140	3-1/2 ton cooling		3.50	4.571		600	173		773	940
2150	4 ton cooling		3.20	5		630	189		819	1,000
2160	5 ton cooling		2.90	5.517		625	208		833	1,025
3010	Air handler, modular									
3100	With cased evaporator cooling coil									
3120	1-1/2 ton cooling	Q-5	3.80	4.211	Ea.	1,050	159		1,209	1,400
3130	2 ton cooling		3.50	4.571		1,100	173		1,273	1,500
3140	2-1/2 ton cooling		3.30	4.848		1,175	183		1,358	1,600
3150	3 ton cooling		3.10	5.161		1,450	195		1,645	1,925
3160	3-1/2 ton cooling		2.90	5.517		1,700	208		1,908	2,225
3170	4 ton cooling		2.50	6.400		1,650	242		1,892	2,225
3180	5 ton cooling		2.10	7.619		2,125	288		2,413	2,800
3500	With no cooling coil									
3520	1-1/2 ton coil size	Q-5	12	1.333	Ea.	1,025	50.50		1,075.50	1,200
3530	2 ton coil size		10	1.600		1,100	60.50		1,160.50	1,300
3540	2-1/2 ton coil size		10	1.600		1,075	60.50		1,135.50	1,275
3554	3 ton coil size		9	1.778		1,075	67		1,142	1,275
3560	3-1/2 ton coil size		9	1.778		1,150	67		1,217	1,350
3570	4 ton coil size		8.50	1.882		1,275	71		1,346	1,525
3580	5 ton coil size		8	2		1,575	75.50		1,650.50	1,875
4000	With heater									
4120	5 kW, 17.1 MBH	Q-5	16	1	Ea.	485	38		523	595
4130	7.5 kW, 25.6 MBH		15.60	1.026		830	38.50		868.50	975
4140	10 kW, 34.2 MBH		15.20	1.053		1,225	39.50		1,264.50	1,425
4150	12.5 kW, 42.7 MBH		14.80	1.081		1,375	41		1,416	1,600
4160	15 kW, 51.2 MBH		14.40	1.111		1,825	42		1,867	2,075
4170	25 kW, 85.4 MBH		14	1.143		2,500	43		2,543	2,825
4180	30 kW, 102 MBH		13	1.231		2,900	46.50		2,946.50	3,250

# 23 62 Packaged Compressor and Condenser Units

## 23 62 13 – Packaged Air-Cooled Refrigerant Compressor and Condenser Units

23 62 13.10 Packaged Air-Cooled Refrig. Condensing Units				Daily Output	Labor Hours	Unit	2020	Bare Costs	Total	Total Incl O&P
	Crew			Material	Labor	Equipment				
0010	PACKAGED AIR-COOLED REFRIGERANT CONDENSING UNITS									
0020	Condensing unit									
0030	Air cooled, compressor, standard controls									
0050	1.5 ton	Q-5	2.50	6.400	Ea.		1,025	242	1,267	1,525
0100	2 ton		2.10	7.619			1,050	288	1,338	1,625
0200	2.5 ton		1.70	9.412			1,225	355	1,580	1,925
0300	3 ton		1.30	12.308			1,250	465	1,715	2,125
0350	3.5 ton		1.10	14.545			1,525	550	2,075	2,575
0400	4 ton		.90	17.778			1,700	670	2,370	2,975
0500	5 ton		.60	26.667			2,025	1,000	3,025	3,875

# 23 74 Packaged Outdoor HVAC Equipment

## 23 74 33 – Dedicated Outdoor-Air Units

### 23 74 33.10 Rooftop Air Conditioners

0010	ROOFTOP AIR CONDITIONERS, Standard controls, curb, economizer									
1000	Single zone, electric cool, gas heat									
1140	5 ton cooling, 112 MBH heating	Q-5	.56	28.521	Ea.		4,475	1,075	5,550	6,675
1150	7.5 ton cooling, 170 MBH heating		.50	32.258			5,725	1,225	6,950	8,300
1156	8.5 ton cooling, 170 MBH heating		.46	34.783			7,200	1,325	8,525	10,100
1160	10 ton cooling, 200 MBH heating	Q-6	.67	35.982			9,675	1,300	10,975	12,800

# 23 81 Decentralized Unitary HVAC Equipment

## 23 81 13 – Packaged Terminal Air-Conditioners

### 23 81 13.10 Packaged Cabinet Type Air-Conditioners

0010	PACKAGED CABINET TYPE AIR-CONDITIONERS, Cabinet, wall sleeve,									
0100	louver, electric heat, thermostat, manual changeover, 208 V									
0200	6,000 BTUH cooling, 8,800 BTU heat	Q-5	6	2.667	Ea.		725	101	826	965
0220	9,000 BTUH cooling, 13,900 BTU heat		5	3.200			975	121	1,096	1,275
0240	12,000 BTUH cooling, 13,900 BTU heat		4	4			1,550	151	1,701	1,950
0260	15,000 BTUH cooling, 13,900 BTU heat		3	5.333			1,525	201	1,726	2,025

### 23 81 19 – Self-Contained Air-Conditioners

#### 23 81 19.10 Window Unit Air Conditioners

0010	WINDOW UNIT AIR CONDITIONERS									
4000	Portable/window, 15 amp, 125 V grounded receptacle required									
4060	5,000 BTUH	1 Corp	8	1	Ea.		305	36	341	400
4340	6,000 BTUH		8	1			239	36	275	325
4480	8,000 BTUH		6	1.333			385	48	433	505
4500	10,000 BTUH		6	1.333			650	48	698	795
4520	12,000 BTUH	L-2	8	2			2,000	64	2,064	2,300
4600	Window/thru-the-wall, 15 amp, 230 V grounded receptacle required									
4780	18,000 BTUH	L-2	6	2.667	Ea.		715	85	800	925
4940	25,000 BTUH		4	4			1,075	128	1,203	1,400
4960	29,000 BTUH		4	4			1,050	128	1,178	1,350

# 23 81 Decentralized Unitary HVAC Equipment

## 23 81 19 – Self-Contained Air-Conditioners

23 81 19.20 Self-Contained Single Package		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
<b>0010 SELF-CONTAINED SINGLE PACKAGE</b>											
0100 Air cooled, for free blow or duct, not incl. remote condenser											
0110 Constant volume											
0200 3 ton cooling		Q-5	1	16	Ea.	4,050	605			4,655	5,450
0210 4 ton cooling		"	.80	20	"	4,400	755			5,155	6,075
1000 Water cooled for free blow or duct, not including tower											
1010 Constant volume											
1100 3 ton cooling		Q-6	1	24	Ea.	3,750	870			4,620	5,550
1300 For hot water or steam heat coils, add					"	12%	10%				

## 23 81 26 – Split-System Air-Conditioners

### 23 81 26.10 Split Ductless Systems

0010 SPLIT DUCTLESS SYSTEMS		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0100 Cooling only, single zone											
0110 Wall mount											
0120 3/4 ton cooling		Q-5	2	8	Ea.	1,125	300			1,425	1,725
0130 1 ton cooling			1.80	8.889		1,250	335			1,585	1,925
0140 1-1/2 ton cooling			1.60	10		1,975	380			2,355	2,800
0150 2 ton cooling			1.40	11.429		2,275	430			2,705	3,200
0160 3 ton cooling			1.20	13.333		2,275	505			2,780	3,325
1000 Ceiling mount											
1020 2 ton cooling		Q-5	1.40	11.429	Ea.	2,000	430			2,430	2,900
1030 3 ton cooling		"	1.20	13.333	"	2,575	505			3,080	3,675
3000 Multizone											
3010 Wall mount											
3020 2 @ 3/4 ton cooling		Q-5	1.80	8.889	Ea.	3,425	335			3,760	4,325
5000 Cooling/Heating											
5010 Wall mount											
5110 1 ton cooling		Q-5	1.70	9.412	Ea.	1,300	355			1,655	2,000
5120 1-1/2 ton cooling		"	1.50	10.667	"	2,000	405			2,405	2,850
7000 Accessories for all split ductless systems											
7010 Add for ambient frost control		Q-5	8	2	Ea.	129	75.50			204.50	265
7020 Add for tube/wiring kit (line sets)											
7030 15' kit		Q-5	32	.500	Ea.	91	18.90			109.90	131
7036 25' kit			28	.571		158	21.50			179.50	209
7040 35' kit			24	.667		205	25			230	267
7050 50' kit			20	.800		206	30			236	276

## 23 81 43 – Air-Source Unitary Heat Pumps

### 23 81 43.10 Air-Source Heat Pumps

0010 AIR-SOURCE HEAT PUMPS, Not including interconnecting tubing		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
1000 Air to air, split system, not including curbs, pads, fan coil and ductwork											
1012 Outside condensing unit only, for fan coil see Section 23 82 19.10											
1020 2 ton cooling, 8.5 MBH heat @ 0°F		Q-5	2	8	Ea.	1,775	300			2,075	2,450
1054 4 ton cooling, 24 MBH heat @ 0°F		"	.80	20	"	2,475	755			3,230	3,950
1500 Single package, not including curbs, pads, or plenums											
1520 2 ton cooling, 6.5 MBH heat @ 0°F		Q-5	1.50	10.667	Ea.	3,325	405			3,730	4,325
1580 4 ton cooling, 13 MBH heat @ 0°F		"	.96	16.667	"	4,425	630			5,055	5,900

# 23 81 Decentralized Unitary HVAC Equipment

## 23 81 46 – Water-Source Unitary Heat Pumps

23 81 46.10 Water Source Heat Pumps		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 WATER SOURCE HEAT PUMPS, Not incl. connecting tubing or water source										
2000	Water source to air, single package									
2100	1 ton cooling, 13 MBH heat @ 75°F	Q-5	2	8 Ea.	2,125	300			2,425	2,850
2200	4 ton cooling, 31 MBH heat @ 75°F	"	1.20	13.333 "	3,125	505			3,630	4,250

# 23 82 Convection Heating and Cooling Units

## 23 82 19 – Fan Coil Units

### 23 82 19.10 Fan Coil Air Conditioning

0010 FAN COIL AIR CONDITIONING		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0030 Fan coil AC, cabinet mounted, filters and controls										
0100	Chilled water, 1/2 ton cooling	Q-5	8	2 Ea.	575	75.50			650.50	760
0110	3/4 ton cooling	"	7	2.286	700	86.50			786.50	910
0120	1 ton cooling	"	6	2.667	820	101			921	1,075

## 23 82 29 – Radiators

### 23 82 29.10 Hydronic Heating

0010 HYDRONIC HEATING, Terminal units, not incl. main supply pipe		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
1000 Radiation										
1100	Panel, baseboard, C.I., including supports, no covers	Q-5	46	.348 L.F.	49	13.15			62.15	75.50
3000	Radiators, cast iron	"								
3100	Free standing or wall hung, 6 tube, 25" high	Q-5	96	.167 Section	61	6.30			67.30	77.50
3200	4 tube, 19" high	"	96	.167 "	42	6.30			48.30	56.50
3250	Adj. brackets, 2 per wall radiator up to 30 sections	1 Stpi	32	.250 Ea.	66	10.50			76.50	89.50

## 23 82 36 – Finned-Tube Radiation Heaters

### 23 82 36.10 Finned Tube Radiation

0010 FINNED TUBE RADIATION, Terminal units, not incl. main supply pipe		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
1310 Baseboard, pkgd, 1/2" copper tube, alum. fin, 7" high		Q-5	60	.267 L.F.	11.95	10.05			22	29.50
1320	3/4" copper tube, alum. fin, 7" high	"	58	.276	8.05	10.40			18.45	26
1340	1" copper tube, alum. fin, 8-7/8" high	"	56	.286	21	10.80			31.80	40.50
1360	1-1/4" copper tube, alum. fin, 8-7/8" high	"	54	.296	31	11.20			42.20	53
1500	Note: fin tube may also require corners, caps, etc.									

# 23 83 Radiant Heating Units

## 23 83 16 – Radiant-Heating Hydronic Piping

### 23 83 16.10 Radiant Floor Heating

0010 RADIANT FLOOR HEATING		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0100 Tubing, PEX (cross-linked polyethylene)										
0110	Oxygen barrier type for systems with ferrous materials									
0120	1/2"	Q-5	800	.020 L.F.	1.05	.76			1.81	2.40
0130	3/4"	"	535	.030	1.55	1.13			2.68	3.56
0140	1"	"	400	.040	2.32	1.51			3.83	5
0200	Non barrier type for ferrous free systems									
0210	1/2"	Q-5	800	.020 L.F.	.57	.76			1.33	1.87
0220	3/4"	"	535	.030	1	1.13			2.13	2.95
0230	1"	"	400	.040	1.79	1.51			3.30	4.44
1000	Manifolds									
1110	Brass									
1120	With supply and return valves, flow meter, thermometer,									
1122	auto air vent and drain/fill valve.									

# 23 83 Radiant Heating Units

## 23 83 16 – Radiant-Heating Hydronic Piping

			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P	
		Crew				Labor	Equipment				
23 83 16.10	Radiant Floor Heating										
1130	1", 2 circuit	Q-5	14	1.143	Ea.	355	43		398	465	
1140	1", 3 circuit		13.50	1.185		405	44.50		449.50	520	
1150	1", 4 circuit			13	1.231	435	46.50		481.50	555	
1154	1", 5 circuit			12.50	1.280	525	48.50		573.50	655	
1158	1", 6 circuit			12	1.333	590	50.50		640.50	730	
1162	1", 7 circuit			11.50	1.391	640	52.50		692.50	785	
1166	1", 8 circuit			11	1.455	685	55		740	845	
1172	1", 9 circuit			10.50	1.524	760	57.50		817.50	930	
1174	1", 10 circuit			10	1.600	795	60.50		855.50	975	
1178	1", 11 circuit			9.50	1.684	820	63.50		883.50	1,000	
1182	1", 12 circuit			9	1.778	930	67		997	1,125	
1610	Copper manifold header (cut to size)										
1620	1" header, 12 circuit 1/2" sweat outlets	Q-5	3.33	4.805	Ea.	117	181		298	425	
1630	1-1/4" header, 12 circuit 1/2" sweat outlets		3.20	5		136	189		325	460	
1640	1-1/4" header, 12 circuit 3/4" sweat outlets			3	5.333	143	201		344	485	
1650	1-1/2" header, 12 circuit 3/4" sweat outlets			3.10	5.161	173	195		368	510	
1660	2" header, 12 circuit 3/4" sweat outlets			2.90	5.517	257	208		465	625	
3000	Valves										
3110	Thermostatic zone valve actuator with end switch	Q-5	40	.400	Ea.	51.50	15.10		66.60	81	
3114	Thermostatic zone valve actuator	"	36	.444	"	98	16.80		114.80	136	
3120	Motorized straight zone valve with operator complete										
3130	3/4"	Q-5	35	.457	Ea.	160	17.25		177.25	204	
3140	1"			32	.500	174	18.90		192.90	222	
3150	1-1/4"			29.60	.541	219	20.50		239.50	275	
3500	4 way mixing valve, manual, brass										
3530	1"	Q-5	13.30	1.203	Ea.	230	45.50		275.50	330	
3540	1-1/4"			11.40	1.404	249	53		302	360	
3550	1-1/2"			11	1.455	315	55		370	435	
3560	2"			10.60	1.509	455	57		512	595	
3800	Mixing valve motor, 4 way for valves, 1" and 1-1/4"			34	.471	390	17.75		407.75	455	
3810	Mixing valve motor, 4 way for valves, 1-1/2" and 2"			30	.533	435	20		455	515	
5000	Radiant floor heating, zone control panel										
5120	4 zone actuator valve control, expandable	Q-5	20	.800	Ea.	163	30		193	230	
5130	6 zone actuator valve control, expandable			18	.889	271	33.50		304.50	355	
6070	Thermal track, straight panel for long continuous runs, 5.333 S.F.			40	.400	36	15.10		51.10	64.50	
6080	Thermal track, utility panel, for direction reverse at run end, 5.333 S.F.			40	.400	36	15.10		51.10	64.50	
6090	Combination panel, for direction reverse plus straight run, 5.333 S.F.			40	.400	36	15.10		51.10	64.50	
7000	PEX tubing fittings										
7100	Compression type										
7116	Coupling										
7120	1/2" x 1/2"		1 Stpi	27	.296	Ea.	6.95	12.45		19.40	28
7124	3/4" x 3/4"		"	23	.348	"	16.35	14.60		30.95	42
7130	Adapter										
7132	1/2" x female sweat 1/2"		1 Stpi	27	.296	Ea.	4.51	12.45		16.96	25.50
7134	1/2" x female sweat 3/4"			26	.308		5.05	12.90		17.95	26.50
7136	5/8" x female sweat 3/4"			24	.333		7.25	14		21.25	31
7140	Elbow										
7142	1/2" x female sweat 1/2"		1 Stpi	27	.296	Ea.	7.30	12.45		19.75	28.50
7144	1/2" x female sweat 3/4"			26	.308		8.55	12.90		21.45	30.50
7146	5/8" x female sweat 3/4"			24	.333		9.60	14		23.60	33.50
7200	Insert type										
7206	PEX x male NPT										
7210	1/2" x 1/2"		1 Stpi	29	.276	Ea.	2.94	11.55		14.49	22

# 23 83 Radiant Heating Units

## 23 83 16 – Radiant-Heating Hydronic Piping

23 83 16.10 Radiant Floor Heating			Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl Q&P
7220	3/4" x 3/4"		1 Stpi	27	.296	Ea.	4.35	12.45			16.80	25.50
7230	1" x 1"			26	.308		7.30	12.90			20.20	29
7300	PEX coupling											
7310	1/2" x 1/2"		1 Stpi	30	.267	Ea.	.64	11.20			11.84	19
7320	3/4" x 3/4"			29	.276		.81	11.55			12.36	19.85
7330	1" x 1"			28	.286		1.40	12			13.40	21
7400	PEX stainless crimp ring											
7410	1/2" x 1/2"		1 Stpi	86	.093	Ea.	.56	3.90			4.46	7
7420	3/4" x 3/4"			84	.095		.77	4			4.77	7.40
7430	1" x 1"			82	.098		1.11	4.09			5.20	7.90

## 23 83 33 – Electric Radiant Heaters

### 23 83 33.10 Electric Heating

0010 ELECTRIC HEATING, not incl. conduit or feed wiring			1 Elec	4.40	1.818	kW	116	76		192	252	
1100	Rule of thumb: Baseboard units, including control			8	1	Ea.	29	41.50			70.50	99.50
1300	Baseboard heaters, 2' long, 350 watt			8	1		35	41.50			76.50	107
1400	3' long, 750 watt			8	1							
1600	4' long, 1,000 watt			6.70	1.194		40.50	50			90.50	126
1800	5' long, 935 watt			5.70	1.404		44	58.50			102.50	144
2000	6' long, 1,500 watt			5	1.600		57	66.50			123.50	172
2400	8' long, 2,000 watt			4	2		70	83.50			153.50	213
2800	10' long, 1,875 watt			3.30	2.424		162	101			263	345
2950	Wall heaters with fan, 120 to 277 volt											
3170	1,000 watt		1 Elec	6	1.333	Ea.	94.50	55.50			150	195
3180	1,250 watt			5	1.600		107	66.50			173.50	227
3190	1,500 watt			4	2		107	83.50			190.50	254
3600	Thermostats, integral			16	.500		29	21			50	66
3800	Line voltage, 1 pole			8	1		16.30	41.50			57.80	86
5000	Radiant heating ceiling panels, 2' x 4', 500 watt			16	.500		405	21			426	480
5050	750 watt			16	.500		430	21			451	510
5300	Infrared quartz heaters, 120 volts, 1,000 watt			6.70	1.194		350	50			400	465
5350	1,500 watt			5	1.600		335	66.50			401.50	480
5400	240 volts, 1,500 watt			5	1.600		405	66.50			471.50	555
5450	2,000 watt			4	2		335	83.50			418.50	505
5500	3,000 watt			3	2.667		330	111			441	545

## Estimating Tips

### 26 05 00 Common Work

#### Results for Electrical

- Conduit should be taken off in three main categories—power distribution, branch power, and branch lighting—so the estimator can concentrate on systems and components, therefore making it easier to ensure all items have been accounted for.
- For cost modifications for elevated conduit installation, add the percentages to labor according to the height of installation and only to the quantities exceeding the different height levels, not to the total conduit quantities. Refer to subdivision 26 01 02.20 for labor adjustment factors.
- Remember that aluminum wiring of equal ampacity is larger in diameter than copper and may require larger conduit.
- If more than three wires at a time are being pulled, deduct percentages from the labor hours of that grouping of wires.
- When taking off grounding systems, identify separately the type and size of wire, and list each unique type of ground connection.

- The estimator should take the weights of materials into consideration when completing a takeoff. Topics to consider include: How will the materials be supported? What methods of support are available? How high will the support structure have to reach? Will the final support structure be able to withstand the total burden? Is the support material included or separate from the fixture, equipment, and material specified?
- Do not overlook the costs for equipment used in the installation. If scaffolding or highlighters are available in the field, contractors may use them in lieu of the proposed ladders and rolling staging.

### 26 20 00 Low-Voltage Electrical Transmission

- Supports and concrete pads may be shown on drawings for the larger equipment, or the support system may be only a piece of plywood for the back of a panelboard. In either case, they must be included in the costs.

### 26 40 00 Electrical and Cathodic Protection

- When taking off cathodic protection systems, identify the type and size of cable, and list each unique type of anode connection.

### 26 50 00 Lighting

- Fixtures should be taken off room by room using the fixture schedule, specifications, and the ceiling plan. For large concentrations of lighting fixtures in the same area, deduct the percentages from labor hours.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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Note: The following companies, in part, have been used as a reference source for some of the material prices used in Division 26:

Electriflex

Trade Service

# 26 05 Common Work Results for Electrical

## 26 05 05 – Selective Demolition for Electrical

26 05 05.10 Electrical Demolition		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	ELECTRICAL DEMOLITION						Labor	Equipment	
0020	Electrical demolition, conduit to 10' high, incl. fittings & hangers								
0100	Rigid galvanized steel, 1/2" to 1" diameter	1 Elec	242	.033	L.F.		1.38		1.38 2.25
0120	1-1/4" to 2"	"	200	.040	"		1.67		1.67 2.72
0270	Armored cable (BX) avg. 50' runs								
0280	#14, 2 wire	1 Elec	690	.012	L.F.		.48		.48 .79
0290	#14, 3 wire		571	.014			.58		.58 .95
0300	#12, 2 wire		605	.013			.55		.55 .90
0310	#12, 3 wire		514	.016			.65		.65 1.06
0320	#10, 2 wire		514	.016			.65		.65 1.06
0330	#10, 3 wire		425	.019			.78		.78 1.28
0340	#8, 3 wire		342	.023			.98		.98 1.59
0350	Non metallic sheathed cable (Romex)								
0360	#14, 2 wire	1 Elec	720	.011	L.F.		.46		.46 .75
0370	#14, 3 wire		657	.012			.51		.51 .83
0380	#12, 2 wire		629	.013			.53		.53 .86
0390	#10, 3 wire		450	.018			.74		.74 1.21
0400	Wiremold raceway, including fittings & hangers								
0420	No. 3000	1 Elec	250	.032	L.F.		1.33		1.33 2.17
0440	No. 4000		217	.037			1.54		1.54 2.51
0460	No. 6000		166	.048			2.01		2.01 3.27
0462	Plugmold with receptacle		114	.070			2.93		2.93 4.77
0465	Telephone/power pole		12	.667	Ea.		28		28 45.50
0470	Non-metallic, straight section		480	.017	L.F.		.70		.70 1.13
0500	Channels, steel, including fittings & hangers								
0520	3/4" x 1-1/2"	1 Elec	308	.026	L.F.		1.08		1.08 1.76
0540	1-1/2" x 1-1/2"		269	.030			1.24		1.24 2.02
0560	1-1/2" x 1-7/8"		229	.035			1.46		1.46 2.37
1210	Panel boards, incl. removal of all breakers, conduit terminations & wire connections								
1220									
1230	3 wire, 120/240 V, 100A, to 20 circuits	1 Elec	2.60	3.077	Ea.		128		128 209
1240	200 amps, to 42 circuits	2 Elec	2.60	6.154			257		257 420
1241	225 amps, to 42 circuits		2.40	6.667			278		278 455
1250	400 amps, to 42 circuits		2.20	7.273			305		305 495
1260	4 wire, 120/208 V, 125A, to 20 circuits	1 Elec	2.40	3.333			139		139 227
1270	200 amps, to 42 circuits	2 Elec	2.40	6.667			278		278 455
1720	Junction boxes, 4" sq. & oct.	1 Elec	80	.100			4.17		4.17 6.80
1740	Handy box		107	.075			3.12		3.12 5.10
1760	Switch box		107	.075			3.12		3.12 5.10
1780	Receptacle & switch plates		257	.031			1.30		1.30 2.12
1800	Wire, THW-THWN-THHN, removed from in place conduit, to 10' high								
1810	#14	1 Elec	65	.123	C.L.F.		5.15		5.15 8.35
1840	#12		55	.145			6.05		6.05 9.90
1850	#10		45.50	.176			7.35		7.35 11.95
2000	Interior fluorescent fixtures, incl. supports & whips, to 10' high								
2100	Recessed drop-in 2' x 2', 2 lamp	2 Elec	35	.457	Ea.		19.05		19.05 31
2110	2' x 2', 4 lamp		30	.533			22		22 36
2140	2' x 4', 4 lamp		30	.533			22		22 36
2180	Surface mount, acrylic lens & hinged frame								
2220	2' x 2', 2 lamp	2 Elec	44	.364	Ea.		15.15		15.15 24.50
2260	2' x 4', 4 lamp	"	33	.485	"		20		20 33

# 26 05 Common Work Results for Electrical

## 26 05 05 – Selective Demolition for Electrical

26 05 05.10 Electrical Demolition		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
							Labor	Equipment		
2300	Strip fixtures, surface mount									
2320	4' long, 1 lamp	2 Elec	53	.302	Ea.		12.60		12.60	20.50
2380	8' long, 2 lamp	"	40	.400	"		16.70		16.70	27
2460	Interior incandescent, surface, ceiling									
2470	or wall mount, to 10' high									
2480	Metal cylinder type, 75 Watt	2 Elec	62	.258	Ea.		10.75		10.75	17.55
2600	Exterior fixtures, incandescent, wall mount									
2620	100 Watt	2 Elec	50	.320	Ea.		13.35		13.35	21.50
3000	Ceiling fan, tear out and remove	1 Elec	24	.333	"		13.90		13.90	22.50

## 26 05 19 – Low-Voltage Electrical Power Conductors and Cables

### 26 05 19.20 Armored Cable

0010 ARMORED CABLE										
0051	600 volt, copper (BX), #14, 2 conductor, solid	1 Elec	240	.033	L.F.	.39	1.39		1.78	2.69
0101	3 conductor, solid		200	.040		.65	1.67		2.32	3.44
0151	#12, 2 conductor, solid		210	.038		.41	1.59		2	3.04
0201	3 conductor, solid		180	.044		.69	1.85		2.54	3.78
0251	#10, 2 conductor, solid		180	.044		.81	1.85		2.66	3.92
0301	3 conductor, solid		150	.053		1.09	2.22		3.31	4.82
0351	3 conductor, stranded		120	.067		2.57	2.78		5.35	7.35

### 26 05 19.55 Non-Metallic Sheathed Cable

0010 NON-METALLIC SHEATHED CABLE 600 volt										
0100	Copper with ground wire (Romex)	1 Elec	250	.032	L.F.	.18	1.33		1.51	2.37
0151	#14, 2 wire		230	.035		.26	1.45		1.71	2.65
0201	3 wire		220	.036		.26	1.52		1.78	2.76
0251	#12, 2 wire		200	.040		.41	1.67		2.08	3.17
0301	3 wire		200	.040		.45	1.67		2.12	3.21
0351	#10, 2 wire		140	.057		.66	2.38		3.04	4.61
0401	3 wire		130	.062		1.17	2.57		3.74	5.45
0451	#8, 3 conductor		120	.067		1.79	2.78		4.57	6.50
0501	#6, 3 wire									
0550	SE type SER aluminum cable, 3 RHW and	1 Elec	150	.053	L.F.	.63	2.22		2.85	4.31
0601	1 bare neutral, 3 #8 & 1 #8	"	130	.062		.71	2.57		3.28	4.96
0651	3 #6 & 1 #6	2 Elec	220	.073		.78	3.03		3.81	5.80
0701	3 #4 & 1 #6		200	.080		1.43	3.34		4.77	7.05
0751	3 #2 & 1 #4		180	.089		1.67	3.71		5.38	7.90
0801	3 #1/0 & 1 #2		160	.100		1.99	4.17		6.16	9
0851	3 #2/0 & 1 #1		140	.114		2.92	4.77		7.69	10.95
0901	3 #4/0 & 1 #2/0	1 Elec	150	.053		.99	2.22		3.21	4.71
2401	SEU service entrance cable, copper 2 conductors, #8 + #8 neutral		130	.062		1.39	2.57		3.96	5.70
2601	#6 + #8 neutral		130	.062		1.56	2.57		4.13	5.90
2801	#6 + #6 neutral	2 Elec	220	.073		2.22	3.03		5.25	7.40
3001	#4 + #6 neutral		200	.073		2.34	3.03		5.37	7.50
3201	#4 + #4 neutral		210	.076		3.20	3.18		6.38	8.70
3401	#3 + #5 neutral									
6500	Service entrance cap for copper SEU	1 Elec	12	.667	Ea.	7.85	28		35.85	54
6600	100 amp		10	.800		11.75	33.50		45.25	67.50
6700	150 amp		8	1		17.85	41.50		59.35	87.50

### 26 05 19.90 Wire

0010 WIRE, normal installation conditions in wireway, conduit, cable tray										
0021	600 volt, copper type THW, solid, #14	1 Elec	1300	.006	L.F.	.06	.26		.32	.49
0031	#12		1100	.007		.10	.30		.40	.60

# 26 05 Common Work Results for Electrical

## 26 05 19 – Low-Voltage Electrical Power Conductors and Cables

26 05 19.90 Wire			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
0041	#10	1 Elec	1000	.008	L.F.	.16	.33		.49	.72
0050	Stranded, #14		13	.615	C.L.F.	7.60	25.50		33.10	50.50
0100	#12		11	.727		13.75	30.50		44.25	64.50
0120	#10		10	.800	↓	22	33.50		55.50	78.50
0161	#6	↓	650	.012	L.F.	.58	.51		1.09	1.47
0181	#4	2 Elec	1060	.015		.88	.63		1.51	1.99
0201	#3		1000	.016		1.18	.67		1.85	2.38
0221	#2		900	.018		1.36	.74		2.10	2.71
0241	#1		800	.020		1.74	.83		2.57	3.27
0261	1/0		660	.024		2.26	1.01		3.27	4.13
0281	2/0		580	.028		3.92	1.15		5.07	6.20
0301	3/0		500	.032		2.78	1.33		4.11	5.20
0351	4/0		440	.036	↓	4.50	1.52		6.02	7.40

## 26 05 26 – Grounding and Bonding for Electrical Systems

26 05 26.80 Grounding											
0010	GROUNDING										
0030	Rod, copper clad, 8' long, 1/2" diameter	1 Elec	5.50	1.455	Ea.	22.50	60.50		83	124	
0040	5/8" diameter		5.50	1.455		22.50	60.50		83	124	
0050	3/4" diameter		5.30	1.509		36	63		99	143	
0080	10' long, 1/2" diameter		4.80	1.667		24.50	69.50		94	140	
0090	5/8" diameter		4.60	1.739		22.50	72.50		95	143	
0100	3/4" diameter		4.40	1.818		53	76		129	183	
0130	15' long, 3/4" diameter		4	2	↓	55	83.50		138.50	197	
0261	Wire, ground bare armored, #8-1 conductor		200	.040	L.F.	.74	1.67		2.41	3.54	
0271	#6-1 conductor		180	.044	"	.84	1.85		2.69	3.94	
0390	Bare copper wire, stranded, #8		11	.727	C.L.F.	40	30.50		70.50	93.50	
0401	Bare copper, #6 wire		1000	.008	L.F.	.42	.33		.75	1	
0601	#2 stranded	2 Elec	1000	.016	"	.89	.67		1.56	2.07	
1800	Water pipe ground clamps, heavy duty		1 Elec	8	1	Ea.	29	41.50		70.50	99.50
2000	Bronze, 1/2" to 1" diameter			8	1		31	41.50		72.50	102
2100	1-1/4" to 2" diameter			6	1.333		60.50	55.50		116	157

## 26 05 33 – Raceway and Boxes for Electrical Systems

26 05 33.13 Conduit										
0010	CONDUIT To 10' high, includes 2 terminations, 2 elbows, 11 beam clamps, and 11 couplings per 100 L.F.									
1750	Rigid galvanized steel, 1/2" diameter	1 Elec	90	.089	L.F.	2.77	3.71		6.48	9.10
1770	3/4" diameter		80	.100		5.15	4.17		9.32	12.45
1800	1" diameter		65	.123		7.70	5.15		12.85	16.85
1830	1-1/4" diameter		60	.133		5.35	5.55		10.90	14.90
1850	1-1/2" diameter		55	.145		9.35	6.05		15.40	20
1870	2" diameter		45	.178		9.80	7.40		17.20	23
5000	Electric metallic tubing (EMT), 1/2" diameter		170	.047		.76	1.96		2.72	4.03
5020	3/4" diameter		130	.062		1.07	2.57		3.64	5.35
5040	1" diameter		115	.070		1.80	2.90		4.70	6.70
5060	1-1/4" diameter		100	.080		2.94	3.34		6.28	8.70
5080	1-1/2" diameter		90	.089		3.46	3.71		7.17	9.85
9100	PVC, schedule 40, 1/2" diameter		190	.042		.87	1.76		2.63	3.81
9110	3/4" diameter		145	.055		1.03	2.30		3.33	4.88
9120	1" diameter		125	.064		1.54	2.67		4.21	6.05
9130	1-1/4" diameter		110	.073		1.99	3.03		5.02	7.15
9140	1-1/2" diameter		100	.080		2.39	3.34		5.73	8.10

# 26 05 Common Work Results for Electrical

## 26 05 33 – Raceway and Boxes for Electrical Systems

26 05 33.13 Conduit		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		1 Elec.	90	.089	LF.	3.36	3.71		
9150	2" diameter							7.07	9.75
9995	Do not include labor when adding couplings to a fitting installation								

## 26 05 33.16 Boxes for Electrical Systems

0010 BOXES FOR ELECTRICAL SYSTEMS		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		1 Elec.	18	.444	Ea.	2.96	18.55	21.51	33.50
0021	Pressed steel, octagon, 4"								
0060	Covers, blank		64	.125		.87	5.20	6.07	9.45
0100	Extension rings		40	.200		4.59	8.35	12.94	18.65
0151	Square 4"		18	.444		6.85	18.55	25.40	37.50
0200	Extension rings		40	.200		4.85	8.35	13.20	18.95
0250	Covers, blank		64	.125		.77	5.20	5.97	9.35
0300	Plaster rings		64	.125		1.66	5.20	6.86	10.35
0651	Switchbox		24	.333		5.60	13.90	19.50	28.50
1100	Concrete, floor, 1 gang		5.30	1.509		112	63	175	226

## 26 05 33.17 Outlet Boxes, Plastic

0010 OUTLET BOXES, PLASTIC		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		1 Elec.	23	.348	Ea.	2.89	14.50	17.39	26.50
0051	4" diameter, round, with 2 mounting nails								
0101	Bar hanger mounted		23	.348		5.05	14.50	19.55	29
0201	Square with 2 mounting nails		23	.348		5.55	14.50	20.05	29.50
0300	Plaster ring		64	.125		2.10	5.20	7.30	10.80
0401	Switch box with 2 mounting nails, 1 gang		27	.296		3.21	12.35	15.56	23.50
0501	2 gang		23	.348		3.95	14.50	18.45	28
0601	3 gang		18	.444		5.50	18.55	24.05	36

## 26 05 33.18 Pull Boxes

0010 PULL BOXES		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		1 Elec.	8	1	Ea.	9.85	41.50	51.35	79
0100	Steel, pull box, NEMA 1, type SC, 6" W x 6" H x 4" D		8	1		12.90	41.50	54.40	82
0200	8" W x 8" H x 4" D		5.30	1.509		30.50	63	93.50	137

## 26 05 33.25 Conduit Fittings for Rigid Galvanized Steel

0010 CONDUIT FITTINGS FOR RIGID GALVANIZED STEEL		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		1 Elec.	16	.500	Ea.	7.35	21	28.35	42
2280	LB, LR or LL fittings & covers, 1/2" diameter		13	.615		8.80	25.50	34.30	51.50
2290	3/4" diameter		11	.727		13.25	30.50	43.75	64
2300	1" diameter		8	1		26	41.50	67.50	96.50
2330	1-1/4" diameter		6	1.333		25	55.50	80.50	118
2350	1-1/2" diameter		5	1.600		61	66.50	127.50	176
5280	Service entrance cap, 1/2" diameter		16	.500		5.40	21	26.40	40
5300	3/4" diameter		13	.615		5.90	25.50	31.40	48.50
5320	1" diameter		10	.800		4.79	33.50	38.29	60
5340	1-1/4" diameter		8	1		4.85	41.50	46.35	73.50
5360	1-1/2" diameter		6.50	1.231		9.70	51.50	61.20	94
5380	2" diameter		5.50	1.455		21.50	60.50	82	123

## 26 05 33.35 Flexible Metallic Conduit

0010 FLEXIBLE METALLIC CONDUIT		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		1 Elec.	200	.040	LF.	.38	1.67	2.05	3.14
0050	Steel, 3/8" diameter		200	.040		.45	1.67	2.12	3.22
0100	1/2" diameter		160	.050		.61	2.09	2.70	4.07
0200	3/4" diameter		100	.080		1.20	3.34	4.54	6.75
0250	1" diameter		70	.114		1.39	4.77	6.16	9.30
0300	1-1/4" diameter		50	.160		2.55	6.65	9.20	13.65
0350	1-1/2" diameter		40	.200		3.23	8.35	11.58	17.15
0370	2" diameter								

# 26 05 Common Work Results for Electrical

## 26 05 39 – Underfloor Raceways for Electrical Systems

26 05 39.30 Conduit In Concrete Slab		Crew	Daily Output	Labor Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
0010	CONDUIT IN CONCRETE SLAB Including terminations,									
0020	fittings and supports									
3230	PVC, schedule 40, 1/2" diameter	1 Elec	270	.030	L.F.	.55	1.24		1.79	2.61
3250	3/4" diameter		230	.035		.59	1.45		2.04	3.01
3270	1" diameter		200	.040		.78	1.67		2.45	3.57
3300	1-1/4" diameter		170	.047		1.05	1.96		3.01	4.36
3330	1-1/2" diameter		140	.057		1.27	2.38		3.65	5.30
3350	2" diameter		120	.067		1.59	2.78		4.37	6.30
4350	Rigid galvanized steel, 1/2" diameter		200	.040		2.34	1.67		4.01	5.30
4400	3/4" diameter		170	.047		4.45	1.96		6.41	8.10
4450	1" diameter		130	.062		6.90	2.57		9.47	11.80
4500	1-1/4" diameter		110	.073		4.53	3.03		7.56	9.90
4600	1-1/2" diameter		100	.080		8.40	3.34		11.74	14.70
4800	2" diameter	↓	90	.089	↓	8.20	3.71		11.91	15.10

## 26 05 39.40 Conduit In Trench

0010	CONDUIT IN TRENCH Includes terminations and fittings									
0020	Does not include excavation or backfill, see Section 31 23 16									
0200	Rigid galvanized steel, 2" diameter	1 Elec	150	.053	L.F.	7.80	2.22		10.02	12.20
0400	2-1/2" diameter	"	100	.080		13	3.34		16.34	19.75
0600	3" diameter	2 Elec	160	.100	↓	14.55	4.17		18.72	23
0800	3-1/2" diameter	"	140	.114	↓	19.20	4.77		23.97	29

## 26 05 83 – Wiring Connections

### 26 05 83.10 Motor Connections

0010	MOTOR CONNECTIONS									
0020	Flexible conduit and fittings, 115 volt, 1 phase, up to 1 HP motor	1 Elec	8	1	Ea.	5.90	41.50		47.40	74.50

## 26 05 90 – Residential Applications

### 26 05 90.10 Residential Wiring

0010	RESIDENTIAL WIRING									
0020	20' avg. runs and #14/2 wiring incl. unless otherwise noted									
1000	Service & panel, includes 24' SEAL cable, service eye, meter,									
1010	Socket, panel board, main bkr., ground rod, 15 or 20 amp									
1020	1-pole circuit breakers, and misc. hardware									
1100	100 amp, with 10 branch breakers	1 Elec	1.19	6.723	Ea.	335	280		615	820
1110	With PVC conduit and wire		.92	8.696		370	365		735	995
1120	With RGS conduit and wire		.73	10.959		570	455		1,025	1,375
1150	150 amp, with 14 branch breakers		1.03	7.767		805	325		1,130	1,425
1170	With PVC conduit and wire		.82	9.756		875	405		1,280	1,625
1180	With RGS conduit and wire	↓	.67	11.940		1,200	500		1,700	2,125
1200	200 amp, with 18 branch breakers	2 Elec	1.80	8.889		1,025	370		1,395	1,725
1220	With PVC conduit and wire		1.46	10.959		1,100	455		1,555	1,950
1230	With RGS conduit and wire	↓	1.24	12.903		1,500	540		2,040	2,525
1800	Lightning surge suppressor	1 Elec	32	.250	↓	85	10.45		95.45	111
2000	Switch devices									
2100	Single pole, 15 amp, ivory, with a 1-gang box, cover plate,									
2110	Type NM (Romex) cable	1 Elec	17.10	.468	Ea.	15.55	19.50		35.05	49
2120	Type MC cable		14.30	.559		26	23.50		49.50	67
2130	EMT & wire		5.71	1.401		36	58.50		94.50	135
2150	3-way, #14/3, type NM cable		14.55	.550		10.10	23		33.10	48.50
2170	Type MC cable		12.31	.650		24.50	27		51.50	71
2180	EMT & wire		5	1.600		30.50	66.50		97	143
2200	4-way, #14/3, type NM cable	↓	14.55	.550	↓	18.20	23		41.20	57.50

# 26 05 Common Work Results for Electrical

## 26 05 90 – Residential Applications

26 05 90.10 Residential Wiring		Daily	Labor-	Unit	2020 Bare Costs			Total	Total Incl O&P
		Output	Hours		Material	Labor	Equipment		
2220	Type MC cable	1 Elec	12.31	.650	Ea.	32.50	27	59.50	80
2230	EMT & wire		5	1.600		38.50	66.50	105	152
2250	S.P., 20 amp, #12/2, type NM cable		13.33	.600		12.30	25	37.30	54.50
2270	Type MC cable		11.43	.700		22	29	51	71.50
2280	EMT & wire		4.85	1.649		35	69	104	151
2290	S.P. rotary dimmer, 600 W, no wiring		17	.471		32	19.60	51.60	67
2300	S.P. rotary dimmer, 600 W, type NM cable		14.55	.550		35.50	23	58.50	76.50
2320	Type MC cable		12.31	.650		46	27	73	95
2330	EMT & wire		5	1.600		57.50	66.50	124	172
2350	3-way rotary dimmer, type NM cable		13.33	.600		24	25	49	67.50
2370	Type MC cable		11.43	.700		34.50	29	63.50	85.50
2380	EMT & wire	↓	4.85	1.649	↓	46	69	115	163
2400	Interval timer wall switch, 20 amp, 1-30 min., #12/2								
2410	Type NM cable	1 Elec	14.55	.550	Ea.	59	23	82	103
2420	Type MC cable		12.31	.650		64.50	27	91.50	115
2430	EMT & wire	↓	5	1.600	↓	81.50	66.50	148	199
2500	Decorator style								
2510	S.P., 15 amp, type NM cable	1 Elec	17.10	.468	Ea.	21	19.50	40.50	55
2520	Type MC cable		14.30	.559		32	23.50	55.50	73
2530	EMT & wire		5.71	1.401		41.50	58.50	100	141
2550	3-way, #14/3, type NM cable		14.55	.550		15.65	23	38.65	55
2570	Type MC cable		12.31	.650		30	27	57	77
2580	EMT & wire		5	1.600		36	66.50	102.50	149
2600	4-way, #14/3, type NM cable		14.55	.550		24	23	47	63.50
2620	Type MC cable		12.31	.650		38	27	65	86
2630	EMT & wire		5	1.600		44	66.50	110.50	158
2650	S.P., 20 amp, #12/2, type NM cable		13.33	.600		17.85	25	42.85	60.50
2670	Type MC cable		11.43	.700		27.50	29	56.50	77.50
2680	EMT & wire		4.85	1.649		40.50	69	109.50	157
2700	S.P., slide dimmer, type NM cable		17.10	.468		37.50	19.50	57	73.50
2720	Type MC cable		14.30	.559		48	23.50	71.50	91
2730	EMT & wire		5.71	1.401		59.50	58.50	118	161
2750	S.P., touch dimmer, type NM cable		17.10	.468		53	19.50	72.50	90.50
2770	Type MC cable		14.30	.559		64	23.50	87.50	108
2780	EMT & wire		5.71	1.401		75	58.50	133.50	178
2800	3-way touch dimmer, type NM cable		13.33	.600		49.50	25	74.50	95.50
2820	Type MC cable		11.43	.700		60.50	29	89.50	114
2830	EMT & wire	↓	4.85	1.649	↓	71.50	69	140.50	191
3000	Combination devices								
3100	S.P. switch/15 amp recept., ivory, 1-gang box, plate	1 Elec	11.43	.700	Ea.	22	29	51	71.50
3110	Type NM cable		10	.800		32.50	33.50	66	90.50
3120	Type MC cable		4.40	1.818		44	76	120	172
3130	EMT & wire		11.43	.700		23.50	29	52.50	73
3150	S.P. switch/pilot light, type NM cable		10	.800		34	33.50	67.50	92
3170	Type MC cable		4.43	1.806		45	75.50	120.50	173
3180	EMT & wire		14	.571		13	24	37	53.50
3190	2-S.P. switches, 2-#14/2, no wiring		10	.800		24	33.50	57.50	81
3200	2-S.P. switches, 2-#14/2, type NM cables		8.89	.900		46	81.50	127.50	184
3220	Type MC cable		4.10	1.951		44	37.50	81.50	110
3230	EMT & wire		8.89	.900		50	81.50	131.50	188
3250	3-way switch/15 amp recept., #14/3, type NM cable		10	.800		30	33.50	63.50	87.50
3270	Type MC cable		8.89	.900		44	37.50	81.50	110
3280	EMT & wire	↓	4.10	1.951	↓	50	81.50	131.50	188

# 26 05 Common Work Results for Electrical

## 26 05 90 – Residential Applications

26 05 90.10 Residential Wiring		Crew	Daily	Labor-	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours	Unit	Material	Labor		
3300	2-3 way switches, 2#14/3, type NM cables	1 Elec	8.89	.900	Ea.	38	37.50	75.50	103
3320	Type MC cable		8	1		60	41.50	101.50	134
3330	EMT & wire		4	2		56.50	83.50	140	199
3350	S.P. switch/20 amp recept., #12/2, type NM cable		10	.800		40	33.50	73.50	98.50
3370	Type MC cable		8.89	.900		45.50	37.50	83	111
3380	EMT & wire		4.10	1.951		62.50	81.50	144	202
3400	Decorator style								
3410	S.P. switch/15 amp recept., type NM cable	1 Elec	11.43	.700	Ea.	27.50	29	56.50	77.50
3420	Type MC cable		10	.800		38	33.50	71.50	96.50
3430	EMT & wire		4.40	1.818		49.50	76	125.50	179
3450	S.P. switch/pilot light, type NM cable		11.43	.700		29	29	58	79
3470	Type MC cable		10	.800		39.50	33.50	73	98
3480	EMT & wire		4.40	1.818		50.50	76	126.50	180
3500	2-S.P. switches, 2#14/2, type NM cables		10	.800		29.50	33.50	63	87
3520	Type MC cable		8.89	.900		44.50	37.50	82	110
3530	EMT & wire		4.10	1.951		51.50	81.50	133	190
3550	3-way/15 amp recept., #14/3, type NM cable		10	.800		35.50	33.50	69	93.50
3570	Type MC cable		8.89	.900		49.50	37.50	87	116
3580	EMT & wire		4.10	1.951		55.50	81.50	137	194
3650	2-3 way switches, 2#14/3, type NM cables		8.89	.900		43.50	37.50	81	109
3670	Type MC cable		8	1		65.50	41.50	107	140
3680	EMT & wire		4	2		62	83.50	145.50	205
3700	S.P. switch/20 amp recept., #12/2, type NM cable		10	.800		45.50	33.50	79	105
3720	Type MC cable		8.89	.900		51	37.50	88.50	117
3730	EMT & wire		4.10	1.951		68	81.50	149.50	208
4000	Receptacle devices								
4010	Duplex outlet, 15 amp recept., ivory, 1-gang box, plate	1 Elec	14.55	.550	Ea.	8.90	23	31.90	47.50
4015	Type NM cable		12.31	.650		19.55	27	46.55	65.50
4020	Type MC cable		5.33	1.501		29.50	62.50	92	135
4030	EMT & wire		12.31	.650		10.50	27	37.50	55.50
4050	With #12/2, type NM cable		10.67	.750		19.95	31.50	51.45	73
4070	Type MC cable		4.71	1.699		33	71	104	151
4080	EMT & wire		12.31	.650		19.50	27	46.50	65.50
4100	20 amp recept., #12/2, type NM cable		10.67	.750		29	31.50	60.50	83
4120	Type MC cable		4.71	1.699		42	71	113	161
4140	For GFI see Section 26 05 90.10 line 4300 below								
4150	Decorator style, 15 amp recept., type NM cable	1 Elec	14.55	.550	Ea.	14.45	23	37.45	53.50
4170	Type MC cable		12.31	.650		25	27	52	71.50
4180	EMT & wire		5.33	1.501		35	62.50	97.50	141
4200	With #12/2, type NM cable		12.31	.650		16.05	27	43.05	61.50
4220	Type MC cable		10.67	.750		25.50	31.50	57	79
4230	EMT & wire		4.71	1.699		38.50	71	109.50	158
4250	20 amp recept., #12/2, type NM cable		12.31	.650		25	27	52	71.50
4270	Type MC cable		10.67	.750		34.50	31.50	66	89
4280	EMT & wire		4.71	1.699		47.50	71	118.50	168
4300	GFI, 15 amp recept., type NM cable		12.31	.650		21	27	48	67
4320	Type MC cable		10.67	.750		31.50	31.50	63	85.50
4330	EMT & wire		4.71	1.699		41.50	71	112.50	161
4350	GFI with #12/2, type NM cable		10.67	.750		22.50	31.50	54	75.50
4370	Type MC cable		9.20	.870		32	36.50	68.50	94
4380	EMT & wire		4.21	1.900		45	79	124	179
4400	20 amp recept., #12/2, type NM cable		10.67	.750		54	31.50	85.50	111

# 26 05 Common Work Results for Electrical

## 26 05 90 – Residential Applications

26 05 90.10 Residential Wiring		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
						Labor	Equipment		
4420	Type MC cable	1 Elec	9.20	.870	Ea.	63.50	36.50	100	129
4430	EMT & wire		4.21	1.900		76.50	79	155.50	213
4500	Weather-proof cover for above receptacles, add	↓	32	.250	↓	2.02	10.45	12.47	19.20
4550	Air conditioner outlet, 20 amp-240 volt recept.								
4560	30' of #12/2, 2 pole circuit breaker								
4570	Type NM cable	1 Elec	10	.800	Ea.	61	33.50	94.50	122
4580	Type MC cable		9	.889		72	37	109	140
4590	EMT & wire		4	2		84	83.50	167.50	228
4600	Decorator style, type NM cable		10	.800		66	33.50	99.50	127
4620	Type MC cable		9	.889		77	37	114	145
4630	EMT & wire	↓	4	2	↓	88.50	83.50	172	234
4650	Dryer outlet, 30 amp-240 volt recept., 20' of #10/3								
4660	2 pole circuit breaker								
4670	Type NM cable	1 Elec	6.41	1.248	Ea.	54.50	52	106.50	145
4680	Type MC cable		5.71	1.401		62.50	58.50	121	164
4690	EMT & wire	↓	3.48	2.299	↓	73	96	169	237
4700	Range outlet, 50 amp-240 volt recept., 30' of #8/3								
4710	Type NM cable	1 Elec	4.21	1.900	Ea.	82.50	79	161.50	220
4720	Type MC cable		4	2		133	83.50	216.50	282
4730	EMT & wire		2.96	2.703		105	113	218	299
4750	Central vacuum outlet, type NM cable		6.40	1.250		58	52	110	149
4770	Type MC cable		5.71	1.401		70.50	58.50	129	173
4780	EMT & wire	↓	3.48	2.299	↓	88	96	184	253
4800	30 amp-110 volt locking recept., #10/2 circ. bkr.								
4810	Type NM cable	1 Elec	6.20	1.290	Ea.	67	54	121	161
4820	Type MC cable		5.40	1.481		83	62	145	193
4830	EMT & wire	↓	3.20	2.500	↓	98	104	202	278
4900	Low voltage outlets								
4910	Telephone recept., 20' of 4/C phone wire	1 Elec	26	.308	Ea.	8.80	12.85	21.65	30.50
4920	TV recept., 20' of RG59U coax wire, F type connector	"	16	.500	"	17.60	21	38.60	53.50
4950	Door bell chime, transformer, 2 buttons, 60' of bellwire								
4970	Economy model	1 Elec	11.50	.696	Ea.	57.50	29	86.50	111
4980	Custom model		11.50	.696		111	29	140	170
4990	Luxury model, 3 buttons	↓	9.50	.842	↓	188	35	223	264
6000	Lighting outlets								
6050	Wire only (for fixture), type NM cable	1 Elec	32	.250	Ea.	5.95	10.45	16.40	23.50
6070	Type MC cable		24	.333		11.30	13.90	25.20	35
6080	EMT & wire		10	.800		20.50	33.50	54	77
6100	Box (4"), and wire (for fixture), type NM cable		25	.320		15.05	13.35	28.40	38
6120	Type MC cable		20	.400		20.50	16.70	37.20	49.50
6130	EMT & wire		11	.727		29.50	30.50	60	82
6200	Fixtures (use with line 6050 or 6100 above)								
6210	Canopy style, economy grade	1 Elec	40	.200	Ea.	22	8.35	30.35	38
6220	Custom grade		40	.200		53	8.35	61.35	71.50
6250	Dining room chandelier, economy grade		19	.421		82	17.55	99.55	119
6260	Custom grade		19	.421		320	17.55	337.55	385
6270	Luxury grade		15	.533		1,300	22	1,322	1,450
6310	Kitchen fixture (fluorescent), economy grade		30	.267		72.50	11.10	83.60	97.50
6320	Custom grade		25	.320		147	13.35	160.35	184
6350	Outdoor, wall mounted, economy grade		30	.267		30.50	11.10	41.60	51.50
6360	Custom grade		30	.267		119	11.10	130.10	148
6370	Luxury grade		25	.320		247	13.35	260.35	294
6410	Outdoor PAR floodlights, 1 lamp, 150 watt	↓	20	.400	↓	28	16.70	44.70	57.50

# 26 05 Common Work Results for Electrical

## 26 05 90 – Residential Applications

26 05 90.10 Residential Wiring	Description	Crew	Daily	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total
			Output	Unit			Labor	Equipment		Incl O&P
6420	2 lamp, 150 watt each	1 Elec	20	.400	Ea.	45	16.70	11.10	61.70	76.50
6425	Motion sensing, 2 lamp, 150 watt each		20	.400		109	16.70		125.70	147
6430	For infrared security sensor, add		32	.250		95	10.45		105.45	121
6450	Outdoor, quartz-halogen, 300 watt flood		20	.400		40	16.70		56.70	71.50
6600	Recessed downlight, round, pre-wired, 50 or 75 watt trim		30	.267		68	11.10		79.10	93
6610	With shower light trim		30	.267		93.50	11.10		104.60	121
6620	With wall washer trim		28	.286		94	11.90		105.90	122
6630	With eye-ball trim		28	.286		85	11.90		96.90	113
6700	Porcelain lamp holder		40	.200		2.76	8.35		11.11	16.65
6710	With pull switch		40	.200		10.70	8.35		19.05	25.50
6750	Fluorescent strip, 2-20 watt tube, wrap around diffuser, 24"		24	.333		45.50	13.90		59.40	72.50
6760	1-34 watt tube, 48"		24	.333		122	13.90		135.90	157
6770	2-34 watt tubes, 48"		20	.400		160	16.70		176.70	203
6800	Bathroom heat lamp, 1-250 watt		28	.286		33.50	11.90		45.40	56.50
6810	2-250 watt lamps		28	.286		64.50	11.90		76.40	90
6820	For timer switch, see Section 26 05 90.10 line 2400									
6900	Outdoor post lamp, incl. post, fixture, 35' of #14/2									
6910	Type NM cable	1 Elec	3.50	2.286	Ea.	325	95.50		420.50	510
6920	Photo-eye, add		27	.296		27	12.35		39.35	50
6950	Clock dial time switch, 24 hr., w/enclosure, type NM cable		11.43	.700		72.50	29		101.50	127
6970	Type MC cable		11	.727		83	30.50		113.50	141
6980	EMT & wire		4.85	1.649		93	69		162	214
7000	Alarm systems									
7050	Smoke detectors, box, #14/3, type NM cable	1 Elec	14.55	.550	Ea.	33.50	23		56.50	74.50
7070	Type MC cable		12.31	.650		44	27		71	92.50
7080	EMT & wire		5	1.600		50	66.50		116.50	164
7090	For relay output to security system, add						10.25		10.25	11.25
8000	Residential equipment									
8050	Disposal hook-up, incl. switch, outlet box, 3' of flex									
8060	20 amp-1 pole circ. bkr, and 25' of #12/2									
8070	Type NM cable	1 Elec	10	.800	Ea.	29	33.50		62.50	86.50
8080	Type MC cable		8	1		39	41.50		80.50	111
8090	EMT & wire		5	1.600		55	66.50		121.50	169
8100	Trash compactor or dishwasher hook-up, incl. outlet box, 3' of flex, 15 amp-1 pole circ. bkr, and 25' of #14/2									
8130	Type MC cable	1 Elec	8	1	Ea.	28	41.50		69.50	99
8140	EMT & wire	"	5	1.600	"	41.50	66.50		108	155
8150	Hot water sink dispenser hook-up, use line 8100									
8200	Vent/exhaust fan hook-up, type NM cable	1 Elec	32	.250	Ea.	5.95	10.45		16.40	23.50
8220	Type MC cable		24	.333		11.30	13.90		25.20	35
8230	EMT & wire		10	.800		20.50	33.50		54	77
8250	Bathroom vent fan, 50 CFM (use with above hook-up)									
8260	Economy model	1 Elec	15	.533	Ea.	18.80	22		40.80	56.50
8270	Low noise model		15	.533		47.50	22		69.50	88.50
8280	Custom model		12	.667		117	28		145	175
8300	Bathroom or kitchen vent fan, 110 CFM									
8310	Economy model	1 Elec	15	.533	Ea.	66.50	22		88.50	110
8320	Low noise model	"	15	.533	"	96.50	22		118.50	142
8350	Paddle fan, variable speed (w/o lights)									
8360	Economy model (AC motor)	1 Elec	10	.800	Ea.	136	33.50		169.50	204
8362	With light kit		10	.800		176	33.50		209.50	248
8370	Custom model (AC motor)		10	.800		345	33.50		378.50	435
8372	With light kit		10	.800		385	33.50		418.50	480

# 26 05 Common Work Results for Electrical

## 26 05 90 – Residential Applications

26 05 90.10 Residential Wiring		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
						Labor	Equipment	Total		
8380	Luxury model (DC motor)	1 Elec	8	1 Ea.	315	41.50		356.50	415	
8382	With light kit		8	1	355	41.50		396.50	460	
8390	Remote speed switch for above, add	↓	12	.667 ↓	40.50	28		68.50	90	
8500	Whole house exhaust fan, ceiling mount, 36", variable speed									
8510	Remote switch, incl. shutters, 20 amp-1 pole circ. bkr.	1 Elec	4	2 Ea.	1,375	83.50		1,458.50	1,650	
8520	30' of #12/2, type NM cable		3.50	2.286	1,400	95.50		1,495.50	1,700	
8530	Type MC cable									
8540	EMT & wire	↓	3	2.667 ↓	1,425	111		1,536	1,725	
8600	Whirlpool tub hook-up, incl. timer switch, outlet box									
8610	3' of flex, 20 amp-1 pole GFI circ. bkr.									
8620	30' of #12/2, type NM cable	1 Elec	5	1.600 Ea.	129	66.50		195.50	251	
8630	Type MC cable		4.20	1.905	136	79.50		215.50	279	
8640	EMT & wire	↓	3.40	2.353 ↓	149	98		247	325	
8650	Hot water heater hook-up, incl. 1-2 pole circ. bkr., box;									
8660	3' of flex, 20' of #10/2, type NM cable	1 Elec	5	1.600 Ea.	29	66.50		95.50	141	
8670	Type MC cable		4.20	1.905	42	79.50		121.50	175	
8680	EMT & wire	↓	3.40	2.353 ↓	48	98		146	213	
9000	Heating/air conditioning									
9050	Furnace/boiler hook-up, incl. firestat, local on-off switch	1 Elec	4	2 Ea.	57	83.50		140.50	199	
9060	Emergency switch, and 40' of type NM cable		3.50	2.286	72	95.50		167.50	234	
9070	Type MC cable									
9080	EMT & wire	↓	1.50	5.333 ↓	93.50	222		315.50	465	
9100	Air conditioner hook-up, incl. local 60 amp disc. switch									
9110	3' sealite, 40 amp, 2 pole circuit breaker	1 Elec	3.50	2.286 Ea.	144	95.50		239.50	315	
9130	40' of #8/2, type NM cable		3	2.667	212	111		323	415	
9140	Type MC cable									
9150	EMT & wire	↓	1.30	6.154 ↓	185	257		442	625	
9200	Heat pump hook-up, 1-40 & 1-100 amp 2 pole circ. bkr.									
9210	Local disconnect switch, 3' sealite									
9220	40' of #8/2 & 30' of #3/2	1 Elec	1.30	6.154 Ea.	520	257		777	995	
9230	Type NM cable									
9240	Type MC cable		1.08	7.407	550	310		860	1,100	
9250	EMT & wire	↓	.94	8.511 ↓	535	355		890	1,175	
9500	Thermostat hook-up, using low voltage wire									
9520	Heating only, 25' of #18-3	1 Elec	24	.333 Ea.	6.75	13.90		20.65	30	
9530	Heating/cooling, 25' of #18-4	"	20	.400 "	8.60	16.70		25.30	36.50	

# 26 24 Switchboards and Panelboards

## 26 24 16 – Panelboards

### 26 24 16.10 Load Centers

0010	LOAD CENTERS (residential type)								
0100	3 wire, 120/240 V, 1 phase, including 1 pole plug-in breakers								
0200	100 amp main lugs, indoor, 8 circuits	1 Elec	1.40	5.714 Ea.	101	238		339	500
0300	12 circuits		1.20	6.667	127	278		405	595
0400	Rainproof, 8 circuits		1.40	5.714	130	238		368	535
0500	12 circuits	↓	1.20	6.667	156	278		434	625
0600	200 amp main lugs, indoor, 16 circuits	R-1A	1.80	8.889	218	335		553	785
0700	20 circuits		1.50	10.667	208	400		608	880
0800	24 circuits		1.30	12.308	266	460		726	1,050
1200	Rainproof, 16 circuits		1.80	8.889	250	335		585	820
1300	20 circuits	↓	1.50	10.667	325	400		725	1,000

# 26 24 Switchboards and Panelboards

## 26 24 16 – Panelboards

26 24 16.10 Load Centers		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
1400	24 circuits	R-1A	1.30	12.308	Ea.	340	460			800	1,125

## 26 24 16.20 Panelboard and Load Center Circuit Breakers

0010 PANELBOARD AND LOAD CENTER CIRCUIT BREAKERS		1 Elec	.12	.667	Ea.	6.40	28			34.40	52.50
2000	Plug-in panel or load center, 120/240 volt, to 60 amp, 1 pole										
2004	Circuit breaker, 120/240 volt, 20 A, 1 pole with NM cable		6.50	1.231		11.65	51.50			63.15	96.50
2006	30 A, 1 pole with NM cable		6.50	1.231		11.65	51.50			63.15	96.50
2010	2 pole		9	.889		25.50	37			62.50	88.50
2014	50 A, 2 pole with NM cable		5.50	1.455		30.50	60.50			91	133
2020	3 pole		7.50	1.067		97.50	44.50			142	180
2030	100 amp, 2 pole		6	1.333		105	55.50			160.50	207
2040	3 pole		4.50	1.778		118	74			192	250
2050	150-200 amp, 2 pole		3	2.667		256	111			367	460
2060	Plug-in tandem, 120/240 V, 2-15 A, 1 pole		11	.727		30	30.50			60.50	82.50
2070	1-15 A & 1-20 A		11	.727		18.35	30.50			48.85	69.50
2080	2-20 A		11	.727		18.40	30.50			48.90	69.50
2300	Ground fault, 240 volt, 30 amp, 1 pole		7	1.143		92.50	47.50			140	180
2310	2 pole		6	1.333	↓	170	55.50			225.50	278

# 26 27 Low-Voltage Distribution Equipment

## 26 27 13 – Electricity Metering

### 26 27 13.10 Meter Centers and Sockets

0010 METER CENTERS AND SOCKETS		1 Elec	3.20	2.500	Ea.	52.50	104			156.50	228
0100	Sockets, single position, 4 terminal, 100 amp										
0200	150 amp		2.30	3.478		62.50	145			207.50	305
0300	200 amp		1.90	4.211		110	176			286	405
0500	Double position, 4 terminal, 100 amp		2.80	2.857		240	119			359	460
0600	150 amp		2.10	3.810		290	159			449	580
0700	200 amp		1.70	4.706		550	196			746	925
1100	Meter centers and sockets, three phase, single pos, 7 terminal, 100 amp		2.80	2.857		136	119			255	345
1200	200 amp		2.10	3.810		239	159			398	520
1400	400 amp	↓	1.70	4.706	↓	825	196			1,021	1,225
2590	Basic meter device										
2600	1P 3W 120/240 V 4 jaw 125A sockets, 3 meter	2 Elec	1	16	Ea.	355	665			1,020	1,475
2610	4 meter		.90	17.778		535	740			1,275	1,800
2620	5 meter		.80	20		630	835			1,465	2,050
2630	6 meter		.60	26.667		570	1,100			1,670	2,425
2640	7 meter		.56	28.571		1,650	1,200			2,850	3,775
2660	10 meter	↓	.48	33.333	↓	2,250	1,400			3,650	4,750
2680	Rainproof 1P 3W 120/240 V 4 jaw 125A sockets										
2690	3 meter	2 Elec	1	16	Ea.	750	665			1,415	1,900
2710	6 meter		.60	26.667		1,300	1,100			2,400	3,225
2730	8 meter	↓	.52	30.769	↓	1,800	1,275			3,075	4,075
2750	1P 3W 120/240 V 4 jaw sockets										
2760	with 125A circuit breaker, 3 meter	2 Elec	1	16	Ea.	1,400	665			2,065	2,625
2780	5 meter		.80	20		2,225	835			3,060	3,775
2800	7 meter		.56	28.571		3,175	1,200			4,375	5,450
2820	10 meter		.48	33.333		4,425	1,400			5,825	7,150
2830	Rainproof 1P 3W 120/240 V 4 jaw sockets										
2840	with 125A circuit breaker, 3 meter	2 Elec	1	16	Ea.	1,400	665			2,065	2,625
2870	6 meter		.60	26.667		2,600	1,100			3,700	4,650
2890	8 meter	↓	.52	30.769	↓	3,550	1,275			4,825	6,000

# 26 27 Low-Voltage Distribution Equipment

## 26 27 13 – Electricity Metering

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
26 27 13.10	Meter Centers and Sockets									
3250	1P 3W 120/240 V 4 jaw sockets									
3260	with 200A circuit breaker, 3 meter	2 Elec	1	.16	Ea.	2,100	665		2,765	3,400
3290	6 meter		.60	26.667		4,200	1,100		5,300	6,425
3310	8 meter		.56	28.571		5,700	1,200		6,900	8,200
3330	Rainproof 1P 3W 120/240 V 4 jaw sockets									
3350	with 200A circuit breaker, 3 meter	2 Elec	1	.16	Ea.	2,100	665		2,765	3,400
3380	6 meter		.60	26.667		4,200	1,100		5,300	6,425
3400	8 meter		.52	30.769		5,700	1,275		6,975	8,350

## 26 27 23 – Indoor Service Poles

### 26 27 23.40 Surface Raceway

0010 SURFACE RACEWAY										
0090	Metal, straight section									
0100	No. 500	1 Elec	100	.080	L.F.	1.30	3.34		4.64	6.90
0110	No. 700		100	.080		1.41	3.34		4.75	7
0200	No. 1000		90	.089		1.68	3.71		5.39	7.90
0400	No. 1500, small pancake		90	.089		2.44	3.71		6.15	8.75
0600	No. 2000, base & cover, blank		90	.089		2.60	3.71		6.31	8.90
0800	No. 3000, base & cover, blank		75	.107		4.85	4.45		9.30	12.60
2400	Fittings, elbows, No. 500		40	.200	Ea.	2.34	8.35		10.69	16.15
2800	Elbow cover, No. 2000		40	.200		4.23	8.35		12.58	18.25
2880	Tee, No. 500		42	.190		4.19	7.95		12.14	17.55
2900	No. 2000		27	.296		13.65	12.35		26	35
3000	Switch box, No. 500		16	.500		14.85	21		35.85	50.50
3400	Telephone outlet, No. 1500		16	.500		17.55	21		38.55	53.50
3600	Junction box, No. 1500		16	.500		11.55	21		32.55	46.50
3800	Plugmold wired sections, No. 2000									
4000	1 circuit, 6 outlets, 3' long	1 Elec	8	1	Ea.	45	41.50		86.50	118
4100	2 circuits, 8 outlets, 6' long	"	5.30	1.509	"	65.50	63		128.50	175

## 26 27 26 – Wiring Devices

### 26 27 26.10 Low Voltage Switching

0010 LOW VOLTAGE SWITCHING										
3600	Relays, 120 V or 277 V standard	1 Elec	12	.667	Ea.	44	28		72	94
3800	Flush switch, standard		40	.200		13.45	8.35		21.80	28.50
4000	Interchangeable		40	.200		17.55	8.35		25.90	33
4100	Surface switch, standard		40	.200		8.35	8.35		16.70	23
4200	Transformer 115 V to 25 V		12	.667		128	28		156	187
4400	Master control, 12 circuit, manual		4	2		139	83.50		222.50	289
4500	25 circuit, motorized		4	2		161	83.50		244.50	315
4600	Rectifier, silicon		12	.667		50.50	28		78.50	101
4800	Switchplates, 1 gang, 1, 2 or 3 switch, plastic		80	.100		5.25	4.17		9.42	12.60
5000	Stainless steel		80	.100		11.35	4.17		15.52	19.25
5400	2 gang, 3 switch, stainless steel		53	.151		23.50	6.30		29.80	36.50
5500	4 switch, plastic		53	.151		10.35	6.30		16.65	21.50
5600	2 gang, 4 switch, stainless steel		53	.151		22	6.30		28.30	35
5700	6 switch, stainless steel		53	.151		44	6.30		50.30	59
5800	3 gang, 9 switch, stainless steel		32	.250		67.50	10.45		77.95	91

### 26 27 26.20 Wiring Devices Elements

0010 WIRING DEVICES ELEMENTS										
0200	Toggle switch, quiet type, single pole, 15 amp	1 Elec	40	.200	Ea.	.52	8.35		8.87	14.15
0600	3 way, 15 amp		23	.348		1.83	14.50		16.33	25.50
0900	4 way, 15 amp		15	.533		10.60	22		32.60	47.50

# 26 27 Low-Voltage Distribution Equipment

## 26 27 26 – Wiring Devices

26 27 26.20 Wiring Devices Elements			Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
Item No.	Description	Category	Crew			Labor	Equipment		
1650	Dimmer switch, 120 volt, incandescent, 600 watt, 1 pole	G	1 Elec	.16	.500	Ea.	22.50	21	43.50
2460	Receptacle, duplex, 120 volt, grounded, 15 amp			40	.200		1.62	8.35	9.97
2470	20 amp				.296		10.65	12.35	23
2490	Dryer, 30 amp			15	.533		4.55	22	26.55
2500	Range, 50 amp				.727		11.20	30.50	41.70
2600	Wall plates, stainless steel, 1 gang			80	.100		2.57	4.17	6.74
2800	2 gang			53	.151		4.38	6.30	10.68
3200	Lampholder, keyless			26	.308		19.35	12.85	32.20
3400	Pullchain with receptacle			22	.364		23	15.15	38.15

## 26 27 73 – Door Chimes

### 26 27 73.10 Doorbell System

0010	DOORBELL SYSTEM, incl. transformer, button & signal		1 Elec	4	2	Ea.	158	83.50	241.50	310
0100	6" bell			4	2		127	83.50	210.50	275
0200	Buzzer				.500		32	21	53	69
1000	Door chimes, 2 notes				.667		116	28	144	174
1020	with ambient light				.667		233	28	261	300
1100	Tube type, 3 tube system			12	.667				528.50	600
1180	4 tube system			10	.800		495	33.50		
1900	For transformer & button, add			5	1.600		16.15	66.50	82.65	127
3000	For push button only			24	.333		92	13.90	14.82	23.50

# 26 28 Low-Voltage Circuit Protective Devices

## 26 28 16 – Enclosed Switches and Circuit Breakers

### 26 28 16.10 Circuit Breakers

0010	CIRCUIT BREAKERS (in enclosure)		1 Elec	3.20	2.500	Ea.	530	104	634	750
0100	Enclosed (NEMA 1), 600 volt, 3 pole, 30 amp			2.80	2.857		645	119	764	900
0200	60 amp				2.30	3.478		735	145	880

### 26 28 16.20 Safety Switches

0010	SAFETY SWITCHES		1 Elec	3.20	2.500	Ea.	59.50	104	163.50	236
0100	General duty 240 volt, 3 pole NEMA 1, fusible, 30 amp			2.30	3.478		102	145	247	350
0200	60 amp				1.90	4.211		175	176	351
0300	100 amp				1.30	6.154		375	257	632
0400	200 amp			2 Elec	1.80	8.889		370		1,355
0500	400 amp				3.20	2.500		800	145	1,675
9010	Disc. switch, 600 volt 3 pole fusible, 30 amp, to 10 HP motor		1 Elec				350	104	454	555
9050	60 amp, to 30 HP motor				2.30	3.478			945	1,125
9070	100 amp, to 60 HP motor				1.90	4.211		800	176	976

### 26 28 16.40 Time Switches

0010	TIME SWITCHES		1 Elec	4	2	Ea.	131	83.50	214.50	280
0100	Single pole, single throw, 24 hour dial			3.60	2.222		675	92.50	767.50	890
0200	24 hour dial with reserve power				3.60	2.222		256	92.50	348.50
0300	Astronomic dial				3.30	2.424		940	101	1,041
0400	Astronomic dial with reserve power				3.30	2.424		218	101	319
0500	7 day calendar dial				3.20	2.500		212	104	316
0600	7 day calendar dial with reserve power				8	1		28.50	41.50	70
0700	Photo cell 2,000 watt									99.50

# 26 32 Packaged Generator Assemblies

## 26 32 13 – Engine Generators

26 32 13.16 Gas-Engine-Driven Generator Sets	0010 GAS-ENGINE-DRIVEN GENERATOR SETS	0020 Gas or gasoline operated, includes battery, charger, & muffler	0200 7.5 kW	Daily	Labor-	Material	2020 Bare Costs			Total	Total Ind O&P
				Crew	Output		Labor	Equipment	Total		
				R-3	.83	24.096	Ea.		8,750	995	228
0300	11.5 kW				.71	28.169			12,400	1,150	266
0400	20 kW				.63	31.746			14,600	1,300	300
0500	35 kW				.55	36.364			17,400	1,500	345
										19,245	21,900

# 26 33 Battery Equipment

## 26 33 43 – Battery Chargers

### 26 33 43.55 Electric Vehicle Charging

0010 ELECTRIC VEHICLE CHARGING	0020 Level 2, wall mounted	2100 Light duty, hard wired	2110 plug in	G 1 Elec 20.48 .391 Ea.	705	16.30	721.30	800
				G " 30.72 .260 "	705	10.85	715.85	795

# 26 36 Transfer Switches

## 26 36 23 – Automatic Transfer Switches

### 26 36 23.10 Automatic Transfer Switch Devices

0010 AUTOMATIC TRANSFER SWITCH DEVICES	0100 Switches, enclosed 480 volt, 3 pole, 30 amp	0200 60 amp	1 Elec 2.30 3.478 Ea.	3,425	145	3,570	4,000
			" 1.90 4.211 "	3,425	176	3,601	4,050

# 26 41 Facility Lightning Protection

## 26 41 13 – Lightning Protection for Structures

### 26 41 13.13 Lightning Protection for Buildings

0010 LIGHTNING PROTECTION FOR BUILDINGS	0200 Air terminals & base, copper	0400 3/8" diameter x 10" (to 75' high)	1000 Aluminum, 1/2" diameter x 12" (to 75' high)	1 Elec 8 1 Ea.	26	41.50	67.50	96.50
				8	1		17.15	41.50
				7.30	1.096		18.95	45.50
				6.70	1.194		25	50
				320	.025 L.F.	3.18	1.04	4.22
				280	.029 "	.91	1.19	2.10
2000	Cable, copper, 220 lb. per thousand ft. (to 75' high)							5.20
2500	Aluminum, 101 lb. per thousand ft. (to 75' high)							2.94
3000	Arrester, 175 volt AC to ground							247
				8	1 Ea.	163	41.50	204.50

# 26 51 Interior Lighting

## 26 51 13 – Interior Lighting Fixtures, Lamps, and Ballasts

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Equipment	Total	Total Incl O&P
<b>26 51 13.50 Interior Lighting Fixtures</b>											
0010 INTERIOR LIGHTING FIXTURES Including lamps, mounting hardware and connections											
0100 Fluorescent, C.W. lamps, troffer, recess mounted in grid, RS											
0130 Grid ceiling mount											
0200 Acrylic lens, 1' W x 4' L, two 40 watt		1 Elec	5.70	1.404	Ea.	53.50	58.50			112	154
0300 2' W x 2' L, two U40 watt			5.70	1.404		57.50	58.50			116	159
0600 2' W x 4' L, four 40 watt			4.70	1.702		64.50	71			135.50	187
1000 Surface mounted, RS											
1030 Acrylic lens with hinged & latched door frame											
1100 1' W x 4' L, two 40 watt		1 Elec	7	1.143	Ea.	68.50	47.50			116	153
1200 2' W x 2' L, two U40 watt			7	1.143		73.50	47.50			121	159
1500 2' W x 4' L, four 40 watt				5.30	1.509	87	63			150	199
1501 2' W x 4' L, six 40 watt T8				5.20	1.538	87	64			151	201
2100 Strip fixture											
2200 4' long, one 40 watt, RS		1 Elec	8.50	.941	Ea.	31.50	39.50			71	99
2300 4' long, two 40 watt, RS			"	8	1	49	41.50			90.50	122
2600 8' long, one 75 watt, SL		2 Elec	13.40	1.194		57.50	50			107.50	144
2700 8' long, two 75 watt, SL			"	12.40	1.290	71	54			125	166
4450 Incandescent, high hat can, round alzak reflector, prewired											
4470 100 watt		1 Elec	8	1	Ea.	68	41.50			109.50	143
4480 150 watt				8	1	104	41.50			145.50	182
4500 300 watt				6.70	1.194	241	50			291	345
5200 Ceiling, surface mounted, opal glass drum											
5300 8", one 60 watt lamp		1 Elec	10	.800	Ea.	67	33.50			100.50	129
5400 10", two 60 watt lamps				8	1	74.50	41.50			116	150
5500 12", four 60 watt lamps					6.70	1.194	104	50		154	195
6900 Mirror light, fluorescent, RS, acrylic enclosure, two 40 watt					8	1	115	41.50		156.50	195
6910 One 40 watt					8	1	99.50	41.50		141	177
6920 One 20 watt					12	.667	84	28		112	138

## 26 51 13.55 Interior LED Fixtures

0010	INTERIOR LED FIXTURES Incl. lamps and mounting hardware										
0100	Downlight, recess mounted, 7.5" diameter, 25 watt	G	1 Elec	8	1	Ea.	340	41.50		381.50	445
0120	10" diameter, 36 watt	G		8	1		360	41.50		401.50	465
0160	cylinder, 10 watts	G		8	1		104	41.50		145.50	182
0180	20 watts	G		8	1		135	41.50		176.50	217
1000	Troffer, recess mounted, 2' x 4', 3,200 lumens	G		5.30	1.509		138	63		201	255
1010	4,800 lumens	G		5	1.600		150	66.50		216.50	274
1020	6,400 lumens	G		4.70	1.702		189	71		260	325
1100	Troffer retrofit lamp, 38 watt	G		21	.381		63.50	15.90		79.40	95.50
1110	60 watt	G		20	.400		156	16.70		172.70	198
1120	100 watt	G		18	.444		140	18.55		158.55	184
1200	Troffer, volumetric recess mounted, 2' x 2'	G		5.70	1.404		345	58.50		403.50	475
2000	Strip, surface mounted, one light bar 4' long, 3,500 K	G		8.50	.941		305	39.50		344.50	405
2010	5,000 K	G		8	1		265	41.50		306.50	360
2020	Two light bar 4' long, 5,000 K	G		7	1.143		415	47.50		462.50	540
3000	Linear, suspended mounted, one light bar 4' long, 37 watt	G		6.70	1.194		171	50		221	269
3010	One light bar 8' long, 74 watt	G	2 Elec	12.20	1.311		310	54.50		364.50	430
3020	Two light bar 4' long, 74 watt	G	1 Elec	5.70	1.404		335	58.50		393.50	460
3030	Two light bar 8' long, 148 watt	G	2 Elec	8.80	1.818		360	76		436	520
4000	High bay, surface mounted, round, 150 watts	G		5.41	2.959		465	123		588	710
4010	2 bars, 164 watts	G		5.41	2.959		385	123		508	620
4020	3 bars, 246 watts	G		5.01	3.197		515	133		648	780

# 26 51 Interior Lighting

## 26 51 13 – Interior Lighting Fixtures, Lamps, and Ballasts

26 51 13.55 Interior LED Fixtures		Daily	Labor-	Unit	2020 Bare Costs			Total	Total Incl O&P	
		Crew	Output		Material	Labor	Equipment			
4030	4 bars, 328 watts	G	2 Elec	4.60	3.478	Ea.	735	145	880	1,050
4040	5 bars, 410 watts	G	3 Elec	4.20	5.716		830	238	1,068	1,300
4050	6 bars, 492 watts	G		3.80	6.324		930	264	1,194	1,450
4060	7 bars, 574 watts	G		3.39	7.075		1,000	295	1,295	1,575
4070	8 bars, 656 watts	G		2.99	8.029		1,050	335	1,385	1,700
5000	Track, lighthead, 6 watt	G	1 Elec	32	.250		55.50	10.45	65.95	78
5010	9 watt	G	"	32	.250		62.50	10.45	72.95	85.50
6000	Garage, surface mounted, 103 watts	G	2 Elec	6.50	2.462		985	103	1,088	1,250
6100	Pendant mounted, 80 watts	G		6.50	2.462		690	103	793	925
6200	95 watts	G		6.50	2.462		815	103	918	1,050
6300	125 watts	G		6.50	2.462		850	103	953	1,100

## 26 51 13.70 Residential Fixtures

0010	RESIDENTIAL FIXTURES									
0400	Fluorescent, interior, surface, circline, 32 watt & 40 watt		1 Elec	20	.400	Ea.	164	16.70	180.70	207
0500	2' x 2', two U-tube 32 watt T8			8	1		118	41.50	159.50	198
0700	Shallow under cabinet, two 20 watt			16	.500		70.50	21	91.50	112
0900	Wall mounted, 4' L, two 32 watt T8, with baffle			10	.800		165	33.50	198.50	237
2000	Incandescent, exterior lantern, wall mounted, 60 watt			16	.500		61.50	21	82.50	102
2100	Post light, 150 W, with 7' post			4	2		291	83.50	374.50	455
2500	Lamp holder, weatherproof with 150 W PAR			16	.500		35.50	21	56.50	73
2550	With reflector and guard			12	.667		66	28	94	118
2600	Interior pendant, globe with shade, 150 W			20	.400		190	16.70	206.70	236

# 26 55 Special Purpose Lighting

## 26 55 59 – Display Lighting

### 26 55 59.10 Track Lighting

0010	TRACK LIGHTING		2 Elec	10.60	1.509	Ea.	76	63	139	187
0300	3 circuits, 4' section		1 Elec	6.70	1.194		117	50	167	209
0400	8' section		2 Elec	10.60	1.509		130	63	193	246
0500	12' section		"	8.80	1.818		168	76	244	310
1000	Feed kit, surface mounting		1 Elec	16	.500		15.85	21	36.85	51.50
1100	End cover			24	.333		8.30	13.90	22.20	31.50
1200	Feed kit, stem mounting, 1 circuit			16	.500		52.50	21	73.50	91.50
1300	3 circuit			16	.500		52.50	21	73.50	91.50
2000	Electrical joiner, for continuous runs, 1 circuit			32	.250		37.50	10.45	47.95	58
2100	3 circuit			32	.250		76.50	10.45	86.95	102
2200	Fixtures, spotlight, 75 W PAR halogen			16	.500		48	21	69	86.50
2210	50 W MR16 halogen			16	.500		175	21	196	226
3000	Wall washer, 250 W tungsten halogen			16	.500		134	21	155	181
3100	Low voltage, 25/50 W, 1 circuit			16	.500		135	21	156	182
3120	3 circuit			16	.500		193	21	214	247

# 26 56 Exterior Lighting

## 26 56 13 – Lighting Poles and Standards

26 56 13.10 Lighting Poles		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0010 LIGHTING POLES											
6420 Wood pole, 4-1/2" x 5-1/8", 8' high		1 Elec	6	1.333	Ea.	385	55.50			440.50	515
6440 12' high			5.70	1.404		570	58.50			628.50	720
6460 20' high			4	2		810	83.50			893.50	1,025

## 26 56 23 – Area Lighting

### 26 56 23.10 Exterior Fixtures

0010 EXTERIOR FIXTURES With lamps	1 Elec	5.30	1.509	Ea.	62	63	125	172
0400 Quartz, 500 watt								
1100 Wall pack, low pressure sodium, 35 watt		4	2		205	83.50	288.50	360
1150 55 watt		4	2		241	83.50	324.50	400

## 26 56 26 – Landscape Lighting

### 26 56 26.20 Landscape Fixtures

0010 LANDSCAPE FIXTURES	1 Elec	5	1.600	Ea.	665	66.50	731.50	840
7380 Landscape recessed uplight, incl. housing, ballast, transformer								
7390 & reflector, not incl. conduit, wire, trench								
7420 Incandescent, 250 watt	1 Elec	5	1.600	Ea.	665	66.50	731.50	840
7440 Quartz, 250 watt	"	5	1.600	"	630	66.50	696.50	805

### 26 56 26.50 Landscape LED Fixtures

0010 LANDSCAPE LED FIXTURES	1 Elec	5	1.600	Ea.	97.50	66.50	164	216
0100 12 volt alum bullet hooded-BLK								
0200 12 volt alum bullet hooded-BRZ		5	1.600		97.50	66.50	164	216
0300 12 volt alum bullet hooded-GRN		5	1.600		97.50	66.50	164	216
1000 12 volt alum large bullet hooded-BLK		5	1.600		72	66.50	138.50	188
1100 12 volt alum large bullet hooded-BRZ		5	1.600		72	66.50	138.50	188
1200 12 volt alum large bullet hooded-GRN		5	1.600		72	66.50	138.50	188
2000 12 volt large bullet landscape light fixture		5	1.600		72	66.50	138.50	188
2100 12 volt alum light large bullet		5	1.600		72	66.50	138.50	188
2200 12 volt alum bullet light		5	1.600		72	66.50	138.50	188

## 26 56 33 – Walkway Lighting

### 26 56 33.10 Walkway Luminaire

0010 WALKWAY LUMINAIRE	1 Elec	3	2.667	Ea.	675	111	786	920
6500 Bollard light, lamp & ballast, 42" high with polycarbonate lens								
7200 Incandescent, 150 watt								

# 26 61 Lighting Systems and Accessories

## 26 61 23 – Lamps Applications

### 26 61 23.10 Lamps

0010 LAMPS	1 Elec	100	.080	Ea.	3.30	3.34	6.64	9.10
0081 Fluorescent, rapid start, cool white, 2' long, 20 watt		90	.089		2.76	3.71	6.47	9.10
0101 4' long, 40 watt		30	.267		17	11.10		
1351 High pressure sodium, 70 watt		30	.267		16.25	11.10	28.10	37
1371 150 watt		30	.267				27.35	36

**Estimating Tips****27 20 00 Data Communications****27 30 00 Voice Communications****27 40 00 Audio-Video Communications****27 50 00 Other Communications**

- When estimating material costs for special systems, it is always prudent to obtain manufacturers' quotations for equipment prices and special installation requirements that may affect the total cost.

- For cost modifications for elevated tray installation, add the percentages to labor according to the height of the installation and only to the quantities exceeding the different height levels, not to the total tray quantities. Refer to subdivision 26 01 02.20 for labor adjustment factors.
- Do not overlook the costs for equipment used in the installation. If scissor lifts and boom lifts are available in the field, contractors may use them in lieu of the proposed ladders and rolling staging.

**Reference Numbers**

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 27 13 Communications Backbone Cabling

## 27 13 23 – Communications Optical Fiber Backbone Cabling

27 13 23.13 Communications Optical Fiber		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
						Labor	Equipment		
0010	COMMUNICATIONS OPTICAL FIBER								
0040	Specialized tools & techniques cause installation costs to vary.								
0070	Fiber optic, cable, bulk simplex, single mode	1 Elec	8	1	C.L.F.	23	41.50	64.50	93.50
0080	Multi mode		8	1		30	41.50	71.50	101
0090	4 strand, single mode		7.34	1.090		38.50	45.50	84	117
0095	Multi mode		7.34	1.090		50.50	45.50	96	130
0100	12 strand, single mode		6.67	1.199		86	50	136	176
0105	Multi mode		6.67	1.199		99	50	149	191
0150	Jumper				Ea.	34.50		34.50	38
0200	Pigtail					36		36	40
0300	Connector	1 Elec	24	.333		26.50	13.90	40.40	51.50
0350	Finger splice		32	.250		37.50	10.45	47.95	58.50
0400	Transceiver (low cost bi-directional)		8	1		455	41.50	496.50	575
0450	Rack housing, 4 rack spaces, 12 panels (144 fibers)		2	4		615	167	782	945
1000	Cable, 62.5 microns, direct burial, 4 fiber	R-15	1200	.040	L.F.	.93	1.63	.23	2.79
1020	Indoor, 2 fiber	R-19	1000	.020		.44	.84		1.28
1040	Outdoor, aerial/duct	"	1670	.012		.65	.50		1.15
1060	50 microns, direct burial, 8 fiber	R-22	4000	.009		1.30	.36		1.66
1080	12 fiber		4000	.009		2.43	.36		2.79
1100	Indoor, 12 fiber		759	.049		2.01	1.88		3.89
1120	Connectors, 62.5 micron cable, transmission	R-19	40	.500	Ea.	14.70	21		35.70
1140	Cable splice		40	.500		17.50	21		38.50
1160	125 micron cable, transmission		16	1.250		15.45	52.50		67.95
1180	Receiver, 1.2 mile range		20	1		282	42		324
1200	1.9 mile range		20	1		249	42		291
1220	6.2 mile range		5	4		325	167		492
1240	Transmitter, 1.2 mile range		20	1		315	42		357
1260	1.9 mile range		20	1		284	42		326
1280	6.2 mile range		5	4		435	167		602
1300	Modem, 1.2 mile range		5	4		183	167		350
1320	6.2 mile range		5	4		325	167		492
1340	1.9 mile range, 12 channel		5	4		2,075	167		2,242
1360	Repeater, 1.2 mile range		10	2		370	83.50		453.50
1380	1.9 mile range		10	2		495	83.50		578.50
1400	6.2 mile range		5	4		910	167		1,077
1420	1.2 mile range, digital		5	4		455	167		622

# 27 41 Audio-Video Systems

## 27 41 33 – Master Antenna Television Systems

### 27 41 33.10 TV Systems

0010	TV SYSTEMS, not including rough-in wires, cables & conduits								
0100	Master TV antenna system								
0200	VHF reception & distribution, 12 outlets	1 Elec	6	1.333	Outlet	126	55.50		181.50
0800	VHF & UHF reception & distribution, 12 outlets		6	1.333	"	247	55.50		302.50
5000	Antenna, small		6	1.333	Ea.	54.50	55.50		110
5100	Large		4	2		230	83.50		151
5110	Rotor unit		8	1		60.50	41.50		313.50
5120	Single booster		8	1		29.50	41.50		102
5130	Antenna pole, 10'			3.20	2.500		21	104	193
6100	Satellite TV system	2 Elec	1	16		2,175	665		2,840
6110	Dish, mesh, 10' diam.		"	2.40	6.667		1,725	278	3,475
									2,003
									2,350

# 27 41 Audio-Video Systems

## 27 41 33 – Master Antenna Television Systems

27 41 33.10 TV Systems		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
6111	Two way RF/IF tapeoff	1 Elec	36	.222	Ea.	3.57	9.25		12.82		19.05
6112	Two way RF/IF splitter		24	.333			13.75	13.90		27.65	37.50
6113	Line amplifier		24	.333			12.55	13.90		26.45	36.50
6114	Line splitters		36	.222			4.61	9.25		13.86	20
6115	Line multi switches		8	1		655	41.50		696.50		790
6120	Motor unit			2.40	3.333		258	139		397	510
7000	Home theater, widescreen, 42", high definition, TV			10.24	.781		490	32.50		522.50	595
7050	Flat wall mount bracket			10.24	.781		62	32.50		94.50	121
7100	7 channel home theater receiver			10.24	.781		385	32.50		417.50	480
7200	Home theater speakers			10.24	.781	Set	234	32.50		266.50	310
7300	Home theater programmable remote			10.24	.781	Ea.	263	32.50		295.50	340
8000	Main video splitter			4	2		3,250	83.50		3,333.50	3,700
8010	Video distribution units			4	2		141	83.50		224.50	292

## Division Notes

### Estimating Tips

- When estimating material costs for electronic safety and security systems, it is always prudent to obtain manufacturers' quotations for equipment prices and special installation requirements that may affect the total cost.
- Fire alarm systems consist of control panels, annunciator panels, batteries with rack, charger, and fire alarm actuating and indicating devices. Some fire alarm systems include speakers, telephone lines, door closer controls, and other components. Be careful not to overlook the costs related to installation for these items. Also be aware of costs for integrated

automation instrumentation and terminal devices, control equipment, control wiring, and programming. Insurance underwriters may have specific requirements for the type of materials to be installed or design requirements based on the hazard to be protected. Local jurisdictions may have requirements not covered by code. It is advisable to be aware of any special conditions.

- Security equipment includes items such as CCTV, access control, and other detection and identification systems to perform alert and alarm functions. Be sure to consider the costs related to installation for this security equipment, such

as for integrated automation instrumentation and terminal devices, control equipment, control wiring, and programming.

### Reference Numbers

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# 28 31 Intrusion Detection

## 28 31 16 – Intrusion Detection Systems Infrastructure

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Crew			Labor	Equipment		
<b>28 31 16.50 Intrusion Detection</b>										
0010	<b>INTRUSION DETECTION</b> , not including wires & conduits									
0100	Burglar alarm, battery operated, mechanical trigger	1 Elec	4	2	Ea.		289	83.50	372.50	455
0200	Electrical trigger		4	2			345	83.50	428.50	515
0400	For outside key control, add		8	1			89.50	41.50	131	167
0600	For remote signaling circuitry, add		8	1			143	41.50	184.50	225
0800	Card reader, flush type, standard		2.70	2.963			725	124	849	995
1000	Multi-code		2.70	2.963			1,250	124	1,374	1,575
1200	Door switches, hinge switch		5.30	1.509			64.50	63	127.50	174
1400	Magnetic switch		5.30	1.509			105	63	168	219
2800	Ultrasonic motion detector, 12 V		2.30	3.478			200	145	345	455
3000	Infrared photoelectric detector		4	2			133	83.50	216.50	282
3200	Passive infrared detector		4	2			237	83.50	320.50	395
3420	Switchmats, 30" x 5'		5.30	1.509			116	63	179	231
3440	30" x 25'		4	2			212	83.50	295.50	370
3460	Police connect panel		4	2			283	83.50	366.50	445
3480	Telephone dialer		5.30	1.509			400	63	463	545
3500	Alarm bell		4	2			106	83.50	189.50	253
3520	Siren		4	2			152	83.50	235.50	305

# 28 46 Fire Detection and Alarm

## 28 46 11 – Fire Sensors and Detectors

### 28 46 11.21 Carbon-Monoxide Detection Sensors

0010	<b>CARBON-MONOXIDE DETECTION SENSORS</b>									
8400	Smoke and carbon monoxide alarm battery operated photoelectric low profile	1 Elec	24	.333	Ea.		51.50	13.90	65.40	79
8410	low profile photoelectric battery powered		24	.333			40	13.90	53.90	67
8420	photoelectric low profile sealed lithium		24	.333			70.50	13.90	84.40	100
8430	Photoelectric low profile sealed lithium smoke and CO with voice combo		24	.333			50.50	13.90	64.40	78
8500	Carbon monoxide sensor, wall mount 1Mod 1 relay output smoke & heat		24	.333			490	13.90	503.90	565
8700	Carbon monoxide detector, battery operated, wall mounted		16	.500			43	21	64	81.50
8710	Hardwired, wall and ceiling mounted		8	1			84.50	41.50	126	161
8720	Duct mounted		8	1			350	41.50	391.50	455

### 28 46 11.27 Other Sensors

0010	<b>OTHER SENSORS</b>									
5200	Smoke detector, ceiling type	1 Elec	6.20	1.290	Ea.		120	54	174	221
5240	Smoke detector, addressable type		6	1.333			224	55.50	279.50	335
5420	Duct addressable type		3.20	2.500			520	104	624	745
8300	Smoke alarm with integrated strobe light 120 V, 16DB 60 fpm flash rate		16	.500			119	21	140	165
8310	Photoelectric smoke detector with strobe 120 V, 90 DB ceiling mount		12	.667			227	28	255	295
8320	120 V, 90 DB wall mount		12	.667			202	28	230	268

## 28 46 20 – Fire Alarm

### 28 46 20.50 Alarm Panels and Devices

0010	<b>ALARM PANELS AND DEVICES</b> , not including wires & conduits									
5600	Strobe and horn	1 Elec	5.30	1.509	Ea.		137	63	200	254
5610	Strobe and horn (ADA type)		5.30	1.509			165	63	228	284
5620	Visual alarm (ADA type)		6.70	1.194			119	50	169	212
5800	electric bell		6.70	1.194			54	50	104	141
6600	Drill switch		8	1			400	41.50	441.50	510
6800	Master box		2.70	2.963			6,675	124	6,799	7,525
7000	Break glass station		8	1			58	41.50	99.50	132
7800	Remote annunciation, 8 zone lamp		1.80	4.444			212	185	397	535

# 28 46 Fire Detection and Alarm

## 28 46 20 – Fire Alarm

28 46 20.50 Alarm Panels and Devices	Description	Daily Crew	Labor-Output	Labor-Hours	Unit	2020 Bare Costs				Total Ind O&P
						Material	Labor	Equipment	Total	
8000	12 zone lamp	2 Elec	2.60	6.154	Ea.	415	257		672	875
8200	16 zone lamp	"	2.20	7.273	↓	370	305		675	905

## Division Notes

## Estimating Tips

### 31 05 00 Common Work

#### Results for Earthwork

- Estimating the actual cost of performing earthwork requires careful consideration of the variables involved. This includes items such as type of soil, whether water will be encountered, dewatering, whether banks need bracing, disposal of excavated earth, and length of haul to fill or spoil sites, etc. If the project has large quantities of cut or fill, consider raising or

lowering the site to reduce costs, while paying close attention to the effect on site drainage and utilities.

- If the project has large quantities of fill, creating a borrow pit on the site can significantly lower the costs.
- It is very important to consider what time of year the project is scheduled for completion. Bad weather can create large cost overruns from dewatering, site repair, and lost productivity from cold weather.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 31 05 Common Work Results for Earthwork

## 31 05 13 – Soils for Earthwork

31 05 13.10 Borrow		Daily Crew Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
0010	<b>BORROW</b>								
0020	Spread, 200 HP dozer, no compaction, 2 mile RT haul								
0200	Common borrow	B-15	600	.047	C.Y.	12.60	1.59	4.42	18.61

## 31 05 16 – Aggregates for Earthwork

### 31 05 16.10 Borrow

0010	<b>BORROW</b>								
0020	Spread, with 200 HP dozer, no compaction, 2 mile RT haul								
0100	Bank run gravel	B-15	600	.047	L.C.Y.	18.60	1.59	4.42	24.61
0300	Crushed stone (1.40 tons per C.Y.), 1-1/2"		600	.047		27.50	1.59	4.42	33.51
0320	3/4"		600	.047		27.50	1.59	4.42	33.51
0340	1/2"		600	.047		27	1.59	4.42	33.01
0360	3/8"		600	.047		32	1.59	4.42	38.01
0400	Sand, washed, concrete		600	.047		35.50	1.59	4.42	41.51
0500	Dead or bank sand		600	.047		18.25	1.59	4.42	24.26

# 31 11 Clearing and Grubbing

## 31 11 10 – Clearing and Grubbing Land

### 31 11 10.10 Clear and Grub Site

0010	<b>CLEAR AND GRUB SITE</b>								
0020	Cut & chip light trees to 6" diam.	B-7	1	48	Acre		1,425	1,650	3,075
0150	Grub stumps and remove	B-30	2	12			420	915	1,335
0200	Cut & chip medium trees to 12" diam.	B-7	.70	68.571			2,050	2,350	4,400
0250	Grub stumps and remove	B-30	1	24			845	1,825	2,670
0300	Cut & chip heavy trees to 24" diam.	B-7	.30	160			4,775	5,475	10,250
0350	Grub stumps and remove	B-30	.50	48			1,700	3,675	5,375
0400	If burning is allowed, deduct cut & chip								40%

# 31 13 Selective Tree and Shrub Removal and Trimming

## 31 13 13 – Selective Tree and Shrub Removal

### 31 13 13.10 Selective Clearing

0010	<b>SELECTIVE CLEARING</b>								
0020	Clearing brush with brush saw	A-TC	.25	32	Acre		890	208	1,098
0100	By hand	1 Clab	.12	66.667			1,850		1,850
0300	With dozer, ball and chain, light clearing	B-11A	2	8			263	750	1,013
0400	Medium clearing	"	1.50	10.667			350	1,000	1,350

# 31 14 Earth Stripping and Stockpiling

## 31 14 13 – Soil Stripping and Stockpiling

### 31 14 13.23 Topsoil Stripping and Stockpiling

0010	<b>TOPSOIL STRIPPING AND STOCKPILING</b>								
1400	Loam or topsoil, remove and stockpile on site								
1420	6" deep, 200' haul	B-10B	865	.009	C.Y.		.35	1.74	2.09
1430	300' haul		520	.015			.58	2.89	3.47
1440	500' haul		225	.036			1.35	6.70	8.05
1450	Alternate method: 6" deep, 200' haul		5090	.002	S.Y.		.06	.30	.36
1460	500' haul		1325	.006	"		.23	1.14	1.37
1500	Loam or topsoil, remove/stockpile on site								1.63

# 31 14 Earth Stripping and Stockpiling

## 31 14 13 – Soil Stripping and Stockpiling

### 31 14 13.23 Topsoil Stripping and Stockpiling

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
		Crew			Labor	Equipment		
1510	By hand, 6" deep, 50' haul, less than 100 S.Y.	B-1	100	.240	S.Y.		6.85	6.85
1520	By skid steer, 6" deep, 100' haul, 101-500 S.Y.	B-62	500	.048			1.47	.36
1530	" 100' haul, 501-900 S.Y.	"	900	.027			.81	.20
1540	200' haul, 901-1,100 S.Y.	B-63	1000	.040			1.11	.18
1550	By dozer, 200' haul, 1,101-4,000 S.Y.	B-10B	4000	.002	↓		.08	.38
							.46	.53

# 31 22 Grading

## 31 22 16 – Fine Grading

### 31 22 16.10 Finish Grading

#### 0010 FINISH GRADING

0012	Finish grading area to be paved with grader, small area	B-11L	400	.040	S.Y.		1.32	2.66	3.98	5.10
0100	Large area		2000	.008			.26	.53	.79	1.01
0200	Grade subgrade for base course, roadways		3500	.005			.75	.30	.45	.58
1020	For large parking lots	B-32C	5000	.010			.32	.56	.88	1.14
1050	For small irregular areas	"	2000	.024			.80	1.40	2.20	2.85
1100	Fine grade for slab on grade, machine	B-11L	1040	.015			.51	1.02	1.53	1.95
1150	Hand grading	B-18	700	.034			.98	.24	1.22	1.86
1200	Fine grade granular base for sidewalks and bikeways	B-62	1200	.020	↓		.61	.15	.76	1.16
2550	Hand grade select gravel	2 Clb	60	.267	C.S.F.		7.40		7.40	12.15
3000	Hand grade select gravel, including compaction, 4" deep	B-18	555	.043	S.Y.		1.23	.30	1.53	2.35
3100	6" deep		400	.060			1.71	.41	2.12	3.26
3120	8" deep		300	.080			2.28	.55	2.83	4.35
3300	Finishing grading slopes, gentle	B-11L	8900	.002	↓		.06	.12	.18	.23
3310	Steep slopes	"	7100	.002	↓		.07	.15	.22	.28

# 31 23 Excavation and Fill

## 31 23 16 – Excavation

### 31 23 16.13 Excavating, Trench

#### 0010 EXCAVATING, TRENCH

0011	Or continuous footing	B-11C	150	.107	B.C.Y.		3.51	1.43	4.94	7.30
0050	1' to 4' deep, 3/8 C.Y. excavator	B-11M	200	.080			2.63	1.16	3.79	5.60
0060	1/2 C.Y. excavator	"	200	.080			2.63	1.16	3.79	5.60
0090	4' to 6' deep, 1/2 C.Y. excavator	B-12Q	250	.064			2.12	2.39	4.51	6.10
0100	5/8 C.Y. excavator	B-12J	200	.080			2.65	4.23	6.88	9
0300	1/2 C.Y. excavator, truck mounted	B-13H	188	.085			2.82	5.15	7.97	10.25
1352	4' to 6' deep, 1/2 C.Y. excavator w/trench box	"	235	.068			2.26	4.10	6.36	8.20
1354	5/8 C.Y. excavator	1 Clb	8	1			28		28	45.50
1400	By hand with pick and shovel 2' to 6' deep, light soil	"	4	2	↓		55.50		55.50	91.50
1500	Heavy soil									
5020	Loam & sandy clay with no sheeting or dewatering included	B-11C	162	.099	B.C.Y.		3.25	1.32	4.57	6.75
5050	1' to 4' deep, 3/8 C.Y. tractor loader/backhoe	B-11M	216	.074			2.44	1.08	3.52	5.15
5060	1/2 C.Y. excavator	"	216	.074			2.44	1.08	3.52	5.15
5080	4' to 6' deep, 1/2 C.Y. excavator	B-12Q	276	.058			1.92	2.17	4.09	5.50
5090	5/8 C.Y. excavator	B-12J	216	.074			2.45	3.92	6.37	8.35
5130	1/2 C.Y. excavator, truck mounted	B-13H	205	.078			2.59	4.70	7.29	9.40
5352	4' to 6' deep, 1/2 C.Y. excavator w/trench box	"	257	.062			2.06	3.75	5.81	7.50
5354	5/8 C.Y. excavator	B-11C	165	.097	B.C.Y.		3.19	1.30	4.49	6.65
6020	Sand & gravel with no sheeting or dewatering included									
6050	1' to 4' deep, 3/8 C.Y. excavator									

# 31 23 Excavation and Fill

## 31 23 16 – Excavation

31 23 16.13 Excavating, Trench			Daily Crew Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P	
6060	1/2 C.Y. excavator		B-11M	220	.073	B.C.Y.		2.39	1.06	3.45	5.10
6080	4' to 6' deep, 1/2 C.Y. excavator		"	220	.073			2.39	1.06	3.45	5.10
6090	5/8 C.Y. excavator		B-12Q	275	.058			1.93	2.18	4.11	5.55
6130	1/2 C.Y. excavator, truck mounted		B-12J	220	.073			2.41	3.85	6.26	8.20
6352	4' to 6' deep, 1/2 C.Y. excavator w/trench box		B-13H	209	.077			2.54	4.61	7.15	9.25
6354	5/8 C.Y. excavator		"	261	.061			2.03	3.69	5.72	7.40
7020	Dense hard clay with no sheeting or dewatering included										
7050	1' to 4' deep, 3/8 C.Y. excavator		B-11C	132	.121	B.C.Y.		3.99	1.62	5.61	8.35
7060	1/2 C.Y. excavator		B-11M	176	.091			2.99	1.32	4.31	6.35
7080	4' to 6' deep, 1/2 C.Y. excavator		"	176	.091			2.99	1.32	4.31	6.35
7090	5/8 C.Y. excavator		B-12Q	220	.073			2.41	2.72	5.13	6.95
7130	1/2 C.Y. excavator, truck mounted		B-12J	176	.091			3.01	4.81	7.82	10.25

## 31 23 16.14 Excavating, Utility Trench

EXCAVATING, UTILITY TRENCH											
0010	Common earth										
0050	Trenching with chain trencher, 12 HP, operator walking										
0100	4" wide trench, 12" deep		B-53	800	.010	L.F.		.28	.20	.48	.68
1000	Backfill by hand including compaction, add										
1050	4" wide trench, 12" deep		A-1G	800	.010	L.F.		.28	.07	.35	.53

## 31 23 16.16 Structural Excavation for Minor Structures

STRUCTURAL EXCAVATION FOR MINOR STRUCTURES										
0015	Hand, pits to 6' deep, sandy soil		1 Clab	8	1	B.C.Y.		28	28	45.50
0100	Heavy soil or clay		"	4	2			55.50	55.50	91.50
1100	Hand loading trucks from stock pile, sandy soil			12	.667			18.55	18.55	30.50
1300	Heavy soil or clay			"	8	1		28	28	45.50
1500	For wet or muck hand excavation, add to above								50%	50%

## 31 23 16.42 Excavating, Bulk Bank Measure

EXCAVATING, BULK BANK MEASURE											
0011	Common earth piled										
0020	For loading onto trucks, add								15%	15%	
0200	Excavator, hydraulic, crawler mtd., 1 C.Y. cap. = 100 C.Y./hr.		B-12A	800	.020	B.C.Y.		.66	.99	1.65	2.18
0310	Wheel mounted, 1/2 C.Y. cap. = 40 C.Y./hr.		B-12E	320	.050			1.66	1.41	3.07	4.26
1200	Front end loader, track mtd., 1-1/2 C.Y. cap. = 70 C.Y./hr.		B-10N	560	.014			.54	1.01	1.55	2
1500	Wheel mounted, 3/4 C.Y. cap. = 45 C.Y./hr.		B-10R	360	.022			.84	.84	1.68	2.30
5000	Excavating, bulk bank measure, sandy clay & loam piled										
5020	For loading onto trucks, add								15%	15%	
5100	Excavator, hydraulic, crawler mtd., 1 C.Y. cap. = 120 C.Y./hr.		B-12A	960	.017	B.C.Y.		.55	.83	1.38	1.81
5610	Wheel mounted, 1/2 C.Y. cap. = 44 C.Y./hr.		B-12E	352	.045	"		1.51	1.28	2.79	3.88
8000	For hauling excavated material, see Section 31 23 23.20										

## 31 23 23 – Fill

### 31 23 23.13 Backfill

BACKFILL											
0015	By hand, no compaction, light soil		1 Clab	14	.571	L.C.Y.		15.90	15.90	26	
0100	Heavy soil		"	11	.727	"		20	20	33	
0300	Compaction in 6" layers, hand tamp, add to above			20.60	.388	E.C.Y.		10.80	10.80	17.75	
0400	Roller compaction operator walking, add		B-10A	100	.080			3.04	1.66	4.70	6.80
0500	Air tamp, add		B-9D	190	.211			5.95	1.67	7.62	11.60
0600	Vibrating plate, add		A-1D	60	.133			3.71	.53	4.24	6.70
0800	Compaction in 12" layers, hand tamp, add to above		1 Clab	34	.235			6.55	6.55	10.75	
1300	Dozer backfilling, bulk, up to 300' haul, no compaction		B-10B	1200	.007	L.C.Y.		.25	1.25	1.50	1.79
1400	Air tamped, add		B-11B	80	.200	E.C.Y.		6.40	4.97	11.37	15.90

# 31 23 Excavation and Fill

## 31 23 23 – Fill

### 31 23 23.16 Fill By Borrow and Utility Bedding

	Crew	Daily Output	Labor Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Incl O&P
<b>FILL BY BORROW AND UTILITY BEDDING</b>									
0049 Utility bedding, for pipe & conduit, not incl. compaction									
0050 Crushed or screened bank run gravel	B-6	150	.160	L.C.Y.	21	4.89	1.43	27.32	32.50
0100 Crushed stone 3/4" to 1/2"		150	.160		27.50	4.89	1.43	33.82	40
0200 Sand, dead or bank	↓	150	.160	↓	18.25	4.89	1.43	24.57	29.50
0500 Compacting bedding in trench	A-1D	90	.089	E.C.Y.		2.47	.35	2.82	4.45
0600 If material source exceeds 2 miles, add for extra mileage.									
0610 See Section 31 23 23.20 for hauling mileage add.									

### 31 23 23.17 General Fill

#### 0010 GENERAL FILL

0011 Spread dumped material, no compaction	B-10B	1000	.008	L.C.Y.		.30	1.50	1.80	2.15
0020 By dozer	1 Clab	12	.667	"		18.55		18.55	30.50
0100 By hand									
0500 Gravel fill, compacted, under floor slabs, 4" deep	B-37	10000	.005	S.F.	.49	.14	.03	.66	.80
0600 6" deep		8600	.006		.74	.16	.03	.93	1.11
0700 9" deep		7200	.007		1.23	.20	.04	1.47	1.71
0800 12" deep		6000	.008	↓	1.72	.24	.04	2	2.33
1000 Alternate pricing method, 4" deep		120	.400	E.C.Y.	37	11.80	2.13	50.93	62
1100 6" deep		160	.300		37	8.85	1.60	47.45	57
1200 9" deep		200	.240		37	7.10	1.28	45.38	53.50
1300 12" deep		220	.218		37	6.45	1.16	44.61	52.50

### 31 23 23.20 Hauling

#### 0010 HAULING

0011 Excavated or borrow, loose cubic yards	B-34A	320	.025	L.C.Y.		.85	1.34	2.19	2.86
0012 no loading equipment, including hauling, waiting, loading/dumping		272	.029			.99	1.57	2.56	3.36
0013 time per cycle (wait, load, travel, unload or dump & return)		208	.038			1.30	2.06	3.36	4.39
0014 8 C.Y. truck, 15 MPH avg., cycle 0.5 miles, 10 min. wait/l.d./uld.		144	.056			1.88	2.97	4.85	6.35
0016 cycle 1 mile		112	.071			2.41	3.82	6.23	8.15
0018 cycle 2 miles		88	.091			3.07	4.86	7.93	10.40
0020 cycle 4 miles		336	.024			.80	1.27	2.07	2.72
0022 cycle 6 miles		296	.027			.91	1.45	2.36	3.09
0024 cycle 8 miles		240	.033			1.13	1.78	2.91	3.81
0026 20 MPH avg., cycle 0.5 mile		176	.045			1.54	2.43	3.97	5.20
0028 cycle 1 mile		136	.059			1.99	3.15	5.14	6.70
0030 cycle 2 miles		112	.071			2.41	3.82	6.23	8.15
0032 cycle 4 miles		192	.042			1.41	2.23	3.64	4.76
0034 cycle 6 miles		160	.050			1.69	2.68	4.37	5.70
0036 cycle 8 miles		128	.063			2.11	3.34	5.45	7.15
0044 25 MPH avg., cycle 4 miles		216	.037			1.25	1.98	3.23	4.23
0046 cycle 6 miles		176	.045			1.54	2.43	3.97	5.20
0048 cycle 8 miles		144	.056			1.88	2.97	4.85	6.35
0050 30 MPH avg., cycle 4 miles		224	.036			1.21	1.91	3.12	4.08
0052 cycle 6 miles		200	.040			1.35	2.14	3.49	4.57
0054 cycle 8 miles		168	.048			1.61	2.55	4.16	5.45
0114 15 MPH avg., cycle 0.5 mile, 15 min. wait/l.d./uld.		120	.067			2.25	3.57	5.82	7.60
0116 cycle 1 mile		96	.083			2.82	4.46	7.28	9.50
0118 cycle 2 miles		80	.100			3.38	5.35	8.73	11.45
0120 cycle 4 miles		232	.034			1.17	1.85	3.02	3.94
0122 cycle 6 miles		208	.038	↓		1.30	2.06	3.36	4.39
0124 cycle 8 miles									
0126 20 MPH avg., cycle 0.5 mile									
0128 cycle 1 mile									

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Crew	Daily	Labor-	2020 Bare Costs			Total	Total Incl O&P	
			Output	Hours	Unit	Material	Labor			
0130	cycle 2 miles	B-34A	184	.043	L.C.Y.		1.47	2.33	3.80	4.97
0132	cycle 4 miles		144	.056			1.88	2.97	4.85	6.35
0134	cycle 6 miles		112	.071			2.41	3.82	6.23	8.15
0136	cycle 8 miles		96	.083			2.82	4.46	7.28	9.50
0144	25 MPH avg., cycle 4 miles		152	.053			1.78	2.82	4.60	6
0146	cycle 6 miles		128	.063			2.11	3.34	5.45	7.15
0148	cycle 8 miles		112	.071			2.41	3.82	6.23	8.15
0150	30 MPH avg., cycle 4 miles		168	.048			1.61	2.55	4.16	5.45
0152	cycle 6 miles		144	.056			1.88	2.97	4.85	6.35
0154	cycle 8 miles		120	.067			2.25	3.57	5.82	7.60
0214	15 MPH avg., cycle 0.5 mile, 20 min. wait/l.d./uld.		176	.045			1.54	2.43	3.97	5.20
0216	cycle 1 mile		160	.050			1.69	2.68	4.37	5.70
0218	cycle 2 miles		136	.059			1.99	3.15	5.14	6.70
0220	cycle 4 miles		104	.077			2.60	4.12	6.72	8.80
0222	cycle 6 miles		88	.091			3.07	4.86	7.93	10.40
0224	cycle 8 miles		72	.111			3.76	5.95	9.71	12.70
0226	20 MPH avg., cycle 0.5 mile		176	.045			1.54	2.43	3.97	5.20
0228	cycle 1 mile		168	.048			1.61	2.55	4.16	5.45
0230	cycle 2 miles		144	.056			1.88	2.97	4.85	6.35
0232	cycle 4 miles		120	.067			2.25	3.57	5.82	7.60
0234	cycle 6 miles		96	.083			2.82	4.46	7.28	9.50
0236	cycle 8 miles		88	.091			3.07	4.86	7.93	10.40
0244	25 MPH avg., cycle 4 miles		128	.063			2.11	3.34	5.45	7.15
0246	cycle 6 miles		112	.071			2.41	3.82	6.23	8.15
0248	cycle 8 miles		96	.083			2.82	4.46	7.28	9.50
0250	30 MPH avg., cycle 4 miles		136	.059			1.99	3.15	5.14	6.70
0252	cycle 6 miles		120	.067			2.25	3.57	5.82	7.60
0254	cycle 8 miles		104	.077			2.60	4.12	6.72	8.80
0314	15 MPH avg., cycle 0.5 mile, 25 min. wait/l.d./uld.		144	.056			1.88	2.97	4.85	6.35
0316	cycle 1 mile		128	.063			2.11	3.34	5.45	7.15
0318	cycle 2 miles		112	.071			2.41	3.82	6.23	8.15
0320	cycle 4 miles		96	.083			2.82	4.46	7.28	9.50
0322	cycle 6 miles		80	.100			3.38	5.35	8.73	11.45
0324	cycle 8 miles		64	.125			4.23	6.70	10.93	14.30
0326	20 MPH avg., cycle 0.5 mile		144	.056			1.88	2.97	4.85	6.35
0328	cycle 1 mile		136	.059			1.99	3.15	5.14	6.70
0330	cycle 2 miles		120	.067			2.25	3.57	5.82	7.60
0332	cycle 4 miles		104	.077			2.60	4.12	6.72	8.80
0334	cycle 6 miles		88	.091			3.07	4.86	7.93	10.40
0336	cycle 8 miles		80	.100			3.38	5.35	8.73	11.45
0344	25 MPH avg., cycle 4 miles		112	.071			2.41	3.82	6.23	8.15
0346	cycle 6 miles		96	.083			2.82	4.46	7.28	9.50
0348	cycle 8 miles		88	.091			3.07	4.86	7.93	10.40
0350	30 MPH avg., cycle 4 miles		112	.071			2.41	3.82	6.23	8.15
0352	cycle 6 miles		104	.077			2.60	4.12	6.72	8.80
0354	cycle 8 miles		96	.083			2.82	4.46	7.28	9.50
0414	15 MPH avg., cycle 0.5 mile, 30 min. wait/l.d./uld.		120	.067			2.25	3.57	5.82	7.60
0416	cycle 1 mile		112	.071			2.41	3.82	6.23	8.15
0418	cycle 2 miles		96	.083			2.82	4.46	7.28	9.50
0420	cycle 4 miles		80	.100			3.38	5.35	8.73	11.45
0422	cycle 6 miles		72	.111			3.76	5.95	9.71	12.70
0424	cycle 8 miles		64	.125			4.23	6.70	10.93	14.30
0426	20 MPH avg., cycle 0.5 mile		120	.067			2.25	3.57	5.82	7.60

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Crew	Daily	Labor-	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
			Output	Hours			Labor	Equipment	Total		
0428	cycle 1 mile	B-34A	112	.071	L.C.Y.		2.41	3.82	6.23	8.15	
0430	cycle 2 miles		104	.077			2.60	4.12	6.72	8.80	
0432	cycle 4 miles		88	.091			3.07	4.86	7.93	10.40	
0434	cycle 6 miles		80	.100			3.38	5.35	8.73	11.45	
0436	cycle 8 miles		72	.111			3.76	5.95	9.71	12.70	
0444	25 MPH avg., cycle 4 miles		96	.083			2.82	4.46	7.28	9.50	
0446	cycle 6 miles		88	.091			3.07	4.86	7.93	10.40	
0448	cycle 8 miles		80	.100			3.38	5.35	8.73	11.45	
0450	30 MPH avg., cycle 4 miles		96	.083			2.82	4.46	7.28	9.50	
0452	cycle 6 miles		88	.091			3.07	4.86	7.93	10.40	
0454	cycle 8 miles		80	.100			3.38	5.35	8.73	11.45	
0514	15 MPH avg., cycle 0.5 mile, 35 min. wait/lb./uld.		104	.077			2.60	4.12	6.72	8.80	
0516	cycle 1 mile		96	.083			2.82	4.46	7.28	9.50	
0518	cycle 2 miles		88	.091			3.07	4.86	7.93	10.40	
0520	cycle 4 miles		72	.111			3.76	5.95	9.71	12.70	
0522	cycle 6 miles		64	.125			4.23	6.70	10.93	14.30	
0524	cycle 8 miles		56	.143			4.83	7.65	12.48	16.30	
0526	20 MPH avg., cycle 0.5 mile		104	.077			2.60	4.12	6.72	8.80	
0528	cycle 1 mile		96	.083			2.82	4.46	7.28	9.50	
0530	cycle 2 miles		96	.083			2.82	4.46	7.28	9.50	
0532	cycle 4 miles		80	.100			3.38	5.35	8.73	11.45	
0534	cycle 6 miles		72	.111			3.76	5.95	9.71	12.70	
0536	cycle 8 miles		64	.125			4.23	6.70	10.93	14.30	
0544	25 MPH avg., cycle 4 miles		88	.091			3.07	4.86	7.93	10.40	
0546	cycle 6 miles		80	.100			3.38	5.35	8.73	11.45	
0548	cycle 8 miles		72	.111			3.76	5.95	9.71	12.70	
0550	30 MPH avg., cycle 4 miles		88	.091			3.07	4.86	7.93	10.40	
0552	cycle 6 miles		80	.100			3.38	5.35	8.73	11.45	
0554	cycle 8 miles		72	.111			3.76	5.95	9.71	12.70	
1014	12 C.Y. truck, cycle 0.5 mile, 15 MPH avg., 15 min. wait/lb./uld.	B-34B	336	.024			.80	1.71	2.51	3.20	
1016	cycle 1 mile		300	.027			.90	1.91	2.81	3.58	
1018	cycle 2 miles		252	.032			1.07	2.27	3.34	4.26	
1020	cycle 4 miles		180	.044			1.50	3.18	4.68	5.95	
1022	cycle 6 miles		144	.056			1.88	3.98	5.86	7.45	
1024	cycle 8 miles		120	.067			2.25	4.77	7.02	8.95	
1025	cycle 10 miles		96	.083			2.82	5.95	8.77	11.15	
1026	20 MPH avg., cycle 0.5 mile		348	.023			.78	1.65	2.43	3.08	
1028	cycle 1 mile		312	.026			.87	1.84	2.71	3.44	
1030	cycle 2 miles		276	.029			.98	2.08	3.06	3.89	
1032	cycle 4 miles		216	.037			1.25	2.65	3.90	4.97	
1034	cycle 6 miles		168	.048			1.61	3.41	5.02	6.40	
1036	cycle 8 miles		144	.056			1.88	3.98	5.86	7.45	
1038	cycle 10 miles		120	.067			2.25	4.77	7.02	8.95	
1040	25 MPH avg., cycle 4 miles		228	.035			1.19	2.51	3.70	4.70	
1042	cycle 6 miles		192	.042			1.41	2.98	4.39	5.60	
1044	cycle 8 miles		168	.048			1.61	3.41	5.02	6.40	
1046	cycle 10 miles		144	.056			1.88	3.98	5.86	7.45	
1050	30 MPH avg., cycle 4 miles		252	.032			1.07	2.27	3.34	4.26	
1052	cycle 6 miles		216	.037			1.25	2.65	3.90	4.97	
1054	cycle 8 miles		180	.044			1.50	3.18	4.68	5.95	
1056	cycle 10 miles		156	.051			1.73	3.67	5.40	6.90	
1060	35 MPH avg., cycle 4 miles		264	.030			1.02	2.17	3.19	4.07	
1062	cycle 6 miles		228	.035			1.19	2.51	3.70	4.70	

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Crew	Daily	Labor-	Material	2020 Bare Costs			Total	Total
			Output	Hours		Labor	Equipment	Total		Ind O&P
1064	cycle 8 miles	B-34B	204	.039	L.C.Y.	1.33	2.81	4.14	5.25	
1066	cycle 10 miles		180	.044		1.50	3.18	4.68	5.95	
1068	cycle 20 miles		120	.067		2.25	4.77	7.02	8.95	
1069	cycle 30 miles		84	.095		3.22	6.80	10.02	12.80	
1070	cycle 40 miles		72	.111		3.76	7.95	11.71	14.90	
1072	40 MPH avg., cycle 6 miles		240	.033		1.13	2.39	3.52	4.48	
1074	cycle 8 miles		216	.037		1.25	2.65	3.90	4.97	
1076	cycle 10 miles		192	.042		1.41	2.98	4.39	5.60	
1078	cycle 20 miles		120	.067		2.25	4.77	7.02	8.95	
1080	cycle 30 miles		96	.083		2.82	5.95	8.77	11.15	
1082	cycle 40 miles		72	.111		3.76	7.95	11.71	14.90	
1084	cycle 50 miles		60	.133		4.51	9.55	14.06	17.90	
1094	45 MPH avg., cycle 8 miles		216	.037		1.25	2.65	3.90	4.97	
1096	cycle 10 miles		204	.039		1.33	2.81	4.14	5.25	
1098	cycle 20 miles		132	.061		2.05	4.34	6.39	8.15	
1100	cycle 30 miles		108	.074		2.50	5.30	7.80	9.95	
1102	cycle 40 miles		84	.095		3.22	6.80	10.02	12.80	
1104	cycle 50 miles		72	.111		3.76	7.95	11.71	14.90	
1106	50 MPH avg., cycle 10 miles		216	.037		1.25	2.65	3.90	4.97	
1108	cycle 20 miles		144	.056		1.88	3.98	5.86	7.45	
1110	cycle 30 miles		108	.074		2.50	5.30	7.80	9.95	
1112	cycle 40 miles		84	.095		3.22	6.80	10.02	12.80	
1114	cycle 50 miles		72	.111		3.76	7.95	11.71	14.90	
1214	15 MPH avg., cycle 0.5 mile, 20 min. wait/lb./uld.		264	.030		1.02	2.17	3.19	4.07	
1216	cycle 1 mile		240	.033		1.13	2.39	3.52	4.48	
1218	cycle 2 miles		204	.039		1.33	2.81	4.14	5.25	
1220	cycle 4 miles		156	.051		1.73	3.67	5.40	6.90	
1222	cycle 6 miles		132	.061		2.05	4.34	6.39	8.15	
1224	cycle 8 miles		108	.074		2.50	5.30	7.80	9.95	
1225	cycle 10 miles		96	.083		2.82	5.95	8.77	11.15	
1226	20 MPH avg., cycle 0.5 mile		264	.030		1.02	2.17	3.19	4.07	
1228	cycle 1 mile		252	.032		1.07	2.27	3.34	4.26	
1230	cycle 2 miles		216	.037		1.25	2.65	3.90	4.97	
1232	cycle 4 miles		180	.044		1.50	3.18	4.68	5.95	
1234	cycle 6 miles		144	.056		1.88	3.98	5.86	7.45	
1236	cycle 8 miles		132	.061		2.05	4.34	6.39	8.15	
1238	cycle 10 miles		108	.074		2.50	5.30	7.80	9.95	
1240	25 MPH avg., cycle 4 miles		192	.042		1.41	2.98	4.39	5.60	
1242	cycle 6 miles		168	.048		1.61	3.41	5.02	6.40	
1244	cycle 8 miles		144	.056		1.88	3.98	5.86	7.45	
1246	cycle 10 miles		132	.061		2.05	4.34	6.39	8.15	
1250	30 MPH avg., cycle 4 miles		204	.039		1.33	2.81	4.14	5.25	
1252	cycle 6 miles		180	.044		1.50	3.18	4.68	5.95	
1254	cycle 8 miles		156	.051		1.73	3.67	5.40	6.90	
1256	cycle 10 miles		144	.056		1.88	3.98	5.86	7.45	
1260	35 MPH avg., cycle 4 miles		216	.037		1.25	2.65	3.90	4.97	
1262	cycle 6 miles		192	.042		1.41	2.98	4.39	5.60	
1264	cycle 8 miles		168	.048		1.61	3.41	5.02	6.40	
1266	cycle 10 miles		156	.051		1.73	3.67	5.40	6.90	
1268	cycle 20 miles		108	.074		2.50	5.30	7.80	9.95	
1269	cycle 30 miles		72	.111		3.76	7.95	11.71	14.90	
1270	cycle 40 miles		60	.133		4.51	9.55	14.06	17.90	
1272	40 MPH avg., cycle 6 miles		192	.042		1.41	2.98	4.39	5.60	

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Ind O&P	
					Material	Labor	Equipment		
1274	cycle 8 miles	B-34B	.180	.044		1.50	3.18	4.68	5.95
1276	cycle 10 miles		.156	.051		1.73	3.67	5.40	6.90
1278	cycle 20 miles		.108	.074		2.50	5.30	7.80	9.95
1280	cycle 30 miles		.084	.095		3.22	6.80	10.02	12.80
1282	cycle 40 miles		.072	.111		3.76	7.95	11.71	14.90
1284	cycle 50 miles		.060	.133		4.51	9.55	14.06	17.90
1294	45 MPH avg., cycle 8 miles		.180	.044		1.50	3.18	4.68	5.95
1296	cycle 10 miles		.168	.048		1.61	3.41	5.02	6.40
1298	cycle 20 miles		.120	.067		2.25	4.77	7.02	8.95
1300	cycle 30 miles		.096	.083		2.82	5.95	8.77	11.15
1302	cycle 40 miles		.072	.111		3.76	7.95	11.71	14.90
1304	cycle 50 miles		.060	.133		4.51	9.55	14.06	17.90
1306	50 MPH avg., cycle 10 miles		.180	.044		1.50	3.18	4.68	5.95
1308	cycle 20 miles		.132	.061		2.05	4.34	6.39	8.15
1310	cycle 30 miles		.096	.083		2.82	5.95	8.77	11.15
1312	cycle 40 miles		.084	.095		3.22	6.80	10.02	12.80
1314	cycle 50 miles		.072	.111		3.76	7.95	11.71	14.90
1414	15 MPH avg., cycle 0.5 mile, 25 min. wait/ld./uld.		.204	.039		1.33	2.81	4.14	5.25
1416	cycle 1 mile		.192	.042		1.41	2.98	4.39	5.60
1418	cycle 2 miles		.168	.048		1.61	3.41	5.02	6.40
1420	cycle 4 miles		.132	.061		2.05	4.34	6.39	8.15
1422	cycle 6 miles		.120	.067		2.25	4.77	7.02	8.95
1424	cycle 8 miles		.096	.083		2.82	5.95	8.77	11.15
1425	cycle 10 miles		.084	.095		3.22	6.80	10.02	12.80
1426	20 MPH avg., cycle 0.5 mile		.216	.037		1.25	2.65	3.90	4.97
1428	cycle 1 mile		.204	.039		1.33	2.81	4.14	5.25
1430	cycle 2 miles		.180	.044		1.50	3.18	4.68	5.95
1432	cycle 4 miles		.156	.051		1.73	3.67	5.40	6.90
1434	cycle 6 miles		.132	.061		2.05	4.34	6.39	8.15
1436	cycle 8 miles		.120	.067		2.25	4.77	7.02	8.95
1438	cycle 10 miles		.096	.083		2.82	5.95	8.77	11.15
1440	25 MPH avg., cycle 4 miles		.168	.048		1.61	3.41	5.02	6.40
1442	cycle 6 miles		.144	.056		1.88	3.98	5.86	7.45
1444	cycle 8 miles		.132	.061		2.05	4.34	6.39	8.15
1446	cycle 10 miles		.108	.074		2.50	5.30	7.80	9.95
1450	30 MPH avg., cycle 4 miles		.168	.048		1.61	3.41	5.02	6.40
1452	cycle 6 miles		.156	.051		1.73	3.67	5.40	6.90
1454	cycle 8 miles		.132	.061		2.05	4.34	6.39	8.15
1456	cycle 10 miles		.120	.067		2.25	4.77	7.02	8.95
1460	35 MPH avg., cycle 4 miles		.180	.044		1.50	3.18	4.68	5.95
1462	cycle 6 miles		.156	.051		1.73	3.67	5.40	6.90
1464	cycle 8 miles		.144	.056		1.88	3.98	5.86	7.45
1466	cycle 10 miles		.132	.061		2.05	4.34	6.39	8.15
1468	cycle 20 miles		.096	.083		2.82	5.95	8.77	11.15
1469	cycle 30 miles		.072	.111		3.76	7.95	11.71	14.90
1470	cycle 40 miles		.060	.133		4.51	9.55	14.06	17.90
1472	40 MPH avg., cycle 6 miles		.168	.048		1.61	3.41	5.02	6.40
1474	cycle 8 miles		.156	.051		1.73	3.67	5.40	6.90
1476	cycle 10 miles		.144	.056		1.88	3.98	5.86	7.45
1478	cycle 20 miles		.096	.083		2.82	5.95	8.77	11.15
1480	cycle 30 miles		.084	.095		3.22	6.80	10.02	12.80
1482	cycle 40 miles		.060	.133		4.51	9.55	14.06	17.90
1484	cycle 50 miles		.060	.133		4.51	9.55	14.06	17.90

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total Incl O&P	
					Material	Labor	Equipment		
1494	45 MPH avg., cycle 8 miles	B-34B	.051	L.C.Y.		1.73	3.67	5.40	6.90
1496	cycle 10 miles		.056			1.88	3.98	5.86	7.45
1498	cycle 20 miles		.074			2.50	5.30	7.80	9.95
1500	cycle 30 miles		.095			3.22	6.80	10.02	12.80
1502	cycle 40 miles		.111			3.76	7.95	11.71	14.90
1504	cycle 50 miles		.133			4.51	9.55	14.06	17.90
1506	50 MPH avg., cycle 10 miles		.051			1.73	3.67	5.40	6.90
1508	cycle 20 miles		.067			2.25	4.77	7.02	8.95
1510	cycle 30 miles		.083			2.82	5.95	8.77	11.15
1512	cycle 40 miles		.111			3.76	7.95	11.71	14.90
1514	cycle 50 miles		.133			4.51	9.55	14.06	17.90
1614	15 MPH avg., cycle 0.5 mile, 30 min. wait/l.d./uld.		.044			1.50	3.18	4.68	5.95
1616	cycle 1 mile		.048			1.61	3.41	5.02	6.40
1618	cycle 2 miles		.056			1.88	3.98	5.86	7.45
1620	cycle 4 miles		.067			2.25	4.77	7.02	8.95
1622	cycle 6 miles		.074			2.50	5.30	7.80	9.95
1624	cycle 8 miles		.095			3.22	6.80	10.02	12.80
1625	cycle 10 miles		.095			3.22	6.80	10.02	12.80
1626	20 MPH avg., cycle 0.5 mile		.044			1.50	3.18	4.68	5.95
1628	cycle 1 mile		.048			1.61	3.41	5.02	6.40
1630	cycle 2 miles		.051			1.73	3.67	5.40	6.90
1632	cycle 4 miles		.061			2.05	4.34	6.39	8.15
1634	cycle 6 miles		.067			2.25	4.77	7.02	8.95
1636	cycle 8 miles		.074			2.50	5.30	7.80	9.95
1638	cycle 10 miles		.083			2.82	5.95	8.77	11.15
1640	25 MPH avg., cycle 4 miles		.056			1.88	3.98	5.86	7.45
1642	cycle 6 miles		.061			2.05	4.34	6.39	8.15
1644	cycle 8 miles		.074			2.50	5.30	7.80	9.95
1646	cycle 10 miles		.074			2.50	5.30	7.80	9.95
1650	30 MPH avg., cycle 4 miles		.056			1.88	3.98	5.86	7.45
1652	cycle 6 miles		.061			2.05	4.34	6.39	8.15
1654	cycle 8 miles		.067			2.25	4.77	7.02	8.95
1656	cycle 10 miles		.074			2.50	5.30	7.80	9.95
1660	35 MPH avg., cycle 4 miles		.051			1.73	3.67	5.40	6.90
1662	cycle 6 miles		.056			1.88	3.98	5.86	7.45
1664	cycle 8 miles		.061			2.05	4.34	6.39	8.15
1666	cycle 10 miles		.067			2.25	4.77	7.02	8.95
1668	cycle 20 miles		.095			3.22	6.80	10.02	12.80
1669	cycle 30 miles		.111			3.76	7.95	11.71	14.90
1670	cycle 40 miles		.133			4.51	9.55	14.06	17.90
1672	40 MPH avg., cycle 6 miles		.056			1.88	3.98	5.86	7.45
1674	cycle 8 miles		.061			2.05	4.34	6.39	8.15
1676	cycle 10 miles		.067			2.25	4.77	7.02	8.95
1678	cycle 20 miles		.083			2.82	5.95	8.77	11.15
1680	cycle 30 miles		.111			3.76	7.95	11.71	14.90
1682	cycle 40 miles		.133			4.51	9.55	14.06	17.90
1684	cycle 50 miles		.167			5.65	11.95	17.60	22.50
1694	45 MPH avg., cycle 8 miles		.056			1.88	3.98	5.86	7.45
1696	cycle 10 miles		.061			2.05	4.34	6.39	8.15
1698	cycle 20 miles		.083			2.82	5.95	8.77	11.15
1700	cycle 30 miles		.095			3.22	6.80	10.02	12.80
1702	cycle 40 miles		.133			4.51	9.55	14.06	17.90
1704	cycle 50 miles		.133			4.51	9.55	14.06	17.90

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total Ind O&P
							Labor	Equipment	Total	
1706	50 MPH avg., cycle 10 miles	B-34B	132	.061	L.C.Y.		2.05	4.34	6.39	8.15
1708	cycle 20 miles		108	.074			2.50	5.30	7.80	9.95
1710	cycle 30 miles		84	.095			3.22	6.80	10.02	12.80
1712	cycle 40 miles		72	.111			3.76	7.95	11.71	14.90
1714	cycle 50 miles		60	.133			4.51	9.55	14.06	17.90
2000	Hauling, 8 C.Y. truck, small project cost per hour	B-34A	8	1	Hr.		34	53.50	87.50	115
2100	12 C.Y. truck	B-34B	8	1			34	71.50	105.50	135
2150	16.5 C.Y. truck	B-34C	8	1			34	78.50	112.50	142
2175	18 C.Y. 8 wheel truck	B-34I	8	1			34	89	123	154
2200	20 C.Y. truck	B-34D	8	1			34	80.50	114.50	144
9014	18 C.Y. truck, 8 wheels, 15 min. wait/l.d./uld., 15 MPH, cycle 0.5 mi.	B-34I	504	.016	L.C.Y.		.54	1.42	1.96	2.44
9016	cycle 1 mile		450	.018			.60	1.59	2.19	2.74
9018	cycle 2 miles		378	.021			.72	1.89	2.61	3.25
9020	cycle 4 miles		270	.030			1	2.64	3.64	4.55
9022	cycle 6 miles		216	.037			1.25	3.31	4.56	5.70
9024	cycle 8 miles		180	.044			1.50	3.97	5.47	6.80
9025	cycle 10 miles		144	.056			1.88	4.96	6.84	8.55
9026	20 MPH avg., cycle 0.5 mile		522	.015			.52	1.37	1.89	2.35
9028	cycle 1 mile		468	.017			.58	1.52	2.10	2.63
9030	cycle 2 miles		414	.019			.65	1.72	2.37	2.97
9032	cycle 4 miles		324	.025			.83	2.20	3.03	3.79
9034	cycle 6 miles		252	.032			1.07	2.83	3.90	4.88
9036	cycle 8 miles		216	.037			1.25	3.31	4.56	5.70
9038	cycle 10 miles		180	.044			1.50	3.97	5.47	6.80
9040	25 MPH avg., cycle 4 miles		342	.023			.79	2.09	2.88	3.60
9042	cycle 6 miles		288	.028			.94	2.48	3.42	4.27
9044	cycle 8 miles		252	.032			1.07	2.83	3.90	4.88
9046	cycle 10 miles		216	.037			1.25	3.31	4.56	5.70
9050	30 MPH avg., cycle 4 miles		378	.021			.72	1.89	2.61	3.25
9052	cycle 6 miles		324	.025			.83	2.20	3.03	3.79
9054	cycle 8 miles		270	.030			1	2.64	3.64	4.55
9056	cycle 10 miles		234	.034			1.16	3.05	4.21	5.25
9060	35 MPH avg., cycle 4 miles		396	.020			.68	1.80	2.48	3.10
9062	cycle 6 miles		342	.023			.79	2.09	2.88	3.60
9064	cycle 8 miles		288	.028			.94	2.48	3.42	4.27
9066	cycle 10 miles		270	.030			1	2.64	3.64	4.55
9068	cycle 20 miles		162	.049			1.67	4.41	6.08	7.60
9070	cycle 30 miles		126	.063			2.15	5.65	7.80	9.75
9072	cycle 40 miles		90	.089			3	7.95	10.95	13.60
9074	40 MPH avg., cycle 6 miles		360	.022			.75	1.98	2.73	3.41
9076	cycle 8 miles		324	.025			.83	2.20	3.03	3.79
9078	cycle 10 miles		288	.028			.94	2.48	3.42	4.27
9080	cycle 20 miles		180	.044			1.50	3.97	5.47	6.80
9082	cycle 30 miles		144	.056			1.88	4.96	6.84	8.55
9084	cycle 40 miles		108	.074			2.50	6.60	9.10	11.35
9086	cycle 50 miles		90	.089			3	7.95	10.95	13.60
9094	45 MPH avg., cycle 8 miles		324	.025			.83	2.20	3.03	3.79
9096	cycle 10 miles		306	.026			.88	2.33	3.21	4.02
9098	cycle 20 miles		198	.040			1.37	3.60	4.97	6.20
9100	cycle 30 miles		144	.056			1.88	4.96	6.84	8.55
9102	cycle 40 miles		126	.063			2.15	5.65	7.80	9.75
9104	cycle 50 miles		108	.074			2.50	6.60	9.10	11.35
9106	50 MPH avg., cycle 10 miles		324	.025			.83	2.20	3.03	3.79

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling		Crew	Daily	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
			Output			Labor	Equipment	Total		
9108	cycle 20 miles	B-341	216	.037	L.C.Y.		1.25	3.31	4.56	5.70
9110	cycle 30 miles		162	.049			1.67	4.41	6.08	7.60
9112	cycle 40 miles		126	.063			2.15	5.65	7.80	9.75
9114	cycle 50 miles		108	.074			2.50	6.60	9.10	11.35
9214	20 min. wait/ld./uld., 15 MPH, cycle 0.5 mi.		396	.020			.68	1.80	2.48	3.10
9216	cycle 1 mile		360	.022			.75	1.98	2.73	3.41
9218	cycle 2 miles		306	.026			.88	2.33	3.21	4.02
9220	cycle 4 miles		234	.034			1.16	3.05	4.21	5.25
9222	cycle 6 miles		198	.040			1.37	3.60	4.97	6.20
9224	cycle 8 miles		162	.049			1.67	4.41	6.08	7.60
9225	cycle 10 miles		144	.056			1.88	4.96	6.84	8.55
9226	20 MPH avg., cycle 0.5 mile		396	.020			.68	1.80	2.48	3.10
9228	cycle 1 mile		378	.021			.72	1.89	2.61	3.25
9230	cycle 2 miles		324	.025			.83	2.20	3.03	3.79
9232	cycle 4 miles		270	.030			1	2.64	3.64	4.55
9234	cycle 6 miles		216	.037			1.25	3.31	4.56	5.70
9236	cycle 8 miles		198	.040			1.37	3.60	4.97	6.20
9238	cycle 10 miles		162	.049			1.67	4.41	6.08	7.60
9240	25 MPH avg., cycle 4 miles		288	.028			.94	2.48	3.42	4.27
9242	cycle 6 miles		252	.032			1.07	2.83	3.90	4.88
9244	cycle 8 miles		216	.037			1.25	3.31	4.56	5.70
9246	cycle 10 miles		198	.040			1.37	3.60	4.97	6.20
9250	30 MPH avg., cycle 4 miles		306	.026			.88	2.33	3.21	4.02
9252	cycle 6 miles		270	.030			1	2.64	3.64	4.55
9254	cycle 8 miles		234	.034			1.16	3.05	4.21	5.25
9256	cycle 10 miles		216	.037			1.25	3.31	4.56	5.70
9260	35 MPH avg., cycle 4 miles		324	.025			.83	2.20	3.03	3.79
9262	cycle 6 miles		288	.028			.94	2.48	3.42	4.27
9264	cycle 8 miles		252	.032			1.07	2.83	3.90	4.88
9266	cycle 10 miles		234	.034			1.16	3.05	4.21	5.25
9268	cycle 20 miles		162	.049			1.67	4.41	6.08	7.60
9270	cycle 30 miles		108	.074			2.50	6.60	9.10	11.35
9272	cycle 40 miles		90	.089			3	7.95	10.95	13.60
9274	40 MPH avg., cycle 6 miles		288	.028			.94	2.48	3.42	4.27
9276	cycle 8 miles		270	.030			1	2.64	3.64	4.55
9278	cycle 10 miles		234	.034			1.16	3.05	4.21	5.25
9280	cycle 20 miles		162	.049			1.67	4.41	6.08	7.60
9282	cycle 30 miles		126	.063			2.15	5.65	7.80	9.75
9284	cycle 40 miles		108	.074			2.50	6.60	9.10	11.35
9286	cycle 50 miles		90	.089			3	7.95	10.95	13.60
9294	45 MPH avg., cycle 8 miles		270	.030			1	2.64	3.64	4.55
9296	cycle 10 miles		252	.032			1.07	2.83	3.90	4.88
9298	cycle 20 miles		180	.044			1.50	3.97	5.47	6.80
9300	cycle 30 miles		144	.056			1.88	4.96	6.84	8.55
9302	cycle 40 miles		108	.074			2.50	6.60	9.10	11.35
9304	cycle 50 miles		90	.089			3	7.95	10.95	13.60
9306	50 MPH avg., cycle 10 miles		270	.030			1	2.64	3.64	4.55
9308	cycle 20 miles		198	.040			1.37	3.60	4.97	6.20
9310	cycle 30 miles		144	.056			1.88	4.96	6.84	8.55
9312	cycle 40 miles		126	.063			2.15	5.65	7.80	9.75
9314	cycle 50 miles		108	.074			2.50	6.60	9.10	11.35
9414	25 min. wait/ld./uld., 15 MPH, cycle 0.5 mi.		306	.026			.88	2.33	3.21	4.02
9416	cycle 1 mile		288	.028			.94	2.48	3.42	4.27

# 31 23 Excavation and Fill

## 31 23 23 - Fill

31 23 23.20 Hauling		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
							Labor	Equipment	Total		
9418	cycle 2 miles	B-34I	252	.032	L.C.Y.		1.07	2.83	3.90	4.88	
9420	cycle 4 miles		198	.040			1.37	3.60	4.97	6.20	
9422	cycle 6 miles		180	.044			1.50	3.97	5.47	6.80	
9424	cycle 8 miles		144	.056			1.88	4.96	6.84	8.55	
9425	cycle 10 miles		126	.063			2.15	5.65	7.80	9.75	
9426	20 MPH avg., cycle 0.5 mile		324	.025			.83	2.20	3.03	3.79	
9428	cycle 1 mile		306	.026			.88	2.33	3.21	4.02	
9430	cycle 2 miles		270	.030			1	2.64	3.64	4.55	
9432	cycle 4 miles		234	.034			1.16	3.05	4.21	5.25	
9434	cycle 6 miles		198	.040			1.37	3.60	4.97	6.20	
9436	cycle 8 miles		180	.044			1.50	3.97	5.47	6.80	
9438	cycle 10 miles		144	.056			1.88	4.96	6.84	8.55	
9440	25 MPH avg., cycle 4 miles		252	.032			1.07	2.83	3.90	4.88	
9442	cycle 6 miles		216	.037			1.25	3.31	4.56	5.70	
9444	cycle 8 miles		198	.040			1.37	3.60	4.97	6.20	
9446	cycle 10 miles		180	.044			1.50	3.97	5.47	6.80	
9450	30 MPH avg., cycle 4 miles		252	.032			1.07	2.83	3.90	4.88	
9452	cycle 6 miles		234	.034			1.16	3.05	4.21	5.25	
9454	cycle 8 miles		198	.040			1.37	3.60	4.97	6.20	
9456	cycle 10 miles		180	.044			1.50	3.97	5.47	6.80	
9460	35 MPH avg., cycle 4 miles		270	.030			1	2.64	3.64	4.55	
9462	cycle 6 miles		234	.034			1.16	3.05	4.21	5.25	
9464	cycle 8 miles		216	.037			1.25	3.31	4.56	5.70	
9466	cycle 10 miles		198	.040			1.37	3.60	4.97	6.20	
9468	cycle 20 miles		144	.056			1.88	4.96	6.84	8.55	
9470	cycle 30 miles		108	.074			2.50	6.60	9.10	11.35	
9472	cycle 40 miles		90	.089			3	7.95	10.95	13.60	
9474	40 MPH avg., cycle 6 miles		252	.032			1.07	2.83	3.90	4.88	
9476	cycle 8 miles		234	.034			1.16	3.05	4.21	5.25	
9478	cycle 10 miles		216	.037			1.25	3.31	4.56	5.70	
9480	cycle 20 miles		144	.056			1.88	4.96	6.84	8.55	
9482	cycle 30 miles		126	.063			2.15	5.65	7.80	9.75	
9484	cycle 40 miles		90	.089			3	7.95	10.95	13.60	
9486	cycle 50 miles		90	.089			3	7.95	10.95	13.60	
9494	45 MPH avg., cycle 8 miles		234	.034			1.16	3.05	4.21	5.25	
9496	cycle 10 miles		216	.037			1.25	3.31	4.56	5.70	
9498	cycle 20 miles		162	.049			1.67	4.41	6.08	7.60	
9500	cycle 30 miles		126	.063			2.15	5.65	7.80	9.75	
9502	cycle 40 miles		108	.074			2.50	6.60	9.10	11.35	
9504	cycle 50 miles		90	.089			3	7.95	10.95	13.60	
9506	50 MPH avg., cycle 10 miles		234	.034			1.16	3.05	4.21	5.25	
9508	cycle 20 miles		180	.044			1.50	3.97	5.47	6.80	
9510	cycle 30 miles		144	.056			1.88	4.96	6.84	8.55	
9512	cycle 40 miles		108	.074			2.50	6.60	9.10	11.35	
9514	cycle 50 miles		90	.089			3	7.95	10.95	13.60	
9614	30 min. wait/l.d./uld., 15 MPH, cycle 0.5 mi.		270	.030			1	2.64	3.64	4.55	
9616	cycle 1 mile		252	.032			1.07	2.83	3.90	4.88	
9618	cycle 2 miles		216	.037			1.25	3.31	4.56	5.70	
9620	cycle 4 miles		180	.044			1.50	3.97	5.47	6.80	
9622	cycle 6 miles		162	.049			1.67	4.41	6.08	7.60	
9624	cycle 8 miles		126	.063			2.15	5.65	7.80	9.75	
9625	cycle 10 miles		126	.063			2.15	5.65	7.80	9.75	
9626	20 MPH avg., cycle 0.5 mile		270	.030			1	2.64	3.64	4.55	

# 31 23 Excavation and Fill

## 31 23 23 – Fill

31 23 23.20 Hauling			Daily Crew	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
							Labor	Equipment		
9628	cycle 1 mile		B-34I	.252	.032	L.C.Y.	1.07	2.83	3.90	4.88
9630	cycle 2 miles			.234	.034		1.16	3.05	4.21	5.25
9632	cycle 4 miles			.198	.040		1.37	3.60	4.97	6.20
9634	cycle 6 miles			.180	.044		1.50	3.97	5.47	6.80
9636	cycle 8 miles			.162	.049		1.67	4.41	6.08	7.60
9638	cycle 10 miles			.144	.056		1.88	4.96	6.84	8.55
9640	25 MPH avg., cycle 4 miles			.216	.037		1.25	3.31	4.56	5.70
9642	cycle 6 miles			.198	.040		1.37	3.60	4.97	6.20
9644	cycle 8 miles			.180	.044		1.50	3.97	5.47	6.80
9646	cycle 10 miles			.162	.049		1.67	4.41	6.08	7.60
9650	30 MPH avg., cycle 4 miles			.216	.037		1.25	3.31	4.56	5.70
9652	cycle 6 miles			.198	.040		1.37	3.60	4.97	6.20
9654	cycle 8 miles			.180	.044		1.50	3.97	5.47	6.80
9656	cycle 10 miles			.162	.049		1.67	4.41	6.08	7.60
9660	35 MPH avg., cycle 4 miles			.234	.034		1.16	3.05	4.21	5.25
9662	cycle 6 miles			.216	.037		1.25	3.31	4.56	5.70
9664	cycle 8 miles			.198	.040		1.37	3.60	4.97	6.20
9666	cycle 10 miles			.180	.044		1.50	3.97	5.47	6.80
9668	cycle 20 miles			.126	.063		2.15	5.65	7.80	9.75
9670	cycle 30 miles			.108	.074		2.50	6.60	9.10	11.35
9672	cycle 40 miles			.090	.089		3	7.95	10.95	13.60
9674	40 MPH avg., cycle 6 miles			.216	.037		1.25	3.31	4.56	5.70
9676	cycle 8 miles			.198	.040		1.37	3.60	4.97	6.20
9678	cycle 10 miles			.180	.044		1.50	3.97	5.47	6.80
9680	cycle 20 miles			.144	.056		1.88	4.96	6.84	8.55
9682	cycle 30 miles			.108	.074		2.50	6.60	9.10	11.35
9684	cycle 40 miles			.090	.089		3	7.95	10.95	13.60
9686	cycle 50 miles			.072	.111		3.76	9.90	13.66	17.05
9694	45 MPH avg., cycle 8 miles			.216	.037		1.25	3.31	4.56	5.70
9696	cycle 10 miles			.198	.040		1.37	3.60	4.97	6.20
9698	cycle 20 miles			.144	.056		1.88	4.96	6.84	8.55
9700	cycle 30 miles			.126	.063		2.15	5.65	7.80	9.75
9702	cycle 40 miles			.108	.074		2.50	6.60	9.10	11.35
9704	cycle 50 miles			.090	.089		3	7.95	10.95	13.60
9706	50 MPH avg., cycle 10 miles			.198	.040		1.37	3.60	4.97	6.20
9708	cycle 20 miles			.162	.049		1.67	4.41	6.08	7.60
9710	cycle 30 miles			.126	.063		2.15	5.65	7.80	9.75
9712	cycle 40 miles			.108	.074		2.50	6.60	9.10	11.35
9714	cycle 50 miles			.090	.089		3	7.95	10.95	13.60

## 31 23 23.24 Compaction, Structural

### 0010 COMPACTION, STRUCTURAL

0020	Steel wheel tandem roller, 5 tons	B-10E	8	1	Hr.		38	32	70	97
0050	Air tamp, 6" to 8" lifts, common fill	B-9	250	.160	E.C.Y.		4.51	1.43	5.94	8.95
0060	Select fill	"	300	.133			3.76	1.19	4.95	7.45
0600	Vibratory plate, 8" lifts, common fill	A-1D	200	.040			1.11	.16	1.27	2
0700	Select fill	"	216	.037	▼		1.03	.15	1.18	1.85

# 31 25 Erosion and Sedimentation Controls

## 31 25 14 – Stabilization Measures for Erosion and Sedimentation Control

31 25 14.16 Rolled Erosion Control Mats and Blankets				Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Ind O&P
0010	ROLLED EROSION CONTROL MATS AND BLANKETS											
0020	Jute mesh, 100 S.Y. per roll, 4' wide, stapled	[G]	B-80A	2400	.010	S.Y.		1.03	.28	.34	1.65	1.97
0100	Plastic netting, stapled, 2" x 1" mesh, 20 mil	[G]	B-1	2500	.010			.27	.27		.54	.75
0120	Revegetation mat, webbed	[G]	2 Clab	1000	.016			2.96	.44		3.40	3.99
0200	Polypropylene mesh, stapled, 6.5 oz./S.Y.	[G]	B-1	2500	.010			1.70	.27		1.97	2.32
0300	Tobacco netting, or jute mesh #2, stapled	[G]	"	2500	.010			.31	.27		.58	.79
0600	Straw in polymeric netting, biodegradable log		A-2	1000	.024	L.F.		6.45	.71	.20	7.36	8.50
0705	Sediment Log, Filter Sock, 9"			1000	.024			3.50	.71	.20	4.41	5.25
0710	Sediment Log, Filter Sock, 12"			1000	.024			4.95	.71	.20	5.86	6.85
1000	Silt fence, install and maintain, remove	[G]	B-62	1300	.018			.45	.56	.14	1.15	1.57

# 31 31 Soil Treatment

## 31 31 16 – Termite Control

### 31 31 16.13 Chemical Termite Control

0010 CHEMICAL TERMITE CONTROL				1 Skwk	1200	.007	SF Flr.	.33	.25		.58	.77
0020	Slab and walls, residential	[G]	1000	.008	"			.33	.30		.63	.85
0030	SS mesh, no chemicals, avg 1,400 S.F. home, min		14.20	.563	Gal.		70.50	21		91.50	112	
0400	Insecticides for termite control, minimum			11	.727	"		120	27		147	177
0500	Maximum											

## Division Notes

## Estimating Tips

### 32 01 00 Operations and Maintenance of Exterior Improvements

- Recycling of asphalt pavement is becoming very popular and is an alternative to removal and replacement. It can be a good value engineering proposal if removed pavement can be recycled, either at the project site or at another site that is reasonably close to the project site. Sections on repair of flexible and rigid pavement are included.

### 32 10 00 Bases, Ballasts, and Paving

- When estimating paving, keep in mind the project schedule. Also note that prices for asphalt and concrete

are generally higher in the cold seasons. Lines for pavement markings, including tactile warning systems and fence lines, are included.

### 32 90 00 Planting

- The timing of planting and guarantee specifications often dictate the costs for establishing tree and shrub growth and a stand of grass or ground cover. Establish the work performance schedule to coincide with the local planting season. Maintenance and growth guarantees can add 20–100% to the total landscaping cost and can be contractually cumbersome. The cost to replace trees and shrubs can be as high as 5% of the total cost, depending on the planting zone, soil conditions, and time of year.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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# 32 01 Operation and Maintenance of Exterior Improvements

## 32 01 11 – Paving Cleaning

				Daily	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
	Crew	Output					Labor	Equipment		Total		
<b>32 01 11.51 Rubber and Paint Removal From Paving</b>												
0010 RUBBER AND PAINT REMOVAL FROM PAVING	1 Clab	2	4	Job			111			111	183	
2000 Minimum labor/equipment charge												

## 32 01 13 – Flexible Paving Surface Treatment

0011	Chip seal, slurry seal, and microsurfacing, see section 32 12 36	B-45	5000	.003	S.Y.	1.39	.10	.16	1.65	1.82
3780	Rubberized asphalt (latex) seal	B-90	2400	.027		4.32	.84	.92	6.08	7.19
5400	Thermoplastic coal-tar, Type I, small or irregular area		8000	.008		4.32	.25	.27	4.84	5.45
5450	Roadway or large area		2400	.027		5.50	.84	.92	7.26	8.45
5500	Type II, small or irregular area	B-11L	160	.100	C.Y.	23	3.29	6.65	32.94	38
6000	Gravel surfacing on asphalt, screened and rolled									
7000	For subbase treatment, see Section 31 32 13									

## 32 01 13.66 Fog Seal

0010	<b>FOG SEAL</b>										
0012	Sealcoating, 2 coat coal tar pitch emulsion over 10,000 S.Y.	B-45	5000	.003	S.Y.	.84	.10	.16	1.10	1.20	
0030	1,000 to 10,000 S.Y.	"	3000	.005		.84	.16	.27	1.27	1.45	
0100	Under 1,000 S.Y.	B-1	1050	.023		.84	.65		1.49	1.99	
0300	Petroleum resistant, over 10,000 S.Y.	B-45	5000	.003		1.40	.10	.16	1.66	1.86	
0320	1,000 to 10,000 S.Y.	"	3000	.005		1.40	.16	.27	1.83	2.11	
0400	Under 1,000 S.Y.	B-1	1050	.023		1.40	.65		2.05	2.6	

## 32 01 19 – Rigid Paving Surface Treatment

<b>32 01 19.61 Sealing of Joints In Rigid Paving</b>											
0010	<b>SEALING OF JOINTS IN RIGID PAVING</b>										
9000	Minimum labor/equipment charge	1 Clab	2	4	Job		168		168	253	

# 32 06 Schedules for Exterior Improvements

## 32 06 10 – Schedules for Bases, Ballasts, and Paving

<b>32 06 10.10 Sidewalks, Driveways and Patios</b>											
0010	<b>SIDEWALKS, DRIVEWAYS AND PATIOS</b> No base										
0021	Asphaltic concrete, 2" thick	B-37	6480	.007	S.F.	.80	.22	.04	1.06	1.20	
0101	2-1/2" thick	"	5950	.008	"	1.01	.24	.04	1.29	1.55	
0300	Concrete, 3,000 psi, CIP, 6 x 6 - W1.4 x W1.4 mesh,	B-24	600	.040	S.F.	2.31	1.33		3.64	4.7	
0310	broomed finish, no base, 4" thick	"	545	.044		2.86	1.47		4.33	5.55	
0350	5" thick	"	510	.047		3.34	1.57		4.91	6.25	
0400	6" thick	B-18	2500	.010		.43	.27	.07	.77	1	
0450	For bank run gravel base, 4" thick, add	"	1600	.015		.87	.43	.10	1.40	1.77	
0520	8" thick, add	2 Clab	1700	.009		.49	.26		.75	.90	
1000	Crushed stone, 1" thick, white marble	"	1700	.009		.18	.26		.44	.65	
1050	Bluestone	2 Corp	316	.051		4.89	1.83		6.72	8.35	
1700	Redwood, prefabricated, 4' x 4' sections	"	240	.067		4.89	2.41		7.30	9.30	
1750	Redwood planks, 1" thick, on sleepers	B-62	900	.027	S.Y.	5.25	.81	.20	6.26	7.35	
2250	Stone dust, 4" thick										

## 32 06 10.20 Steps

<b>0010 STEPS</b>											
0011	Incl. excav., borrow & concrete base as required	B-24	35	.686	LF Riser	17.95	23		40.95	57.50	
0100	Brick steps	2 Clab	25	.640		3.75	17.80		21.55	33	
0200	Railroad ties	B-24	30	.800		44.50	26.50		71	92.50	
0300	Bluestone treads, 12" x 2" or 12" x 1-1/2"	B-1	390	.062	L.F.	4.58	1.75		6.33	7.95	
0600	Precast concrete, see Section 03 41 23.50	2 Corp	170	.094	"	2.48	3.40		5.88	8.35	
4025	Steel edge strips, incl. stakes, 1/4" x 5"										
4050	Edging, landscape timber or railroad ties, 6" x 8"										

# 32 11 Base Courses

## 32 11 23 – Aggregate Base Courses

32 11 23.23 Base Course Drainage Layers		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs Equipment	Total	Total Incl O&P
0010	BASE COURSE DRAINAGE LAYERS									
0011	For Soil Stabilization, see Section 31 32									
0012	For roadways and large areas									
0051	3/4" stone compacted to 3" deep	B-36	36000	.001	S.F.	.30	.04	.05	.39	.45
0101	6" deep		35100	.001		.60	.04	.05	.69	.78
0201	9" deep		25875	.002		.87	.05	.07	.99	1.12
0305	12" deep		21150	.002		1.62	.06	.09	1.77	1.98
0306	Crushed 1-1/2" stone base, compacted to 4" deep		47000	.001		.06	.03	.04	.13	.16
0307	6" deep		35100	.001		.81	.04	.05	.90	1.01
0308	8" deep		27000	.001		1.08	.05	.07	1.20	1.34
0309	12" deep		16200	.002		1.62	.08	.11	1.81	2.04
0350	Bank run gravel, spread and compacted									
0371	6" deep	B-32	54000	.001	S.F.	.40	.02	.05	.47	.53
0391	9" deep		39600	.001		.59	.03	.07	.69	.77
0401	12" deep		32400	.001		.80	.04	.09	.93	1.04
6900	For small and irregular areas, add						50%	50%		

## 32 11 26 – Asphaltic Base Courses

### 32 11 26.19 Bituminous-Stabilized Base Courses

0010 BITUMINOUS-STABILIZED BASE COURSES										
0020	For roadways and large paved areas									
0700	Liquid application to gravel base, asphalt emulsion	B-45	6000	.003	Gal.	4.84	.08	.14	5.06	5.60
0800	Prime and seal, cut back asphalt		6000	.003	"	5.70	.08	.14	5.92	6.60
1000	Macadam penetration crushed stone, 2 gal./S.Y., 4" thick		6000	.003	S.Y.	9.70	.08	.14	9.92	10.95
1100	6" thick, 3 gal./S.Y.		4000	.004		14.50	.12	.21	14.83	16.40
1200	8" thick, 4 gal./S.Y.		3000	.005		19.35	.16	.27	19.78	22
8900	For small and irregular areas, add						50%	50%		

# 32 12 Flexible Paving

## 32 12 16 – Asphalt Paving

### 32 12 16.14 Paving Asphaltic Concrete

0010 PAVING ASPHALTIC CONCRETE										
0020	6" stone base, 2" binder course, 1" topping	B-25C	9000	.005	S.F.	1.92	.17	.26	2.35	2.68
0025	2" binder course, 2" topping		9000	.005		2.36	.17	.26	2.79	3.17
0030	3" binder course, 2" topping		9000	.005		2.78	.17	.26	3.21	3.63
0035	4" binder course, 2" topping		9000	.005		3.19	.17	.26	3.62	4.07
0040	1-1/2" binder course, 1" topping		9000	.005		1.72	.17	.26	2.15	2.46
0042	3" binder course, 1" topping		9000	.005		2.33	.17	.26	2.76	3.14
0045	3" binder course, 3" topping		9000	.005		3.23	.17	.26	3.66	4.12
0050	4" binder course, 3" topping		9000	.005		3.63	.17	.26	4.06	4.57
0055	4" binder course, 4" topping		9000	.005		4.08	.17	.26	4.51	5.05
0300	Binder course, 1-1/2" thick		35000	.001		.62	.04	.07	.73	.82
0400	2" thick		25000	.002		.80	.06	.09	.95	1.08
0500	3" thick		15000	.003		1.23	.10	.16	1.49	1.70
0600	4" thick		10800	.004		1.62	.14	.22	1.98	2.25
0800	Sand finish course, 3/4" thick		41000	.001		.31	.04	.06	.41	.46
0900	1" thick		34000	.001		.38	.04	.07	.49	.57
1000	Fill pot holes, hot mix, 2" thick	B-16	4200	.008		.82	.23	.14	1.19	1.42
1100	4" thick		3500	.009		1.20	.27	.16	1.63	1.95
1120	6" thick		3100	.010		1.61	.31	.18	2.10	2.47
1140	Cold patch, 2" thick	B-51	3000	.016		.87	.46	.07	1.40	1.79

# 32 12 Flexible Paving

## 32 12 16 – Asphalt Paving

				Daily Output	Labor-Hours	Unit	2020 Bare Costs			Total	Total Incl O&P
							Material	Labor	Equipment	Total	
<b>32 12 16.14 Paving Asphaltic Concrete</b>											
1160	4" thick		B-51	2700	.018	S.F.	1.66	.52	.07	2.25	2.76
1180	6" thick			1900	.025		2.58	.73	.10	3.41	4.15

## 32 12 36 – Seal Coats

### 32 12 36.13 Chip Seal

0010	<b>CHIP SEAL</b>										
0011	Excludes crack repair and flush coat										
1000	Fine - PMCRS-2h (20lbs/sy, 1/4" (No.10), .30gal/sy app. rate)		B-91	5000	.013	S.Y.	1.10	.43	.45	1.98	2.42
1010	Small, irregular areas		B-91D	15000	.007		1.10	.23	.22	1.55	1.83
1020	Parking Lot		"	30000	.003		1.10	.11	.11	1.32	1.52
1030	Roadway						.23			.23	.25
1090	For Each .5% Latex Additive, Add										
1100	Medium Fine - PMCRS-2h (25lbs/sy, 5/16" (No.8), .35gal/sy app. rate)		B-91	4000	.016	S.Y.	1.29	.54	.56	2.39	2.92
1110	Small, irregular areas		B-91D	12000	.009		1.29	.28	.28	1.85	2.19
1120	Parking Lot		"	24000	.004		1.29	.14	.14	1.57	1.79
1130	Roadway						.28			.28	.31
1190	For Each .5% Latex Additive, Add										
1200	Medium - PMCRS-2h (30lbs/sy, 3/8" (No.6), .40gal/sy app. rate)		B-91	3330	.019	S.Y.	1.41	.65	.68	2.74	3.36
1210	Small, irregular areas		B-91D	10000	.010		1.41	.34	.34	2.09	2.48
1220	Parking Lot		"	20000	.005		1.41	.17	.17	1.75	2.01
1230	Roadway						.34			.34	.37
1290	For Each .5% Latex Additive, Add										
1300	Course - PMCRS-2h (30lbs/sy, 1/2" (No.4), .40gal/sy app. rate)		B-91	2500	.026	S.Y.	1.39	.87	.90	3.16	3.93
1310	Small, irregular areas		B-91D	7500	.014		1.39	.45	.45	2.29	2.76
1320	Parking Lot		"	15000	.007		1.39	.23	.22	1.84	2.14
1330	Roadway						.34			.34	.37
1390	For Each .5% Latex Additive, Add										
1400	Double - PMCRS-2h (Course Base w/ Fine Top)										
1410	Small, irregular areas		B-91	2000	.032	S.Y.	2.36	1.08	1.13	4.57	5.60
1420	Parking Lot		B-91D	6000	.017		2.36	.57	.56	3.49	4.15
1430	Roadway		"	12000	.009		2.36	.28	.28	2.92	3.38
1490	For Each .5% Latex Additive, Add						.56			.56	.62

### 32 12 36.14 Flush Coat

0010	<b>FLUSH COAT</b>										
0011	Fog Seal w/ Sand Cover.18 gal/sy, 6lbs/sy										
1010	Small, irregular areas		B-91	2000	.032	S.Y.	.52	1.08	1.13	2.73	3.60
1020	Parking lot			6000	.011		.52	.36	.38	1.26	1.58
1030	Roadway			12000	.005		.52	.18	.19	.89	1.09

### 32 12 36.33 Slurry Seal

0010	<b>SLURRY SEAL</b>										
0011	Includes sweeping and cleaning of area										
1000	Type I-PMQCS-1h-EAS (12lbs/sy, 1/8", 20% asphalt emulsion)										
1010	Small, irregular areas		B-90	8000	.008	S.Y.	.98	.25	.27	1.50	1.78
1020	Parking Lot			25000	.003		.98	.08	.09	1.15	1.30
1030	Roadway			50000	.001		.98	.04	.04	1.06	1.19
1090	For Each .5% Latex Additive, Add						.15			.15	.16
1100	Type II-PMQCS-1h-EAS (15lbs/sy, 1/4", 18% asphalt emulsion)										
1110	Small, irregular areas		B-90	6000	.011	S.Y.	1.10	.34	.37	1.81	2.16
1120	Parking lot			20000	.003		1.10	.10	.11	1.31	1.50
1130	Roadway			40000	.002		1.10	.05	.05	1.20	1.35
1200	Type III-PMQCS-1h-EAS (25lbs/sy, 3/8", 15% asphalt emulsion)										
1210	Small, irregular areas		B-90	4000	.016	S.Y.	1.51	.51	.55	2.57	3.09
1220	Parking lot			12000	.005		1.51	.17	.18	1.86	2.14

# 32 12 Flexible Paving

## 32 12 36 – Seal Coats

32 12 36.33 Slurry Seal		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
1230	Roadway	B-90	24000	.003	S.Y.	1.51	.08	.09	1.68	1.90	
1290	For Each .5% Latex Additive, Add					.29			.29	.32	

## 32 12 36.36 Microsurfacing

0010 MICROSURFACING		B-90	5000	.013	S.Y.	1.65	.40	.44	2.49	2.95
1100	Type II-MSE (20lbs/sy, 1/4", 18% microsurfacing emulsion)									
1110	Small, irregular areas		15000	.004		1.65	.14	.15	1.94	2.19
1120	Parking lot									
1130	Roadway		30000	.002		1.65	.07	.07	1.79	2
1200	Type IIIa-MSE (32lbs/sy, 3/8", 15% microsurfacing emulsion)	B-90	3000	.021	S.Y.	2.29	.67	.73	3.69	4.44
1210	Small, irregular areas		9000	.007		2.29	.22	.24	2.75	3.16
1220	Parking lot									
1230	Roadway		18000	.004		2.29	.11	.12	2.52	2.83

# 32 13 Rigid Paving

## 32 13 13 – Concrete Paving

### 32 13 13.25 Concrete Pavement, Highways

0010 CONCRETE PAVEMENT, HIGHWAYS		B-26	18000	.005	S.F.	3.78	.15	.20	4.13	4.63
0015	Including joints, finishing and curing									
0021	Fixed form, 12' pass, unreinforced, 6" thick		13500	.007		5.10	.21	.26	5.57	6.25
0101	8" thick									
0701	Finishing, broom finish small areas	2 Cefi	1215	.013					.47	.47

# 32 14 Unit Paving

## 32 14 13 – Precast Concrete Unit Paving

### 32 14 13.18 Precast Concrete Plantable Pavers

0010 PRECAST CONCRETE PLANTABLE PAVERS (50% grass)		B-62	1000	.024	S.Y.	4.20	.73	.18	5.11	6
0300	3/4" crushed stone base for plantable pavers, 6" depth		900	.027		5.60	.81	.20	6.61	7.70
0400	8" depth		800	.030		7	.92	.22	8.14	9.45
0500	10" depth		700	.034		8.40	1.05	.25	9.70	11.25
0600	12" depth									
0700	Hydro seeding plantable pavers	B-81A	20	.800	M.S.F.	12.10	24.50	47	83.60	105
0800	Apply fertilizer and seed to plantable pavers	1 Clab	8	1	"	46	28		74	96.50

## 32 14 16 – Brick Unit Paving

### 32 14 16.10 Brick Paving

0010 BRICK PAVING		D-1	110	.145	S.F.	2.66	4.76		7.42	10.80
0012	4" x 8" x 1-1/2", without joints (4.5 bricks/S.F.)		90	.178		2.17	5.80		7.97	12.05
0100	Grouted, 3/8" joint (3.9 bricks/S.F.)									
0200	4" x 8" x 2-1/4", without joints (4.5 bricks/S.F.)		110	.145		2.51	4.76		7.27	10.65
0300	Grouted, 3/8" joint (3.9 bricks/S.F.)		90	.178		2.17	5.80		7.97	12.05
0455	Pervious brick paving, 4" x 8" x 3-1/4", without joints (4.5 bricks/S.F.)		110	.145		3.70	4.76		8.46	11.95
0500	Bedding, asphalt, 3/4" thick	B-25	5130	.017		.68	.53	.53	1.74	2.20
0540	Course washed sand bed, 1" thick	B-18	5000	.005		.38	.14	.03	.55	.68
0580	Mortar, 1" thick	D-1	300	.053		.68	1.75		2.43	3.64
0620	2" thick		200	.080		1.37	2.62		3.99	5.85
1500	Brick on 1" thick sand bed laid flat, 4.5/S.F.		100	.160		3.05	5.25		8.30	12
2000	Brick pavers, laid on edge, 7.2/S.F.		70	.229		4.61	7.50		12.11	17.45

# 32 14 Unit Paving

## 32 14 23 – Asphalt Unit Paving

32 14 23.10 Asphalt Blocks		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	<b>ASPHALT BLOCKS</b>								
0020	Rectangular, 6" x 12" x 1-1/4", w/bed & neopr. adhesive	D-1	135	.119	S.F.	10.20	3.88	14.08	17.60
0100	3" thick		130	.123		14.30	4.03	18.33	22.50
0300	Hexagonal tile, 8" wide, 1-1/4" thick		135	.119		10.20	3.88	14.08	17.60
0400	2" thick		130	.123		14.30	4.03	18.33	22.50
0500	Square, 8" x 8", 1-1/4" thick		135	.119		10.20	3.88	14.08	17.60
0600	2" thick		130	.123		14.30	4.03	18.33	22.50

## 32 14 40 – Stone Paving

### 32 14 40.10 Stone Pavers

32 14 40.10 Stone Pavers		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	<b>STONE PAVERS</b>								
1100	Flagging, bluestone, irregular, 1" thick,	D-1	81	.198	S.F.	10.35	6.45	16.80	22
1150	Snapped random rectangular, 1" thick		92	.174		15.70	5.70	21.40	26.50
1200	1-1/2" thick		85	.188		18.85	6.15	25	30.50
1250	2" thick		83	.193		22	6.30	28.30	34.50
1300	Slate, natural cleft, irregular, 3/4" thick		92	.174		9.75	5.70	15.45	20
1310	1" thick		85	.188		11.35	6.15	17.50	22.50
1351	Random rectangular, gauged, 1/2" thick		105	.152		21	4.99	25.99	31.50
1400	Random rectangular, butt joint, gauged, 1/4" thick		150	.107		22.50	3.49	25.99	31
1450	For sand rubbed finish, add					9.65		9.65	10.65
1500	For interior setting, add							25%	25%
1550	Granite blocks, 3-1/2" x 3-1/2" x 3-1/2"	D-1	92	.174	S.F.	21.50	5.70	27.20	33

# 32 16 Curbs, Gutters, Sidewalks, and Driveways

## 32 16 13 – Curbs and Gutters

### 32 16 13.13 Cast-in-Place Concrete Curbs and Gutters

32 16 13.13 Cast-in-Place Concrete Curbs and Gutters		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	<b>CAST-IN-PLACE CONCRETE CURBS AND GUTTERS</b>								
0290	Forms only, no concrete								
0300	Concrete, wood forms, 6" x 18", straight	C-2	500	.096	L.F.	3.16	3.10	6.26	8.55
0400	6" x 18", radius	"	200	.240		3.30	7.75	11.05	16.40
0404	Concrete, wood forms, 6" x 18", straight & concrete	C-2A	500	.096		6.75	3.37	10.12	12.95
0406	6" x 18", radius	"	200	.240		6.90	8.40	15.30	21.50

### 32 16 13.23 Precast Concrete Curbs and Gutters

32 16 13.23 Precast Concrete Curbs and Gutters		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	<b>PRECAST CONCRETE CURBS AND GUTTERS</b>								
0550	Precast, 6" x 18", straight	B-29	700	.069	L.F.	9.15	2.05	1.21	12.41
0600	6" x 18", radius	"	325	.148	"	12.20	4.42	2.61	19.23

### 32 16 13.33 Asphalt Curbs

32 16 13.33 Asphalt Curbs		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	<b>ASPHALT CURBS</b>								
0012	Curbs, asphaltic, machine formed, 8" wide, 6" high, 40 L.F./ton	B-27	1000	.032	L.F.	1.64	.91	.27	2.82
0100	8" wide, 8" high, 30 L.F./ton		900	.036		2.19	1.01	.30	3.50
0150	Asphaltic berm, 12" W, 3" to 6" H, 35 L.F./ton, before pavement		700	.046		.04	1.29	.39	1.72
0200	12" W, 1-1/2" to 4" H, 60 L.F./ton, laid with pavement	B-2	1050	.038		.02	1.07		1.09

### 32 16 13.43 Stone Curbs

32 16 13.43 Stone Curbs		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	<b>STONE CURBS</b>								
1000	Granite, split face, straight, 5" x 16"	D-13	275	.175	L.F.	16.50	6	1.56	24.06
1100	6" x 18"	"	250	.192		21.50	6.60	1.71	29.81
1300	Radius curbing, 6" x 18", over 10' radius	B-29	260	.185		26.50	5.50	3.26	35.26
1400	Corners, 2' radius	"	80	.600	Ea.	89	17.95	10.60	117.55
1600	Edging, 4-1/2" x 12", straight	D-13	300	.160	L.F.	8.25	5.50	1.43	15.18
1800	Curb inlets (guttermouth) straight	B-29	41	1.171	Ea.	198	35	20.50	253.50

# 32 16 Curbs, Gutters, Sidewalks, and Driveways

## 32 16 13 – Curbs and Gutters

32 16 13.43 Stone Curbs		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Ind O&P
2000	Indian granite (Belgian block)										
2100	Jumbo, 10-1/2" x 7-1/2" x 4", grey	D-1	150	.107	L.F.	9.65	3.49			13.14	16.40
2150	Pink		150	.107		9.55	3.49			13.04	16.30
2200	Regular, 9" x 4-1/2" x 4-1/2", grey		160	.100		4.64	3.27			7.91	10.50
2250	Pink		160	.100		6.75	3.27			10.02	12.85
2300	Cubes, 4" x 4" x 4", grey		175	.091		3.34	2.99			6.33	8.60
2350	Pink		175	.091		3.99	2.99			6.98	9.35
2400	6" x 6" x 6", pink		155	.103		12.60	3.38			15.98	19.50
2500	Alternate pricing method for Indian granite										
2550	Jumbo, 10-1/2" x 7-1/2" x 4" (30 lb.), grey				Ton	550				550	605
2600	Pink					555				555	610
2650	Regular, 9" x 4-1/2" x 4-1/2" (20 lb.), grey					325				325	360
2700	Pink					475				475	520
2750	Cubes, 4" x 4" x 4" (5 lb.), grey					405				405	445
2800	Pink					515				515	565
2850	6" x 6" x 6" (25 lb.), pink					490				490	540
2900	For pallets, add					22				22	24

# 32 31 Fences and Gates

## 32 31 13 – Chain Link Fences and Gates

### 32 31 13.15 Chain Link Fence

0010 CHAIN LINK FENCE		B-1	185	.130	L.F.	9.85	3.69			13.54	16.90
0020	1-5/8" post 10' OC, 1-3/8" top rail, 2" corner post galv. stl., 3' high		170	.141		10.30	4.02			14.32	17.95
0050	4' high		115	.209		11.95	5.95			17.90	23
0100	6' high										
0150	Add for gate 3' wide, 1-3/8" frame 3' high		12	2	Ea.	100	57			157	204
0170	4' high		10	2.400		122	68.50			190.50	246
0190	6' high		10	2.400		143	68.50			211.50	269
0200	Add for gate 4' wide, 1-3/8" frame 3' high		9	2.667		109	76			185	245
0220	4' high		9	2.667		119	76			195	256
0240	6' high		8	3		159	85.50			244.50	315
0350	Aluminized steel, 9 ga. wire, 3' high		185	.130	L.F.	10.30	3.69			13.99	17.35
0380	4' high		170	.141		9.20	4.02			13.22	16.75
0400	6' high		115	.209		11.75	5.95			17.70	22.50
0450	Add for gate 3' wide, 1-3/8" frame 3' high		12	2	Ea.	169	57			226	280
0470	4' high		10	2.400		168	68.50			236.50	297
0490	6' high		10	2.400		180	68.50			248.50	310
0500	Add for gate 4' wide, 1-3/8" frame 3' high		10	2.400		158	68.50			226.50	285
0520	4' high		9	2.667		146	76			222	285
0540	6' high		8	3		202	85.50			287.50	360
0620	Vinyl covered 9 ga. wire, 3' high		185	.130	L.F.	8.35	3.69			12.04	15.25
0640	4' high		170	.141		7.55	4.02			11.57	14.90
0660	6' high		115	.209		10.20	5.95			16.15	21
0720	Add for gate 3' wide, 1-3/8" frame 3' high		12	2	Ea.	117	57			174	223
0740	4' high		10	2.400		136	68.50			204.50	262
0760	6' high		10	2.400		159	68.50			227.50	287
0780	Add for gate 4' wide, 1-3/8" frame 3' high		10	2.400		123	68.50			191.50	247
0800	4' high		9	2.667		128	76			204	266
0820	6' high		8	3		167	85.50			252.50	325
0860	Tennis courts, 11 ga. wire, 2-1/2" post 10' OC, 1-5/8" top rail	B-1	95	.253	L.F.	9.80	7.20			17	22.50
0900	2-1/2" corner post, 10' high										

# 32 31 Fences and Gates

## 32 31 13 – Chain Link Fences and Gates

				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
				B-1	80	.300	L.F.	Labor	Equipment	
0920	12' high						9.60	8.55	18.15	24.50
1000	Add for gate 3' wide, 1-5/8" frame 10' high				10	2.400	Ea.	225	68.50	293.50
1040	Aluminized, 11 ga. wire 10' high					.253	L.F.	10.80	7.20	18
1100	12' high					.300	"	11.70	8.55	20.25
1140	Add for gate 3' wide, 1-5/8" frame, 10' high					10	2.400	Ea.	164	68.50
1250	Vinyl covered 11 ga. wire, 10' high					.253	L.F.	10.20	7.20	17.40
1300	12' high					.300	"	13.50	8.55	22.05
1400	Add for gate 3' wide, 1-3/8" frame, 10' high					10	2.400	Ea.	325	68.50

## 32 31 13.80 Residential Chain Link Gate

RESIDENTIAL CHAIN LINK GATE				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
0010	RESIDENTIAL CHAIN LINK GATE	B-80C	10	2.400	Ea.					
0110	Residential 4' gate, single incl. hardware and concrete						128	71	25	224
0120	5'						138	71	25	234
0130	6'						149	71	25	245
0510	Residential 4' gate, double incl. hardware and concrete						228	71	25	324
0520	5'						244	71	25	340
0530	6'						284	71	25	380

## 32 31 13.82 Internal Chain Link Gate

INTERNAL CHAIN LINK GATE				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
0010	INTERNAL CHAIN LINK GATE	B-80C	10	2.400	Ea.					
0110	Internal 6' gate, single incl. post flange, hardware and concrete						279	71	25	375
0120	8'						320	71	25	416
0130	10'						435	71	25	531
0510	Internal 6' gate, double incl. post flange, hardware and concrete						510	71	25	606
0520	8'						585	71	25	681
0530	10'						740	71	25	836

## 32 31 13.84 Industrial Chain Link Gate

INDUSTRIAL CHAIN LINK GATE				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
0010	INDUSTRIAL CHAIN LINK GATE	B-80C	10	2.400	Ea.					
0110	Industrial 8' gate, single incl. hardware and concrete						475	71	25	571
0120	10'						540	71	25	636
0510	Industrial 8' gate, double incl. hardware and concrete						740	71	25	836
0520	10'						845	71	25	941

## 32 31 13.88 Chain Link Transom

CHAIN LINK TRANSOM				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
0010	CHAIN LINK TRANSOM	B-80C	10	2.400	Ea.					
0110	Add for, single transom, 3' wide, incl. components & hardware						118	71	25	214
0120	Add for, double transom, 6' wide, incl. components & hardware						127	71	25	223

## 32 31 23 – Plastic Fences and Gates

### 32 31 23.10 Fence, Vinyl

FENCE, VINYL				Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl Q&P
0010	FENCE, VINYL	B-1	140	.171	L.F.					
0011	White, steel reinforced, stainless steel fasteners									
0020	Picket, 4" x 4" posts @ 6'-0" OC, 3' high						24.50	4.88	29.38	35
0030	4' high						130	.185	26.50	31.75
0040	5' high						120	.200	34	5.25
0100	Board (semi-privacy), 5" x 5" posts @ 7'-6" OC, 5' high						130	.185	27.50	32.75
0120	6' high						125	.192	30	5.45
0200	Basket weave, 5" x 5" posts @ 7'-6" OC, 5' high						160	.150	25.50	35.50
0220	6' high						150	.160	29	4.27
0300	Privacy, 5" x 5" posts @ 7'-6" OC, 5' high						130	.185	26.50	33.56
0320	6' high						150	.160	30	4.56
0350	Gate, 5' high						9	2.667	Ea.	76
0360	6' high						9	2.667		406
0400	For posts set in concrete, add						25	.960	9.30	451
0500	Post and rail fence, 2 rail						150	.160	L.F.	10.81

# 32 31 Fences and Gates

## 32 31 23 – Plastic Fences and Gates

32 31 23.10 Fence, Vinyl			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Labor	Costs Equipment	Total	Total Incl O&P
0510	3 rail		B-1	150	.160	L.F.	8.10	4.56		12.66	16.40
0515	4 rail			↓ 150	.160	↓	11.05	4.56		15.61	19.65

## 32 31 26 – Wire Fences and Gates

### 32 31 26.10 Fences, Misc. Metal

0010 FENCES, MISC. METAL			B-80C	410	.059	L.F.	3.53	1.73	.61	5.87	7.40
0012	Chicken wire, posts @ 4', 1" mesh, 4' high			350	.069		4.01	2.03	.71	6.75	8.55
0100	2" mesh, 6' high			300	.080		2.80	2.37	.83	6	7.90
0200	Galv. steel, 12 ga., 2" x 4" mesh, posts 5' OC, 3' high			300	.080		3.37	2.37	.83	6.57	8.50
0300	5' high			300	.080		3.48	2.37	.83	6.68	8.65
0400	14 ga., 1" x 2" mesh, 3' high			300	.080		4.50	2.37	.83	7.70	9.75
0500	5' high			300	.080						
1000	Kennel fencing, 1-1/2" mesh, 6' long, 3'-6" wide, 6'-2" high		2 Clab	4	4	Ea.	495	111		606	730
1050	12' long			4	4		700	111		811	955
1200	Top covers, 1-1/2" mesh, 6' long			15	1.067		141	29.50		170.50	204
1250	12' long			12	1.333		210	37		247	292

## 32 31 29 – Wood Fences and Gates

### 32 31 29.10 Fence, Wood

0010 FENCE, WOOD			B-80C	160	.150	L.F.	26	4.44	1.56	32	37.50
0011	Basket weave, 3/8" x 4" boards, 2" x 4"			150	.160		38	4.73	1.67	44.40	51
0020	stringers on spreaders, 4" x 4" posts			145	.166	↓	23	4.89	1.72	29.61	35.50
0050	No. 1 cedar, 6' high			145	.166		11.80	4.89	1.72	18.41	23
0070	Treated pine, 6' high			135	.178		13.45	5.25	1.85	20.55	25.50
0090	Vertical weave, 6' high			130	.185		12.70	5.45	1.92	20.07	25
0200	Board fence, 1" x 4" boards, 2" x 4" rails, 4" x 4" post			125	.192		16.30	5.70	2	24	29.50
0220	Preservative treated, 2 rail, 3' high		B-80C	145	.166	L.F.	12.75	4.89	1.72	19.36	24
0240	4' high			135	.178		12.40	5.25	1.85	19.50	24.50
0260	3 rail, 5' high			130	.185		14.65	5.45	1.92	22.02	27
0300	6' high			125	.192		15.50	5.70	2	23.20	28.50
0320	No. 2 grade western cedar, 2 rail, 3' high			145	.166		13.90	4.89	1.72	20.51	25
0340	4' high			135	.178		15.20	5.25	1.85	22.30	27.50
0360	3 rail, 5' high			130	.185		18.25	5.45	1.92	25.62	31
0400	6' high			125	.192		21.50	5.70	2	29.20	35.50
0420	No. 1 grade cedar, 2 rail, 3' high			145	.166						
0440	4' high			135	.178						
0460	3 rail, 5' high			130	.185						
0500	6' high			125	.192						
0540	Shadow box, 1" x 6" board, 2" x 4" rail, 4" x 4" post			160	.150		9.25	4.44	1.56	15.25	19.15
0560	Pine, pressure treated, 3 rail, 6' high		B-80C	150	.160	L.F.	28	4.73	1.67	34.40	40.50
0600	Gate, 3'-6" wide			8	3	Ea.	136	88.50	31.50	256	330
0620	No. 1 cedar, 3 rail, 4' high			130	.185	L.F.	19.15	5.45	1.92	26.52	32
0640	6' high			125	.192		26.50	5.70	2	34.20	40.50
0860	Open rail fence, split rails, 2 rail, 3' high, no. 1 cedar			160	.150						
0870	No. 2 cedar			160	.150		8.65	4.44	1.56	14.65	18.50
0880	3 rail, 4' high, no. 1 cedar			150	.160		13.30	4.73	1.67	19.70	24
0890	No. 2 cedar			150	.160		9	4.73	1.67	15.40	19.55
0920	Rustic rails, 2 rail, 3' high, no. 1 cedar			160	.150		13.85	4.44	1.56	19.85	24.50
0930	No. 2 cedar			160	.150		12.70	4.44	1.56	18.70	23
0940	3 rail, 4' high			150	.160		13.85	4.73	1.67	20.25	25
0950	No. 2 cedar		▼	150	.160	▼	8	4.73	1.67	14.40	18.40
0960	Picket fence, gothic, pressure treated pine										
1000	2 rail, 3' high		B-80C	140	.171	L.F.	8.90	5.05	1.79	15.74	20
1020	3 rail, 4' high			130	.185	"	10.95	5.45	1.92	18.32	23

# 32 31 Fences and Gates

## 32 31 29 – Wood Fences and Gates

		Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Costs	Total	Total Incl O&P	
32 31 29.10 Fence, Wood		B-80C	9	2.667	Ea.	77.50	79	28	184.50	245
1040	Gate, 3'-6" wide									
1060	No. 2 cedar, 2 rail, 3' high		140	.171	L.F.	10.30	5.05	1.79	17.14	21.50
1100	3 rail, 4' high		130	.185	"	10.40	5.45	1.92	17.77	22.50
1120	Gate, 3'-6" wide		9	2.667	Ea.	82.50	79	28	189.50	250
1140	No. 1 cedar, 2 rail, 3' high		140	.171	L.F.	14.45	5.05	1.79	21.29	26
1160	3 rail, 4' high		130	.185		20.50	5.45	1.92	27.87	33.50
1200	Rustic picket, molded pine, 2 rail, 3' high		140	.171		9.65	5.05	1.79	16.49	21
1220	No. 1 cedar, 2 rail, 3' high		140	.171		11.60	5.05	1.79	18.44	23
1240	Stockade fence, no. 1 cedar, 3-1/4" rails, 6' high		160	.150		14.05	4.44	1.56	20.05	24.50
1260	8' high		155	.155		20.50	4.58	1.61	26.69	32
1300	No. 2 cedar, treated wood rails, 6' high		160	.150		14.75	4.44	1.56	20.75	25
1320	Gate, 3'-6"-wide		8	.3	Ea.	95.50	88.50	31.50	215.50	286
1360	Treated pine, treated rails, 6' high		160	.150	L.F.	14.85	4.44	1.56	20.85	25.50
1400	8' high		150	.160	"	20.50	4.73	1.67	26.90	32

## 32 31 29.20 Fence, Wood Rail

0010 FENCE, WOOD RAIL		B-1	160	.150	L.F.	8.60	4.27		12.87	16.45
0012	Picket, No. 2 cedar, Gothic, 2 rail, 3' high	B-80C	9	2.667	Ea.	75	79	28	182	242
0050	Gate, 3'-6" wide		150	.160	L.F.	9.65	4.73	1.67	16.05	20
0400	3 rail, 4' high		9	2.667	Ea.	90	79	28	197	259
0500	Gate, 3'-6" wide		160	.150	L.F.	9.55	4.44	1.56	15.55	19.50
1200	Stockade, No. 2 cedar, treated wood rails, 6' high		9	2.667	Ea.	109	79	28	216	280
1250	Gate, 3' wide		160	.150	L.F.	22.50	4.44	1.56	28.50	34
1300	No. 1 cedar, 3-1/4" cedar rails, 6' high		9	2.667	Ea.	250	79	28	357	435
1500	Gate, 3' wide		160	.150	L.F.	16.55	4.44	1.56	22.55	27
2700	Prefabricated redwood or cedar, 4' high		150	.160		23.50	4.73	1.67	29.90	35.50
2800	6' high		160	.150		12.65	4.44	1.56	18.65	23
3300	Board, shadow box, 1" x 6", treated pine, 6' high		150	.160		25	4.73	1.67	31.40	37
3400	No. 1 cedar, 6' high		160	.150		36.50	4.44	1.56	42.50	49
3900	Basket weave, No. 1 cedar, 6' high		9	2.667	Ea.	203	76		279	350
4200	Gate, 3'-6" wide	B-1	2400	.010	L.F.	.28			3.04	3.51
5000	Fence rail, redwood, 2" x 4", merch. grade, 8'									

# 32 32 Retaining Walls

## 32 32 13 – Cast-in-Place Concrete Retaining Walls

### 32 32 13.10 Retaining Walls, Cast Concrete

0010 RETAINING WALLS, CAST CONCRETE		G-17C	36	2.306	L.F.	82.50	86	15.45	183.95	250
1800	Concrete gravity wall with vertical face including excavation & backfill									
1850	No reinforcing									
1900	6' high, level embankment		32	2.594	"	109	97	17.40	223.40	299
2000	33° slope embankment									
2800	Reinforced concrete cantilever, incl. excavation, backfill & reinf.									
2900	6' high, 33° slope embankment	G-17C	35	2.371	L.F.	86	88.50	15.90	190.40	258

## 32 32 23 – Segmental Retaining Walls

### 32 32 23.13 Segmental Conc. Unit Masonry Retaining Walls

0010 SEGMENTAL CONC. UNIT MASONRY RETAINING WALLS		B-62	300	.080	S.F.	14.70	2.44	.59	17.73	21
7100	Segmental retaining wall system, incl. pins and void fill									
7120	base and backfill not included									
7140	Large unit, 8" high x 18" wide x 20" deep, 3 plane split									
7150	Straight split									
7160	Medium, lt. wt., 8" high x 18" wide x 12" deep, 3 plane split		400	.060		7.50	1.83	.44	9.77	11.75

# 32 32 Retaining Walls

## 32 32 23 – Segmental Retaining Walls

32 32 23.13 Segmental Conc. Unit Masonry Retaining Walls	Crew	Daily Output	Labor Hours	Unit	2020 Bare Costs			Total	Total Ind O&P
					Material	Labor	Equipment		
7170 Straight split	B-62	400	.060	S.F.	10.60	1.83	.44	12.87	15.20
7180 Small unit, 4" x 18" x 10" deep, 3 plane split		400	.060		17.25	1.83	.44	19.52	22.50
7190 Straight split		400	.060		12.45	1.83	.44	14.72	17.20
7200 Cap unit, 3 plane split		300	.080		14.70	2.44	.59	17.73	21
7210 Cap unit, straight split		300	.080		14.70	2.44	.59	17.73	21
7250 Geo-grid soil reinforcement 4' x 50'	2 Clab	22500	.001		.80	.02		.82	.91
7255 Geo-grid soil reinforcement 6' x 150'	"	22500	.001		.62	.02		.64	.71

## 32 32 26 – Metal Crib Retaining Walls

### 32 32 26.10 Metal Bin Retaining Walls

0010 METAL BIN RETAINING WALLS	B-13	650	.074	S.F.	29.50	2.21	.89	32.60	36.50
0011 Aluminized steel bin, excavation									
0020 and backfill not included, 10' wide									
0100 4' high, 5.5' deep	B-13	650	.074	S.F.	29.50	2.21	.89	32.60	36.50
0200 8' high, 5.5' deep		615	.078		33.50	2.33	.94	36.77	42
0300 10' high, 7.7' deep		580	.083		37.50	2.48	1	40.98	46
0400 12' high, 7.7' deep		530	.091		40.50	2.71	1.10	44.31	50
0500 16' high, 7.7' deep		515	.093		42.50	2.79	1.13	46.42	52.50

## 32 32 29 – Timber Retaining Walls

### 32 32 29.10 Landscape Timber Retaining Walls

0010 LANDSCAPE TIMBER RETAINING WALLS	1 Clab	265	.030	L.F.	2.76	.84		3.60	4.42
0110 6" x 8"	"	200	.040	"	6.65	1.11		7.76	9.15
0120 Drilling holes in timbers for fastening, 1/2"	1 Carp	450	.018	Inch		.64		.64	1.06
0130 5/8"	"	450	.018	"		.64		.64	1.06
0140 Reinforcing rods for fastening, 1/2"	1 Clab	312	.026	L.F.	.41	.71		1.12	1.63
0150 5/8"	"	312	.026	"	.65	.71		1.36	1.88
0160 Reinforcing fabric	2 Clab	2500	.006	S.Y.	2.22	.18		2.40	2.73
0170 Gravel backfill		28	.571	C.Y.	16.90	15.90		32.80	44.50
0180 Perforated pipe, 4" diameter with silt sock		1200	.013	L.F.	1.05	.37		1.42	1.77
0190 Galvanized 60d common nails	1 Clab	625	.013	Ea.	.21	.36		.57	.81
0200 20d common nails	"	3800	.002	"	.05	.06		.11	.15

## 32 32 53 – Stone Retaining Walls

### 32 32 53.10 Retaining Walls, Stone

0010 RETAINING WALLS, STONE	D-1	35	.457	S.F.	77	14.95		91.95	110
0015 Including excavation, concrete footing and									
0020 stone 3' below grade. Price is exposed face area.									
0200 Decorative random stone, to 6' high, 1'-6" thick, dry set									
0300 Mortar set		40	.400		78.50	13.10		91.60	108
0500 Cut stone, to 6' high, 1'-6" thick, dry set		35	.457		80	14.95		94.95	113
0600 Mortar set		40	.400		80.50	13.10		93.60	110
0800 Random stone, 6' to 10' high, 2" thick, dry set		45	.356		80	11.65		91.65	107
0900 Mortar set		50	.320		83	10.45		93.45	109
1100 Cut stone, 6' to 10' high, 2" thick, dry set		45	.356		80.50	11.65		92.15	108
1200 Mortar set		50	.320		83.50	10.45		93.95	109

# 32 33 Site Furnishings

## 32 33 33 – Site Manufactured Planters

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
32 33 33.10 Planters						Labor	Equipment		
0010	PLANTERS								
0012	Concrete, sandblasted, precast, 48" diameter, 24" high	2 Clab	15	1.067	Ea.	640	29.50	669.50	755
0300	Fiberglass, circular, 36" diameter, 24" high		15	1.067		745	29.50	774.50	870
1200	Wood, square, 48" side, 24" high		15	1.067		1,625	29.50	1,654.50	1,825
1300	Circular, 48" diameter, 30" high		10	1.600		1,125	44.50	1,169.50	1,300
1600	Planter/bench, 72"		5	3.200		3,850	89	3,939	4,375

## 32 33 43 – Site Seating and Tables

### 32 33 43.13 Site Seating

		Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
0010	SITE SEATING								
0012	Seating, benches, park, precast conc., w/backs, wood rails, 4' long	2 Clab	5	3.200	Ea.	610	89	699	815
0100	8' long		4	4		1,125	111	1,236	1,425
0500	Steel barstock pedestals w/backs, 2" x 3" wood rails, 4' long		10	1.600		1,375	44.50	1,419.50	1,600
0510	8' long		7	2.286		1,725	63.50	1,788.50	2,000
0800	Cast iron pedestals, back & arms, wood slats, 4' long		8	2		470	55.50	525.50	610
0820	8' long		5	3.200		1,050	89	1,139	1,300
1700	Steel frame, fir seat, 10' long		10	1.600		410	44.50	454.50	525

# 32 84 Planting Irrigation

## 32 84 23 – Underground Sprinklers

### 32 84 23.10 Sprinkler Irrigation System

		B-20	2000	.012	S.F.	.27	.34	.61	.86
0011	For lawns	"	1800	.013	"	.42	.38	.80	1.08
0800	Residential system, custom, 1" supply								
0900	1-1/2" supply								

# 32 91 Planting Preparation

## 32 91 13 – Soil Preparation

### 32 91 13.16 Mulching

		1 Clab	100	.080	S.Y.	4.12	2.22	6.34	8.20
0100	Aged barks, 3" deep, hand spread	B-63	13.50	2.963	M.S.F.	460	82.50	13.15	555.65
0150	Skid steer loader	"	1500	.027	S.Y.	4.12	.74	.12	4.98
0160	Skid steer loader								5.90
0200	Hay, 1" deep, hand spread	1 Clab	475	.017	"	.51	.47	.98	1.33
0250	Power mulcher, small	B-64	180	.089	M.S.F.	56.50	2.71	2.32	61.53
0350	Large	B-65	530	.030	"	56.50	.92	.99	58.41
0400	Humus peat, 1" deep, hand spread	1 Clab	700	.011	S.Y.	3.27	.32	.359	4.12
0450	Push spreader	"	2500	.003	"	3.27	.09	.336	3.75
0550	Tractor spreader	B-66	700	.011	M.S.F.	365	.41	.35	365.76
0600	Oat straw, 1" deep, hand spread	1 Clab	475	.017	S.Y.	.58	.47	1.05	1.41
0650	Power mulcher, small	B-64	180	.089	M.S.F.	64.50	2.71	2.32	69.53
0700	Large	B-65	530	.030	"	64.50	.92	.99	66.41
0750	Add for asphaltic emulsion	B-45	1770	.009	Gal.	5.90	.28	.47	6.65
0800	Peat moss, 1" deep, hand spread	1 Clab	900	.009	S.Y.	5.15	.25	.540	6.05
0850	Push spreader	"	2500	.003	"	5.15	.09	5.24	5.80
0950	Tractor spreader	B-66	700	.011	M.S.F.	570	.41	.35	570.76
1000	Polyethylene film, 6 mil	2 Clab	2000	.008	S.Y.	.51	.22	.73	.93
1100	Redwood nuggets, 3" deep, hand spread	1 Clab	150	.053	"	3.33	1.48	4.81	6.10
1150	Skid steer loader	B-63	13.50	2.963	M.S.F.	370	82.50	13.15	465.65
1200	Stone mulch, hand spread, ceramic chips, economy	1 Clab	125	.064	S.Y.	7.25	1.78	9.03	10.90

# 32 91 Planting Preparation

## 32 91 13 – Soil Preparation

		Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
						Labor	Equipment	Total		
32 91 13.16 Mulching										
1250	Deluxe	1 Clb	.95	.084	S.Y.	11.40	2.34	13.74	16.40	
1300	Granite chips	B-1	10	2.400	C.Y.	80	68.50	148.50	200	
1400	Marble chips		10	2.400		245	68.50	313.50	380	
1600	Pea gravel		28	.857		115	24.50	139.50	166	
1700	Quartz		10	2.400		197	68.50	265.50	330	
1800	Tar paper, 15 lb. felt	1 Clb	800	.010	S.Y.	.47	.28	.75	.98	
1900	Wood chips, 2" deep, hand spread	"	220	.036	"	1.68	1.01	2.69	3.51	
1950	Skid steer loader	B-63	20.30	1.970	M.S.F.	187	55	8.75	250.75	
									305	

## 32 91 13.26 Planting Beds

0010	PLANTING BEDS									
0100	Backfill planting pit, by hand, on site topsoil	2 Clb	18	.889	C.Y.		24.50		24.50	40.50
0200	Prepared planting mix, by hand	"	24	.667			18.55		18.55	30.50
0300	Skid steer loader, on site topsoil	B-62	340	.071			2.16	.52	2.68	4.11
0400	Prepared planting mix	"	410	.059			1.79	.43	2.22	3.41
1000	Excavate planting pit, by hand, sandy soil	2 Clb	16	1			28		28	45.50
1100	Heavy soil or clay	"	8	2			55.50		55.50	91.50
1200	1/2 C.Y. backhoe, sandy soil	B-11C	150	.107			3.51	1.43	4.94	7.30
1300	Heavy soil or clay	"	115	.139			4.58	1.86	6.44	9.55
2000	Mix planting soil, incl. loam, manure, peat, by hand	2 Clb	60	.267		46.50	7.40		53.90	63
2100	Skid steer loader	B-62	150	.160		46.50	4.89	1.18	52.57	60.50
3000	Pile sod, skid steer loader	"	2800	.009	S.Y.		.26	.06	.32	.50
3100	By hand	2 Clb	400	.040			1.11		1.11	1.83
4000	Remove sod, F.E. loader	B-10S	2000	.004			.15	.21	.36	.48
4100	Sod cutter	B-12K	3200	.005			.17	.30	.47	.60
4200	By hand	2 Clb	240	.067			1.85		1.85	3.04

## 32 91 19 – Landscape Grading

### 32 91 19.13 Topsoil Placement and Grading

0010	TOPSOIL PLACEMENT AND GRADING									
0300	Fine grade, base course for paving, see Section 32 11 23.23									
0701	Furnish and place, truck dumped, unscreened, 4" deep	B-10S	12000	.001	S.F.		.44	.03	.04	.51
0801	6" deep	"	7400	.001	"		.52	.04	.06	.62
0900	Fine grading and seeding, incl. lime, fertilizer & seed,									
1001	With equipment	B-14	9000	.005	S.F.		.08	.16	.02	.26

# 32 92 Turf and Grasses

## 32 92 19 – Seeding

### 32 92 19.13 Mechanical Seeding

0010	MECHANICAL SEEDING									
0020	Mechanical seeding, 215 lb./acre	B-66	1.50	5.333	Acre	595	192	161	948	1,150
0100	44 lb./M.S.Y.	"	2500	.003	S.Y.	.23	.12	.10	.45	.55
0101	44 lb./M.S.Y.	1 Clb	13950	.001	S.F.	.03	.02		.05	.06
0300	Fine grading and seeding incl. lime, fertilizer & seed,									
0310	with equipment	B-14	1000	.048	S.Y.	.47	1.42	.21	2.10	3.08
0400	Fertilizer hand push spreader, 35 lb./M.S.F.	1 Clb	200	.040	M.S.F.	10.70	1.11		11.81	13.60
0600	Limestone hand push spreader, 50 lb./M.S.F.		180	.044		5.60	1.24		6.84	8.20
0800	Grass seed hand push spreader, 4.5 lb./M.S.F.		180	.044		25.50	1.24		26.74	30
1000	Hydro or air seeding for large areas, incl. seed and fertilizer	B-81	8900	.002	S.Y.	.64	.06	.07	.77	.86
1100	With wood fiber mulch added	"	8900	.002	"	2.07	.06	.07	2.20	2.44
1300	Seed only, over 100 lb., field seed, minimum				Lb.	2.08			2.08	2.29
1400	Maximum					1.97			1.97	2.17

# 32 92 Turf and Grasses

## 32 92 19 – Seeding

32 92 19.13 Mechanical Seeding		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs		Total	Total Incl O&P
1500	Lawn seed, minimum				Lb.	1.42			1.42	1.56
1600	Maximum				↓ Acre	2.70			2.70	2.97
1800	Aerial operations, seeding only, field seed	B-58	50	.480	↓ Acre	675	14.65	46	735.65	820
1900	Lawn seed		50	.480		460	14.65	46	520.65	585
2100	Seed and liquid fertilizer, field seed		50	.480		760	14.65	46	820.65	910
2200	Lawn seed		50	.480	↓	545	14.65	46	605.65	675

## 32 92 23 – Sodding

### 32 92 23.10 Sodding Systems

0010 SODDING SYSTEMS		B-63	22	1.818	M.S.F.	223	50.50	8.05	281.55	340
0020	Sodding, 1" deep, bluegrass sod, on level ground, over 8 M.S.F.		17	2.353		286	65.50	10.45	361.95	435
0200	4 M.S.F.				13.50	2.963		335	82.50	13.15
0300	1,000 S.F.							335		430.65
0500	Sloped ground, over 8 M.S.F.		6	6.667		223	185	29.50	437.50	585
0600	4 M.S.F.		5	8		286	222	35.50	543.50	720
0700	1,000 S.F.		4	10		335	278	44.50	657.50	875
1000	Bent grass sod, on level ground, over 6 M.S.F.		20	2		305	55.50	8.90	369.40	435
1100	3 M.S.F.		18	2.222		320	62	9.85	391.85	465
1200	Sodding 1,000 S.F. or less		14	2.857		345	79.50	12.70	437.20	525
1500	Sloped ground, over 6 M.S.F.		15	2.667		305	74	11.85	390.85	470
1600	3 M.S.F.			13.50	2.963	320	82.50	13.15	415.65	505
1700	1,000 S.F.	↓	12	3.333	↓	345	92.50	14.80	452.30	550

# 32 93 Plants

## 32 93 13 – Ground Covers

### 32 93 13.10 Ground Cover Plants

0010 GROUND COVER PLANTS		B-1	15	1.600	C	88.50	45.50		134	172
0012	Plants, pachysandra, in prepared beds		12	2	"	81.50	57		138.50	184
0200	Vinca minor, 1 yr., bare root, in prepared beds				520	.046	Bag	4.78	1.31	6.09
0600	Stone chips, in 50 lb. bags, Georgia marble									7.40
0700	Onyx gemstone		260	.092		16.90	2.63		19.53	23
0800	Quartz		260	.092	↓	17.15	2.63		19.78	23
0900	Pea gravel, truckload lots		28	.857	Ton	11.80	24.50		36.30	53

## 32 93 33 – Shrubs

### 32 93 33.10 Shrubs and Trees

0010 SHRUBS AND TREES		B-17	30	1.067	Ea.	104	33.50	21.50	159	194
0011	Evergreen, in prepared beds, B&B									
0100	Arborvitae pyramidal, 4'-5'	B-17	96	.250		24	7.10		31.10	37.50
0150	Globe, 12"-15"	B-1	18	1.778		241	56	35.50	332.50	395
0300	Cedar, blue, 8'-10'	B-1	36	.667		33	19		52	67.50
0500	Hemlock, Canadian, 2-1/2'-3'				9.68	2.479	294	70.50	364.50	440
0550	Holly, Savannah, 8'-10' H				80	.300	58.50	8.55	67.05	78.50
0600	Juniper, andorra, 18"-24"				80	.300	28.50	8.55		37.05
0620	Wiltoni, 15"-18"				60	.400	111	18.25	11.65	140.90
0640	Skyrocket, 4-1/2'-5'	B-17	44	.545		41	15.55		56.55	71
0660	Blue pfitzer, 2'-2-1/2'	B-1	50	.480		58.50	13.65		72.15	87
0680	Ketleeria, 2-1/2'-3'				50	.480	68	13.65		81.65
0700	Pine, black, 2-1/2'-3'				60	.400	64.50	11.40		75.90
0720	Mugo, 18"-24"	B-17	75	.427		55.50	13.40	8.55	77.45	92.50
0740	White, 4'-5'	B-1	60	.400	↓	71.50	11.40		82.90	97.50
0800	Spruce, blue, 18"-24"									

# 32 93 Plants

## 32 93 33 – Shrubs

32 93 33.10 Shrubs and Trees		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P	
						Labor	Equipment	Total		
0840	Norway, 4'-5'	B-17	75	.427	Ea.	93.50	13.40	8.55	115.45	134
0900	Yew, deniforma, 12"-15"	B-1	60	.400		38.50	11.40		49.90	61
1000	Capitata, 18"-24"		30	.800		34.50	23		57.50	75.50
1100	Hicksi, 2'-2-1/2'		30	.800		102	23		125	150

## 32 93 33.20 Shrubs

0010 SHRUBS										
0011	Broadleaf Evergreen, planted in prepared beds									
0100	Andromeda, 15"-18", cont	B-1	96	.250	Ea.	33.50	7.10		40.60	48.50
0200	Azalea, 15"-18", cont		96	.250		34	7.10		41.10	49
0300	Barberry, 9"-12", cont		130	.185		18.60	5.25		23.85	29
0400	Boxwood, 15"-18", B&B		96	.250		48	7.10		55.10	64
0500	Euonymus, emerald gaiety, 12"-15", cont		115	.209		28	5.95		33.95	41
0600	Holly, 15"-18", B&B		96	.250		41.50	7.10		48.60	57
0900	Mount laurel, 18"-24", B&B		80	.300		76.50	8.55		85.05	98
1000	Paxistema, 9"-12" H		130	.185		23	5.25		28.25	34
1100	Rhododendron, 18"-24", cont		48	.500		39.50	14.25		53.75	67
1200	Rosemary, 1 gal. cont		600	.040		19.80	1.14		20.94	24
2000	Deciduous, planted in prepared beds, amelanchier, 2'-3', B&B		57	.421		132	12		144	165
2100	Azalea, 15"-18", B&B		96	.250		30.50	7.10		37.60	45
2300	Bayberry, 2'-3', B&B		57	.421		35	12		47	58
2600	Cotoneaster, 15"-18", B&B		80	.300		26.50	8.55		35.05	43.50
2800	Dogwood, 3'-4', B&B	B-17	40	.800		36	25	16.05	77.05	98
2900	Euonymus, alatus compacta, 15"-18", cont	B-1	80	.300		28	8.55		36.55	45
3200	Forsythia, 2'-3', cont	"	60	.400		17.65	11.40		29.05	38
3300	Hibiscus, 3'-4', B&B	B-17	75	.427		45	13.40	8.55	66.95	81
3400	Honeysuckle, 3'-4', B&B	B-1	60	.400		29	11.40		40.40	50.50
3500	Hydrangea, 2'-3', B&B	"	57	.421		33	12		45	55.50
3600	Lilac, 3'-4', B&B	B-17	40	.800		22	25	16.05	63.05	82.50
3900	Privet, bare root, 18"-24"	B-1	80	.300		17.50	8.55		26.05	33.50
4100	Quince, 2'-3', B&B	"	57	.421		30.50	12		42.50	53
4200	Russian olive, 3'-4', B&B	B-17	75	.427		26	13.40	8.55	47.95	60.50
4400	Spirea, 3'-4', B&B	B-1	70	.343		21.50	9.75		31.25	39.50
4500	Viburnum, 3'-4', B&B	B-17	40	.800		27	25	16.05	68.05	88.50

## 32 93 43 – Trees

32 93 43.20 Trees											
0010	TREES										
0011	Deciduous, in prep. beds, balled & burlapped (B&B)										
0100	Ash, 2" caliper	G	B-17	8	4	Ea.	213	125	80	418	530
0200	Beech, 5'-6'	G		50	.640		240	20	12.85	272.85	310
0300	Birch, 6'-8', 3 stems	G		20	1.600		175	50	32	257	310
0500	Crabapple, 6'-8'	G		20	1.600		160	50	32	242	294
0600	Dogwood, 4'-5'	G		40	.800		140	25	16.05	181.05	213
0700	Eastern redbud, 4'-5'	G		40	.800		151	25	16.05	192.05	225
0800	Elm, 8'-10'	G		20	1.600		350	50	32	432	505
0900	Ginkgo, 6'-7'	G		24	1.333		161	42	27	230	275
1000	Hawthorn, 8'-10', 1" caliper	G		20	1.600		157	50	32	239	291
1100	Honeylocust, 10'-12', 1-1/2" caliper	G		10	3.200		227	100	64	391	485
1300	Larch, 8'	G		32	1		135	31.50	20	186.50	223
1400	Linden, 8'-10', 1" caliper	G		20	1.600		169	50	32	251	305
1500	Magnolia, 4'-5'	G		20	1.600		118	50	32	200	248
1600	Maple, red, 8'-10', 1-1/2" caliper	G		10	3.200		200	100	64	364	455
1700	Mountain ash, 8'-10', 1" caliper	G		16	2		196	62.50	40	298.50	365

# 32 93 Plants

## 32 93 43 – Trees

32 93 43.20 Trees			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Total	Total Incl O&P
			G	B-17	6	5.333	Ea.	Labor	Equipment	
1800	Oak, 2-1/2"-3" caliper		G		10	3.200		278	100	64
2100	Planetree, 9'-11', 1-1/4" caliper		G		20	1.600		82	50	32
2200	Plum, 6'-8', 1" caliper		G					102	100	64
2300	Poplar, 9'-11', 1-1/4" caliper		G		10	3.200		102	100	64
2500	Sumac, 2'-3'		G		75	.427		45.50	13.40	8.55
2700	Tulip, 5'-6'		G		40	.800		48.50	25	16.05
2800	Willow, 6'-8', 1" caliper		G		20	1.600		103	50	32
									185	231

# 32 94 Planting Accessories

## 32 94 13 – Landscape Edging

### 32 94 13.20 Edging

0010 EDGING			B-1	390	.062	LF.	2.15	1.75	3.90	5.25
0050	Aluminum alloy, including stakes, 1/8" x 4", mill finish									
0051	Black paint									
0052	Black anodized									
0100	Brick, set horizontally, 1-1/2 bricks per L.F.		D-1	370	.043		1.70	1.42	3.12	4.21
0150	Set vertically, 3 bricks per L.F.		"	135	.119		3.80	3.88	7.68	10.60
0200	Corrugated aluminum, roll, 4" wide		1 Carp	650	.012		2.25	.45	2.70	3.21
0250	6" wide		"	550	.015		2.81	.53	3.34	3.95
0600	Railroad ties, 6" x 8"		2 Carp	170	.094		2.48	3.40	5.88	8.35
0650	7" x 9"		"	136	.118		2.75	4.25	7	10.05
0750	Redwood 2" x 4"		"	330	.048		2.31	1.75	4.06	5.40
0800	Steel edge strips, incl. stakes, 1/4" x 5"		B-1	390	.062		4.58	1.75	6.33	7.95
0850	3/16" x 4"		"	390	.062		3.62	1.75	5.37	6.85

## 32 94 50 – Tree Guying

### 32 94 50.10 Tree Guying Systems

0010 TREE GUYING SYSTEMS			2 Clab	35	.457	Ea.	14.15	12.70	26.85	36.50
0015	Tree guying including stakes, guy wire and wrap									
0100	Less than 3" caliper, 2 stakes		"	21	.762	"	20	21	41	57
0200	3" to 4" caliper, 3 stakes									
1000	Including arrowhead anchor, cable, turnbuckles and wrap									
1100	Less than 3" caliper, 3" anchors		2 Clab	20	.800	Ea.	23.50	22	45.50	62
1200	3" to 6" caliper, 4" anchors		"	15	1.067		34	29.50	63.50	85.50
1300	6" caliper, 6" anchors		"	12	1.333		27.50	37	64.50	91
1400	8" caliper, 8" anchors		"	9	1.778		115	49.50	164.50	207

# 32 96 Transplanting

## 32 96 23 – Plant and Bulb Transplanting

### 32 96 23.23 Planting

0010 PLANTING			B-62	28	.857	Ea.	26	6.35	32.35	50
0012	Moving shrubs on site, 12" ball									
0100	24" ball		"	22	1.091	"	33.50	8.05	41.55	63.50

### 32 96 23.43 Moving Trees

0010 MOVING TREES, On site			B-6	3.75	6.400	Ea.	196	57	253	385
0300	Moving trees on site, 36" ball									
0400	60" ball		"	1	24	"	735	214	949	1,425

## Estimating Tips

33 10 00 Water Utilities

33 30 00 Sanitary

Sewerage Utilities

33 40 00 Storm Drainage

Utilities

- Never assume that the water, sewer, and drainage lines will go in at the early stages of the project. Consider the site access needs before dividing the site in half with open trenches, loose pipe, and machinery obstructions. Always inspect the site to establish that the site drawings are complete. Check

off all existing utilities on your drawings as you locate them. Be especially careful with underground utilities because appurtenances are sometimes buried during regrading or repaving operations. If you find any discrepancies, mark up the site plan for further research. Differing site conditions can be very costly if discovered later in the project.

- See also Section 33 01 00 for restoration of pipe where removal/replacement may be undesirable. Use of new types of piping materials can reduce the overall project cost. Owners/design engineers should

consider the installing contractor as a valuable source of current information on utility products and local conditions that could lead to significant cost savings.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

*Note: Not all subdivisions listed here necessarily appear. ■*

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*Note: Trade Service, in part, has been used as a reference source for some of the material prices used in Division 33*

# 33 05 Common Work Results for Utilities

## 33 05 07 – Trenchless Installation of Utility Piping

				Daily Crew Output	Labor-Hours Unit	Material	2020 Bare Costs	Total	Total Incl O&P
				Labor	Equipment				
<b>33 05 07.36 Microtunneling</b>									
0010	<b>MICROTUNNELING</b>								
0011	Not including excavation, backfill, shoring,								
0020	or dewatering, average 50' /day, slurry method								
0100	24" to 48" outside diameter, minimum				L.F.			965	965
0110	Adverse conditions, add				"			500	500
1000	Rent microtunneling machine, average monthly lease				Month			97,500	107,000
1010	Operating technician				Day			630	690
1100	Mobilization and demobilization, minimum				Job			41,200	45,900
1110	Maximum				"			445,500	490,500

## 33 05 61 – Concrete Manholes

### 33 05 61.10 Storm Drainage Manholes, Frames and Covers

0010	<b>STORM DRAINAGE MANHOLES, FRAMES &amp; COVERS</b>								
0020	Excludes footing, excavation, backfill (See line items for frame & cover)								
0050	Brick, 4' inside diameter, 4' deep	B-1	1	16	Ea.	615	525	1,140	1,550
1110	Precast, 4' ID, 4' deep	B-22	4.10	7.317	"	880	223	69	1,172

## 33 05 63 – Concrete Vaults and Chambers

### 33 05 63.13 Precast Concrete Utility Structures

0010	<b>PRECAST CONCRETE UTILITY STRUCTURES, 6" thick</b>								
0050	5' x 10' x 6' high, ID	B-13	2	24	Ea.	1,850	720	290	2,860
0350	Hand hole, precast concrete, 1-1/2" thick								
0400	1'-0" x 2'-0" x 1'-9", ID, light duty	B-1	4	6	Ea.	540	171	711	875
0450	4'-6" x 3'-2" x 2'-0", OD, heavy duty	B-6	3	8	"	1,625	244	71.50	1,940.50

# 33 11 Groundwater Sources

## 33 11 13 – Potable Water Supply Wells

### 33 11 13.10 Wells and Accessories

0010	<b>WELLS &amp; ACCESSORIES</b>								
0011	Domestic								
0100	Drilled, 4" to 6" diameter	B-23	120	.333	L.F.			9.40	13.25
1500	Pumps, installed in wells to 100' deep, 4" submersible								22.65
1520	3/4 HP	Q-1	2.66	6.015	Ea.	795	220		1,015
1600	1 HP	"	2.29	6.987	"	975	255		1,230

# 33 14 Water Utility Transmission and Distribution

## 33 14 13 – Public Water Utility Distribution Piping

### 33 14 13.15 Water Supply, Ductile Iron Pipe

0010	<b>WATER SUPPLY, DUCTILE IRON PIPE</b>								
0020	Not including excavation or backfill								
2000	Pipe, class 50 water piping, 18' lengths								
2020	Mechanical joint, 4" diameter	B-21A	200	.200	L.F.	42.50	6.75	2.14	51.39
2040	6" diameter		160	.250		51	8.45	2.68	62.13
3000	Push-on joint, 4" diameter		400	.100		23	3.38	1.07	27.45
3020	6" diameter		333.33	.120		23.50	4.06	1.29	28.85
8000	Piping, fittings, mechanical joint, AWWA C110								
8006	90° bend, 4" diameter	B-20A	16	2	Ea.	176	65.50		241.50
8020	6" diameter		12.80	2.500		256	81.50		337.50
8200	Wye or tee, 4" diameter		10.67	2.999		390	98		488
8220	6" diameter		8.53	3.751		585	123		708

# 33 14 Water Utility Transmission and Distribution

## 33 14 13 – Public Water Utility Distribution Piping

33 14 13.15 Water Supply, Ductile Iron Pipe			Daily Crew	Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Ind O&P	
8398	45° bend, 4" diameter		B-20A	16	2	Ea.	206	65.50			271.50	335	
8400	6" diameter			12.80	2.500		295	81.50			376.50	460	
8405	8" diameter			10.67	2.999		430	98			528	635	
8450	Decreaser, 6" x 4" diameter			14.22	2.250		262	73.50			335.50	410	
8460	8" x 6" diameter			11.64	2.749		350	90			440	530	
8550	Piping, butterfly valves, cast iron												
8560	4" diameter		B-20	6	4	Ea.	455	114			569	685	
8700	Joint restraint, ductile iron mechanical joints												
8710	4" diameter		B-20A	32	1	Ea.	32.50	32.50			65	89	
8720	6" diameter			25.60	1.250		41	41			82	112	
8730	8" diameter			21.33	1.500		59	49			108	146	
8740	10" diameter			18.28	1.751		102	57			159	207	
8750	12" diameter			16.84	1.900		117	62			179	231	
8760	14" diameter			16	2		177	65.50			242.50	300	
8770	16" diameter			11.64	2.749		190	90			280	355	
8780	18" diameter			11.03	2.901		267	95			362	450	
8785	20" diameter			9.14	3.501		330	114			444	555	
8790	24" diameter			7.53	4.250		450	139			589	725	
9600	Steel sleeve with tap, 4" diameter		B-20	3	8		505	228			733	935	
9620	6" diameter			"	2	12		555	340			895	1,175

## 33 14 13.25 Water Supply, Polyvinyl Chloride Pipe

0010 WATER SUPPLY, POLYVINYL CHLORIDE PIPE												
2100	PVC pipe, Class 150, 1-1/2" diameter		Q-1A	750	.013	L.F.	.61	.55			1.16	1.56
2120	2" diameter			686	.015		.88	.60			1.48	1.95
2140	2-1/2" diameter			500	.020		1.18	.82			2	2.64
2160	3" diameter		B-20	430	.056		1.59	1.59			3.18	4.36
8700	PVC pipe, joint restraint		B-20A	32	1	Ea.	46.50	32.50			79	105
8710	4" diameter			25.60	1.250		58	41			99	131
8720	6" diameter			21.33	1.500		84.50	49			133.50	174
8730	8" diameter			18.28	1.751		139	57			196	247
8740	10" diameter			16.84	1.900		146	62			208	263
8760	14" diameter			16	2		201	65.50			266.50	330
8770	16" diameter			11.64	2.749		270	90			360	445
8780	18" diameter			11.03	2.901		335	95			430	520
8785	20" diameter			9.14	3.501		445	114			559	680
8790	24" diameter			7.53	4.250		515	139			654	795

## 33 14 17 – Site Water Utility Service Laterals

### 33 14 17.15 Tapping, Crosses and Sleeves

0010 TAPPING, CROSSES AND SLEEVES												
4000	Drill and tap pressurized main (labor only)											
4100	6" main, 1" to 2" service		Q-1	3	5.333	Ea.		195			195	320
4150	8" main, 1" to 2" service			"	2.75	5.818	"		213		213	350
4500	Tap and insert gate valve											
4600	8" main, 4" branch		B-21	3.20	8.750	Ea.		262	59	321	495	
4650	6" branch			2.70	10.370			310	70	380	585	
4700	10" main, 4" branch			2.70	10.370			310	70	380	585	
4750	6" branch			2.35	11.915			355	80.50	435.50	675	
4800	12" main, 6" branch			2.35	11.915			355	80.50	435.50	675	

# 33 31 Sanitary Sewerage Piping

## 33 31.11 – Public Sanitary Sewerage Gravity Piping

33 31.11.15 Sewage Collection, Concrete Pipe		Crew	Daily Output	Labor Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Ind O&P
0010 SEWAGE COLLECTION, CONCRETE PIPE											
0020 See Section 33 42 11.60 for sewage/drainage collection, concrete pipe											
<b>33 31.11.25 Sewage Collection, Polyvinyl Chloride Pipe</b>											
0010	SEWAGE COLLECTION, POLYVINYL CHLORIDE PIPE										
0020	Not including excavation or backfill										
2000	20' lengths, SDR 35, B&S, 4" diameter	B-20	375	.064	L.F.	1.67	1.82			3.49	4.83
2040	6" diameter		350	.069		4.05	1.95			6	7.65
2080	13' lengths, SDR 35, B&S, 8" diameter	▼	335	.072		6.70	2.04			8.74	10.70
2120	10" diameter	B-21	330	.085		11.30	2.54	.57		14.41	17.25
4000	Piping, DWV PVC, no exc./bkfill., 10' L, Sch 40, 4" diameter	B-20	375	.064		3.83	1.82			5.65	7.20
4010	6" diameter		350	.069		8.25	1.95			10.20	12.25
4020	8" diameter		335	.072	▼	13.40	2.04			15.44	18.10
4030	Fittings, 1/4 bend DWV PVC, 4" diameter		19	1.263	Ea.	23	36			59	84
4040	6" diameter		12	2		122	57			179	228
4050	8" diameter		11	2.182		122	62			184	236
4060	1/8 bend DWV PVC, 4" diameter		19	1.263		18.95	36			54.95	80
4070	6" diameter		12	2		71.50	57			128.50	172
4080	8" diameter		11	2.182		117	62			179	230
4090	Tee DWV PVC, 4" diameter		12	2		31	57			88	128
4100	6" diameter		10	2.400		126	68.50			194.50	251
4110	8" diameter	▼	9	2.667	▼	293	76			369	450

# 33 34 Onsite Wastewater Disposal

## 33 34.13 – Septic Tanks

33 34.13.13 Concrete Septic Tanks											
0010	CONCRETE SEPTIC TANKS										
0011	Not including excavation or piping										
0015	Septic tanks, precast, 1,000 gallon	B-21	8	3.500	Ea.	1,050	105	23.50	1,178.50	1,375	
0060	1,500 gallon		7	4		1,625	120	27	1,772	2,025	
0100	2,000 gallon	▼	5	5.600		2,500	167	38	2,705	3,075	
0900	Concrete riser 24" x 12" with standard lid	1 Club	6	1.333		87.50	37			124.50	158
0905	24" x 12" with heavy duty lid		6	1.333		111	37			148	183
0910	24" x 8" with standard lid		6	1.333		82	37			119	152
0915	24" x 8" with heavy duty lid		6	1.333		106	37			143	177
0917	24" x 12" extension		12	.667		59	18.55			77.55	95.50
0920	24" x 8" extension		12	.667		53.50	18.55			72.05	89.50
0950	HDPE riser 20" x 12" with standard lid		8	1		135	28			163	194
0951	HDPE 20" x 12" with heavy duty lid		8	1		146	28			174	207
0955	HDPE 24" x 12" with standard lid		8	1		159	28			187	220
0956	HDPE 24" x 12" with heavy duty lid		8	1		164	28			192	227
0960	HDPE 20" x 6" extension		48	.167		29.50	4.63			34.13	40
0962	HDPE 20" x 12" extension		48	.167		51	4.63			55.63	63.50
0965	HDPE 24" x 6" extension		48	.167		37.50	4.63			42.13	49
0967	HDPE 24" x 12" extension		48	.167		60	4.63			64.63	73.50
1150	Leaching field chambers, 13' x 3'-7" x 1'-4", standard	B-13	16	3		500	89.50	36.50	626	735	
1420	Leaching pit, precast concrete, 6' diameter, 3' deep	B-21	4.70	5.957	▼	940	178	40	1,158	1,350	

## 33 34.13.33 Polyethylene Septic Tanks

0010 POLYETHYLENE SEPTIC TANKS											
0015	High density polyethylene, 1,000 gallon	B-21	8	3.500	Ea.	1,475	105	23.50	1,603.50	1,825	
0020	1,250 gallon		8	3.500	▼	1,325	105	23.50	1,453.50	1,650	

# 33 34 Onsite Wastewater Disposal

## 33 34 13 – Septic Tanks

33 34 13.33 Polyethylene Septic Tanks		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs	Labor	Equipment	Total	Total Incl O&P
0025	1,500 gallon	B-21	7	4	Ea.	1,375	120	27	1,522	1,750	

## 33 34 16 – Septic Tank Effluent Filters

### 33 34 16.13 Septic Tank Gravity Effluent Filters

0010 SEPTIC TANK GRAVITY EFFLUENT FILTERS		1 Skwk	8	1	Ea.	44	37	81	109
3000	Effluent filter, 4" diameter	"							
3020	6" diameter	"	7	1.143	"	42.50	42	84.50	117

## 33 34 51 – Drainage Field Systems

### 33 34 51.10 Drainage Field Excavation and Fill

0010 DRAINAGE FIELD EXCAVATION AND FILL		B-12F	145	.110	C.Y.	3.66	4.79	8.45	11.25
2200	Septic tank & drainage field excavation with 3/4 C.Y. backhoe	"	335	.048	L.F.	1.58	2.07	3.65	4.87
2400	4' trench for disposal field, 3/4 C.Y. backhoe	B-6	150	.160	C.Y.	16.90	4.89	1.43	23.22
2600	Gravel fill, run of bank	"	150	.160	"	42	4.89	1.43	48.32
2800	Crushed stone, 3/4"								55.50

### 33 34 51.13 Utility Septic Tank Tile Drainage Field

0010 UTILITY SEPTIC TANK TILE DRAINAGE FIELD		2 Clab	20	.800	Ea.	93.50	22	115.50	140	
0015	Distribution box, concrete, 5 outlets	"	16	1	"	103	28	131	160	
0020	7 outlets	"	8	2	"	545	55.50	600.50	690	
0115	Distribution boxes, HDPE, 5 outlets									
0117	6 outlets		20	.800		76.50	22	98.50	121	
0118	7 outlets		15	1.067		81	29.50	110.50	138	
0120	8 outlets		15	1.067		75	29.50	104.50	132	
0120	8 outlets		10	1.600		79	44.50	123.50	160	
0240	Distribution boxes, outlet flow leveler	1 Clab	50	.160		2.53	4.45	6.98	10.10	
0300	Precast concrete, galley, 4' x 4' x 4'	B-21	16	1.750		246	52.50	11.80	310.30	370
0350	HDPE infiltration chamber 12" H x 15" W	2 Clab	300	.053	L.F.	7	1.48	8.48	10.15	
0351	12" H x 15" W end cap	1 Clab	32	.250	Ea.	18.90	6.95	25.85	32.50	
0355	chamber 12" H x 22" W	2 Clab	300	.053	L.F.	6.65	1.48	8.13	9.80	
0356	12" H x 22" W end cap	1 Clab	32	.250	Ea.	16.60	6.95	23.55	29.50	
0360	chamber 13" H x 34" W	2 Clab	300	.053	L.F.	14.30	1.48	15.78	18.20	
0361	13" H x 34" W end cap	1 Clab	32	.250	Ea.	50.50	6.95	57.45	67.50	
0365	chamber 16" H x 34" W	2 Clab	300	.053	L.F.	19.25	1.48	20.73	23.50	
0366	16" H x 34" W end cap	1 Clab	32	.250	Ea.	16.55	6.95	23.50	29.50	
0370	chamber 8" H x 16" W	2 Clab	300	.053	L.F.	9.90	1.48	11.38	13.35	
0371	8" H x 16" W end cap	1 Clab	32	.250	Ea.	11.10	6.95	18.05	23.50	

# 33 41 Subdrainage

## 33 41 16 – Subdrainage Piping

### 33 41 16.10 Piping, Subdrainage, Vitrified Clay

0010 PIPING, SUBDRAINAGE, VITRIFIED CLAY		B-14	315	.152	L.F.	6.25	4.50	.68	11.43	15.05
0020 Not including excavation and backfill										
1000 Foundation drain, 6" diameter		290		.166		9.30	4.88	.74	14.92	19
1010 8" diameter		275		.175		20	5.15	.78	25.93	31.50
1020 12" diameter		400		.120		4.70	3.54	.53	8.77	11.55
3000 Perforated, 5' lengths, C700, 4" diameter		315		.152		6.65	4.50	.68	11.83	15.50
3020 6" diameter		290		.166		7.25	4.88	.74	12.87	16.80
3040 8" diameter		275		.175		20.50	5.15	.78	26.43	32
3060 12" diameter										

# 33 41 Subdrainage

## 33 41 16 – Subdrainage Piping

				Daily Crew	Labor Output	Hours Unit	Material	2020 Bare Costs		Total	Total Incl O&P
				B-20	380	.063	L.F.	6.40	1.80	8.20	10
0010	<b>PIPING, SUBDRAINAGE, CORRUGATED METAL</b>										
0021	Not including excavation and backfill										
2010	Aluminum, perforated										
2020	6" diameter, 18 ga.			B-20	380	.063	L.F.	6.40	1.80	8.20	10
2200	8" diameter, 16 ga.			"	370	.065		8.80	1.85	10.65	12.75
2220	10" diameter, 16 ga.			B-21	360	.078	↓	11	2.32	.53	13.85
3000	Uncoated galvanized, perforated										
3020	6" diameter, 18 ga.			B-20	380	.063	L.F.	6.65	1.80	8.45	10.25
3200	8" diameter, 16 ga.			"	370	.065		8.10	1.85	9.95	11.95
3220	10" diameter, 16 ga.			B-21	360	.078		8.60	2.32	.53	11.45
3240	12" diameter, 16 ga.			"	285	.098	↓	9.55	2.94	.66	13.15
4000	Steel, perforated, asphalt coated										
4020	6" diameter, 18 ga.			B-20	380	.063	L.F.	6.35	1.80	8.15	9.95
4030	8" diameter, 18 ga.			"	370	.065		9	1.85	10.85	12.95
4040	10" diameter, 16 ga.			B-21	360	.078		10.05	2.32	.53	12.90
4050	12" diameter, 16 ga.			"	285	.098		11.30	2.94	.66	14.90
4060	18" diameter, 16 ga.			↓	205	.137	↓	17.80	4.08	.92	22.80
											27.50

# 33 42 Stormwater Conveyance

## 33 42 11 – Stormwater Gravity Piping

### 33 42 11.60 Sewage/Drainage Collection, Concrete Pipe

				B-14	224	.214	L.F.	8.55	6.30	.95	15.80	21
0010	<b>SEWAGE/DRAINAGE COLLECTION, CONCRETE PIPE</b>											
0020	Not including excavation or backfill											
1020	8" diameter			B-14	224	.214	L.F.	8.55	6.30	.95	15.80	21
1030	10" diameter			"	216	.222	"	9.50	6.55	.99	17.04	22.50
3780	Concrete slotted pipe, class 4 mortar joint											
3800	12" diameter			B-21	168	.167	L.F.	33	4.98	1.13	39.11	45.50
3840	18" diameter			"	152	.184	"	37	5.50	1.24	43.74	51
3900	Concrete slotted pipe, Class 4 O-ring joint											
3940	12" diameter			B-21	168	.167	L.F.	30.50	4.98	1.13	36.61	43
3960	18" diameter			"	152	.184	"	32	5.50	1.24	38.74	45.50

## 33 42 33 – Stormwater Curbside Drains and Inlets

### 33 42 33.13 Catch Basins

0010	<b>CATCH BASINS</b>			B-6	7.80	3.077	Ea.	375	94	27.50	496.50	595
0011	Not including footing & excavation											
1600	Frames & grates, C.I., 24" square, 500 lb.											

# 33 52 Hydrocarbon Transmission and Distribution

## 33 52 16 – Gas Hydrocarbon Piping

### 33 52 16.13 Steel Natural Gas Piping

				Q4	300	.107	L.F.	5.10	4.12	.36	9.58	12.75
0010	<b>STEEL NATURAL GAS PIPING</b>											
0020	Not including excavation or backfill, tar coated and wrapped											
4000	Pipe schedule 40, plain end											
4040	1" diameter											
4080	2" diameter			"	280	.114	"	8	4.41	.38	12.79	16.35

# 33 52 Hydrocarbon Transmission and Distribution

## 33 52 16 – Gas Hydrocarbon Piping

33 52 16.20 Piping, Gas Service and Distribution, P.E.	Crew	Daily Output	Labor-Hours	Unit	Material	2020 Bare Costs			Total	Total Incl O&P
						Labor	Equipment	Total		
<b>0010 PIPING, GAS SERVICE AND DISTRIBUTION, POLYETHYLENE</b>										
0020 Not including excavation or backfill										
1000 60 psi coils, compression coupling @ 100', 1/2" diameter, SDR 11	B-20A	608	.053	L.F.	.49	1.72			2.21	3.36
1010 1" diameter, SDR 11		544	.059		1.14	1.92			3.06	4.40
1040 1-1/4" diameter, SDR 11		544	.059		1.64	1.92			3.56	4.95
1100 2" diameter, SDR 11		488	.066		2.48	2.14			4.62	6.25
1160 3" diameter, SDR 11		408	.078		6.20	2.56			8.76	11
1500 60 psi 40' joints with coupling, 3" diameter, SDR 11	B-21A	408	.098		7.35	3.32	1.05	11.72	14.70	
1540 4" diameter, SDR 11		352	.114		13.35	3.84	1.22	18.41	22.50	
1600 6" diameter, SDR 11		328	.122		35.50	4.13	1.31	40.94	47	
1640 8" diameter, SDR 11		272	.147		54	4.98	1.58	60.56	69.50	

## Division Notes

## Estimating Tips

- When estimating costs for the installation of electrical power generation equipment, factors to review include access to the job site, access and setting up at the installation site, required connections, uncrating pads, anchors, leveling, final assembly of the components, and temporary protection from physical damage, such as environmental exposure.
- Be aware of the costs of equipment supports, concrete pads, and vibration isolators. Cross-reference them against other trades' specifications. Also, review site and structural drawings for items that must be

included in the estimates.

- It is important to include items that are not documented in the plans and specifications but must be priced. These items include, but are not limited to, testing, dust protection, roof penetration, core drilling concrete floors and walls, patching, cleanup, and final adjustments. Add a contingency or allowance for utility company fees for power hookups, if needed.
- The project size and scope of electrical power generation equipment will have a significant impact on cost. The intent of RSMeans cost data is to provide a benchmark cost so that owners, engineers, and electrical contractors

will have a comfortable number with which to start a project. Additionally, there are many websites available to use for research and to obtain a vendor's quote to finalize costs.

## Reference Numbers

Reference numbers are shown at the beginning of some major classifications. These numbers refer to related items in the Reference Section. The reference information may be an estimating procedure, an alternate pricing method, or technical information.

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# 48 15 Wind Energy Electrical Power Generation Equipment

## 48 15 13 – Wind Turbines

		Crew	Daily Output	Labor-Hours	Unit	Material	2020 Labor	Bare Equipment	Total	Total Ind O&P
<b>48 15 13.50 Wind Turbines and Components</b>										
0010 WIND TURBINES & COMPONENTS										
0500	Complete system, grid connected									
1000	20 kW, 31' diam., incl. labor & material	[G]			System				49,900	49,900
2000	2.4 kW, 12' diam., incl. labor & material	[G]			"				18,000	18,000
2900	Component system									
3200	1,000 W, 9' diam.	[G]	1 Elec	2.05	3.902	Ea.	1,800	163	1,963	2,250
3400	Mounting hardware									
3500	30' guyed tower kit	[G]	2 Clab	5.12	3.125	Ea.	415	87	502	600
3505	3' galvanized helical earth screw	[G]	1 Clab	8	1	-	55.50	28	83.50	107
3510	Attic mount kit	[G]	1 Rofc	2.56	3.125	-	224	96.50	320.50	420
3520	Roof mount kit	[G]	1 Clab	3.41	2.346	▼	240	65	305	370
8900	Equipment									
9100	DC to AC inverter for, 48 V, 4,000 W	[G]	1 Elec	2	4	Ea.	2,275	167	2,442	2,775

# Reference Section

All the reference information is in one section, making it easy to find what you need to know and easy to use the data set on a daily basis. This section is visually identified by a vertical black bar on the page edges.

In this Reference Section, we've included Equipment Rental Costs, a listing of rental and operating costs; Crew Listings, a full listing of all crews, equipment, and their costs; Location Factors for adjusting costs to the region you are in; Reference Tables, where you will find explanations, estimating information and procedures, and technical data; an explanation of all the Abbreviations in the data set; and sample Estimating Forms.

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## Estimating Tips

- This section contains the average costs to rent and operate hundreds of pieces of construction equipment. This is useful information when one is estimating the time and material requirements of any particular operation in order to establish a unit or total cost. Bare equipment costs shown on a unit cost line include, not only rental, but also operating costs for equipment under normal use.

## Rental Costs

- Equipment rental rates are obtained from the following industry sources throughout North America: contractors, suppliers, dealers, manufacturers, and distributors.
- Rental rates vary throughout the country, with larger cities generally having lower rates. Lease plans for new equipment are available for periods in excess of six months, with a percentage of payments applying toward purchase.
- Monthly rental rates vary from 2% to 5% of the purchase price of the equipment depending on the anticipated life of the equipment and its wearing parts.
- Weekly rental rates are about 1/3 of the monthly rates, and daily rental rates are about 1/3 of the weekly rate.
- Rental rates can also be treated as reimbursement costs for contractor-owned equipment. Owned equipment costs include depreciation, loan payments, interest, taxes, insurance, storage, and major repairs.

## Operating Costs

- The operating costs include parts and labor for routine servicing, such as the repair and replacement of pumps, filters, and worn lines. Normal operating expendables, such as fuel, lubricants, tires, and electricity (where applicable), are also included.
- Extraordinary operating expendables with highly variable wear patterns, such as diamond bits and blades, are excluded. These costs can be found as material costs in the Unit Price section.
- The hourly operating costs listed do not include the operator's wages.

## Equipment Cost/Day

- Any power equipment required by a crew is shown in the Crew Listings with a daily cost.
- This daily cost of equipment needed by a crew includes both the rental cost and the operating cost and is based on dividing the weekly rental rate by 5 (the number of working days in the week), then adding the hourly operating cost multiplied by 8 (the number of hours in a day). This "Equipment Cost/Day" is shown in the far right column of the Equipment Rental section.
- If equipment is needed for only one or two days, it is best to develop your own cost by including components for daily rent and hourly operating costs. This is important when the listed Crew for a task does not contain the equipment needed, such as a crane for lifting mechanical heating/cooling equipment up onto a roof.

If the quantity of work is less than the crew's Daily Output shown for a Unit Price line item that includes a bare unit equipment cost, the recommendation is to estimate one day's rental cost and operating cost for equipment shown in the Crew Listing for that line item.

- Please note, in some cases the equipment description in the crew is followed by a time period in parenthesis. For example: (daily) or (monthly). In these cases the equipment cost/day is calculated by adding the rental cost per time period to the hourly operating cost multiplied by 8.

## Mobilization, Demobilization Costs

- The cost to move construction equipment from an equipment yard or rental company to the job site and back again is not included in equipment rental costs listed in the Reference Section. It is also not included in the bare equipment cost of any Unit Price line item or in any equipment costs shown in the Crew Listings.
- Mobilization (to the site) and demobilization (from the site) costs can be found in the Unit Price section.
- If a piece of equipment is already at the job site, it is not appropriate to utilize mobilization or demobilization costs again in an estimate. ■

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# 01 54 | Construction Aids

## 01 54 33 | Equipment Rental

			UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY
10	0010 CONCRETE EQUIPMENT RENTAL without operators	R015433 -10	Ea.	.87	38.50	115	345	30
	0200 Bucket, concrete lightweight, 1/2 C.Y.			.98	63.50	190	570	45.80
	0300 1 C.Y.			1.23	60	180	540	45.85
	0400 1-1/2 C.Y.							
	0500 2 C.Y.			1.34	73.50	220	660	54.70
	0580 8 C.Y.			6.47	93.50	280	840	107.75
	0600 Cart, concrete, self-propelled, operator walking, 10 C.F.			2.85	175	525	1,575	127.85
	0700 Operator riding, 18 C.F.			4.81	192	575	1,725	153.45
	0800 Conveyer for concrete, portable, gas, 16" wide, 26' long			10.61	160	480	1,450	180.85
	0900 46' long			10.98	175	525	1,575	192.85
	1000 56' long			11.15	192	575	1,725	204.15
	1100 Core drill, electric, 2-1/2 H.P., 1" to 8" bit diameter			1.56	83.50	250	750	62.50
	1150 11 H.P., 8" to 18" cores			5.38	119	356.32	1,075	114.30
	1200 Finisher, concrete floor, gas, riding trowel, 96" wide			9.64	153	459.60	1,375	169
	1300 Gas, walk-behind, 3 blade, 36" trowel			2.03	96	287.50	865	73.75
	1400 4 blade, 48" trowel			3.06	104	312.50	940	87
	1500 Float, hand-operated (Bull float), 48" wide			.08	12.35	37	111	8.05
	1570 Curb builder, 14 H.P., gas, single screw			14.00	253	760	2,275	263.95
	1590 Double screw			15.00	253	760	2,275	272
	1600 Floor grinder, concrete and terrazzo, electric, 22" path			3.03	134	401.75	1,200	104.60
	1700 Edger, concrete, electric, 7" path			1.18	57.50	172.50	520	43.95
	1750 Vacuum pick-up system for floor grinders, wet/dry			1.61	102	305.71	915	74.05
	1800 Mixer, powered, mortar and concrete, gas, 6 C.F., 18 H.P.			7.39	97	291	875	117.35
	1900 10 C.F., 25 H.P.			8.97	114	342.50	1,025	140.30
	2000 16 C.F.			9.33	144	432.50	1,300	161.15
	2100 Concrete, stationary, tilt drum, 2 C.Y.			7.21	80	240	720	105.70
	2120 Pump, concrete, truck mounted, 4" line, 80' boom			29.79	287	860	2,575	410.35
	2140 5" line, 110' boom			37.34	287	860	2,575	470.75
	2160 Mud jack, 50 C.F. per hr.			6.43	228	685	2,050	188.45
	2180 225 C.F. per hr.			8.52	293	880	2,650	244.15
	2190 Shotcrete pump rig, 12 C.Y./hr.			13.93	223	670	2,000	245.40
	2200 35 C.Y./hr.			15.75	287	860	2,575	298
	2600 Saw, concrete, manual, gas, 18 H.P.			5.52	112	337	1,000	111.55
	2650 Self-propelled, gas, 30 H.P.			7.87	81	242.71	730	111.50
	2675 V-groove crack chaser, manual, gas, 6 H.P.			1.64	100	300	900	73.10
	2700 Vibrators, concrete, electric, 60 cycle, 2 H.P.			.47	73	218.50	655	47.45
	2800 3 H.P.			.56	73.50	221	665	48.70
	2900 Gas engine, 5 H.P.			1.54	16.85	50.61	152	22.45
	3000 8 H.P.			2.08	17.05	51.12	153	26.85
	3050 Vibrating screed, gas engine, 8 H.P.			2.80	88	263.50	790	75.10
	3120 Concrete transit mixer, 6 x 4, 250 H.P., 8 C.Y., rear discharge			50.57	70	210	630	446.55
	3200 Front discharge			58.71	135	405	1,225	550.65
	3300 6 x 6, 285 H.P., 12 C.Y., rear discharge			57.97	150	450	1,350	553.80
	3400 Front discharge			60.41	170	510	1,525	585.25
20	0010 EARTHWORK EQUIPMENT RENTAL without operators	R015433 -10	Ea.					
	0040 Aggregate spreader, push type, 8' to 12' wide			2.59	75	225	675	65.75
	0045 Tailgate type, 8' wide			2.54	63.50	190	570	58.30
	0055 Earth auger, truck mounted, for fence & sign posts, utility poles			13.81	150	450	1,350	200.50
	0060 For borings and monitoring wells			42.52	83.50	250	750	390.20
	0070 Portable, trailer mounted			2.29	100	300	900	78.35
	0075 Truck mounted, for caissons, water wells			85.14	150	450	1,350	771.10
	0080 Horizontal boring machine, 12" to 36" diameter, 45 H.P.			22.70	104	312	935	244
	0090 12" to 48" diameter, 65 H.P.			31.16	108	325	975	314.25
	0095 Auger, for fence posts, gas engine, hand held			.45	84	251.50	755	53.85
	0100 Excavator, diesel hydraulic, crawler mounted, 1/2 C.Y. cap.			21.66	465	1,394.28	4,175	452.10
	0120 5/8 C.Y. capacity			28.95	610	1,833.22	5,500	598.25
	0140 3/4 C.Y. capacity			32.56	725	2,168.88	6,500	694.25
	0150 1 C.Y. capacity			41.09	780	2,333	7,000	795.30

## 01 54 33 | Equipment Rental

		UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY		
20	0200	1-1/2 C.Y. capacity	Ea.	48.44	500	1,500	4,500	687.55	20
	0300	2 C.Y. capacity		56.41	835	2,500	7,500	951.30	
	0320	2-1/2 C.Y. capacity		82.39	1,350	4,027.92	12,100	1,465	
	0325	3-1/2 C.Y. capacity		119.76	2,000	6,000	18,000	2,158	
	0330	4-1/2 C.Y. capacity		151.17	3,675	11,000	33,000	3,409	
	0335	6 C.Y. capacity		191.81	3,225	9,650	29,000	3,464	
	0340	7 C.Y. capacity		174.67	3,400	10,200	30,600	3,437	
	0342	Excavator attachments, bucket thumbs		3.39	258	774.60	2,325	182.05	
	0345	Grapples		3.13	222	666.16	2,000	158.30	
	0346	Hydraulic hammer for boom mounting, 4000 ft lb.		13.44	890	2,670	8,000	641.50	
	0347	5000 ft lb.		15.90	950	2,850	8,550	697.25	
	0348	8000 ft lb.		23.47	1,200	3,600	10,800	907.75	
	0349	12,000 ft lb.		25.64	1,100	3,333	10,000	871.75	
	0350	Gradall type, truck mounted, 3 ton @ 15' radius, 5/8 C.Y.		43.31	835	2,500	7,500	846.50	
	0370	1 C.Y. capacity		59.22	835	2,500	7,500	973.80	
	0400	Backhoe-loader, 40 to 45 H.P., 5/8 C.Y. capacity		11.86	244	732.50	2,200	241.40	
	0450	45 H.P. to 60 H.P., 3/4 C.Y. capacity		17.97	117	350	1,050	213.75	
	0460	80 H.P., 1-1/4 C.Y. capacity		20.30	117	350	1,050	232.40	
	0470	112 H.P., 1-1/2 C.Y. capacity		32.89	610	1,833.22	5,500	629.75	
	0482	Backhoe-loader attachment, compactor, 20,000 lb.		6.42	155	464.76	1,400	144.30	
	0485	Hydraulic hammer, 750 ft lb.		3.67	107	320.17	960	93.40	
	0486	Hydraulic hammer, 1200 ft lb.		6.53	205	614.52	1,850	175.15	
	0500	Brush chipper, gas engine, 6" cutter head, 35 H.P.		9.14	247	740	2,225	221.10	
	0550	Diesel engine, 12" cutter head, 130 H.P.		23.60	340	1,020	3,050	392.80	
	0600	15" cutter head, 165 H.P.		26.51	415	1,239.36	3,725	459.90	
	0750	Bucket, clamshell, general purpose, 3/8 C.Y.		1.40	91.50	275	825	66.15	
	0800	1/2 C.Y.		1.51	91.50	275	825	67.10	
	0850	3/4 C.Y.		1.64	91.50	275	825	68.10	
	0900	1 C.Y.		1.70	91.50	275	825	68.55	
	0950	1-1/2 C.Y.		2.78	91.50	275	825	77.25	
	1000	2 C.Y.		2.91	91.50	275	825	78.30	
	1010	Bucket, dragline, medium duty, 1/2 C.Y.		.82	91.50	275	825	61.55	
	1020	3/4 C.Y.		.78	91.50	275	825	61.25	
	1030	1 C.Y.		.80	91.50	275	825	61.35	
	1040	1-1/2 C.Y.		1.26	91.50	275	825	65.05	
	1050	2 C.Y.		1.29	91.50	275	825	65.30	
	1070	3 C.Y.		2.07	91.50	275	825	71.60	
	1200	Compactor, manually guided 2-drum vibratory smooth roller, 7.5 H.P.		7.20	181	542.50	1,625	166.10	
	1250	Rammer/tamper, gas, 8"		2.20	48	144.59	435	46.50	
	1260	15"		2.62	55	165.25	495	54	
	1300	Vibratory plate, gas, 18" plate, 3000 lb. blow		2.12	24.50	72.81	218	31.55	
	1350	21" plate, 5000 lb. blow		2.61	241	722.50	2,175	165.35	
	1370	Curb builder/extruder, 14 H.P., gas, single screw		13.99	253	760	2,275	263.95	
	1390	Double screw		14.99	253	760	2,275	271.95	
	1500	Disc harrow attachment, for tractor		.47	82.50	246.84	740	53.15	
	1810	Feller buncher, shearing & accumulating trees, 100 H.P.		39.08	460	1,380	4,150	588.60	
	1860	Grader, self-propelled, 25,000 lb.		33.25	1,100	3,333	10,000	932.60	
	1910	30,000 lb.		32.76	1,325	4,000	12,000	1,062	
	1920	40,000 lb.		51.73	1,550	4,667	14,000	1,347	
	1930	55,000 lb.		66.73	1,775	5,333	16,000	1,600	
	1950	Hammer, pavement breaker, self-propelled, diesel, 1000 to 1250 lb.		28.31	600	1,800	5,400	586.50	
	2000	1300 to 1500 lb.		42.67	1,000	3,020.94	9,075	945.55	
	2050	Pile driving hammer, steam or air, 4150 ft lb. @ 225 bpm		12.11	500	1,500	4,500	396.90	
	2100	8750 ft lb. @ 145 bpm		14.30	700	2,100	6,300	534.45	
	2150	15,000 ft lb. @ 60 bpm		14.63	835	2,500	7,500	617.05	
	2200	24,450 ft lb. @ 111 bpm		15.64	965	2,900	8,700	705.15	
	2250	Leads, 60' high for pile driving hammers up to 20,000 ft lb.		3.66	300	900	2,700	209.25	
	2300	90' high for hammers over 20,000 ft lb.		5.43	540	1,620	4,850	367.45	

## 01 54 33 | Equipment Rental

			UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY
20	2350	Diesel type hammer, 22,400 ft lb.	Ea.	17.76	490	1,471.74	4,425	436.45
	2400	41,300 ft lb.		25.61	620	1,859.04	5,575	576.65
	2450	141,000 ft lb.		41.20	980	2,943.48	8,825	918.35
	2500	Vib. elec. hammer/extractor, 200 kW diesel generator, 34 H.P.		41.25	715	2,143.06	6,425	758.60
	2550	80 H.P.		72.81	1,025	3,098.40	9,300	1,202
	2600	150 H.P.		134.74	2,000	5,964.42	17,900	2,271
	2800	Log chipper, up to 22" diameter, 600 H.P.		46.13	305	915	2,750	552
	2850	Logger, for skidding & stacking logs, 150 H.P.		43.40	930	2,785	8,350	904.20
	2860	Mulcher, diesel powered, trailer mounted		17.99	305	915	2,750	326.90
	2900	Rake, spring tooth, with tractor		14.67	370	1,110.26	3,325	339.45
	3000	Roller, vibratory, tandem, smooth drum, 20 H.P.		7.78	320	967	2,900	255.65
	3050	35 H.P.		10.10	260	779.76	2,350	236.75
	3100	Towed type vibratory compactor, smooth drum, 50 H.P.		25.20	520	1,566	4,700	514.75
	3150	Sheepsfoot, 50 H.P.		25.56	385	1,161.90	3,475	436.90
	3170	Landfill compactor, 220 H.P.		69.80	1,650	4,985	15,000	1,555
	3200	Pneumatic tire roller, 80 H.P.		12.88	405	1,213.54	3,650	345.75
	3250	120 H.P.		19.33	665	1,988.14	5,975	552.25
	3300	Sheepsfoot vibratory roller, 240 H.P.		62.02	1,425	4,260.30	12,800	1,348
	3320	340 H.P.		83.57	2,175	6,500	19,500	1,969
	3350	Smooth drum vibratory roller, 75 H.P.		23.27	655	1,962.32	5,875	578.60
	3400	125 H.P.		27.53	740	2,220.52	6,650	664.35
	3410	Rotary mower, brush, 60", with tractor		18.73	360	1,084.44	3,250	366.75
	3420	Rototiller, walk-behind, gas, 5 H.P.		2.13	60	180	540	53.05
	3422	8 H.P.		2.80	132	395	1,175	101.40
	3440	Scrapers, towed type, 7 C.Y. capacity		6.42	127	382.14	1,150	127.80
	3450	10 C.Y. capacity		7.18	170	511.24	1,525	159.70
	3500	15 C.Y. capacity		7.38	196	588.70	1,775	176.75
	3525	Self-propelled, single engine, 14 C.Y. capacity		132.89	2,225	6,660	20,000	2,395
	3550	Dual engine, 21 C.Y. capacity		140.95	2,500	7,500	22,500	2,628
	3600	31 C.Y. capacity		187.28	3,625	10,844.40	32,500	3,667
	3640	44 C.Y. capacity		231.98	4,650	13,942.80	41,800	4,644
	3650	Elevating type, single engine, 11 C.Y. capacity		61.68	1,075	3,200	9,600	1,133
	3700	22 C.Y. capacity		114.28	1,625	4,850	14,600	1,884
	3710	Screening plant, 110 H.P. w/5' x 10' screen		21.07	645	1,933	5,800	555.15
	3720	5' x 16' screen		26.60	1,325	4,000	12,000	1,013
	3850	Shovel, crawler-mounted, front-loading, 7 C.Y. capacity		218.00	3,925	11,773.92	35,300	4,099
	3855	12 C.Y. capacity		335.89	5,450	16,318.24	49,000	5,951
	3860	Shovel/backhoe bucket, 1/2 C.Y.		2.68	73	218.95	655	65.25
	3870	3/4 C.Y.		2.66	82	245.81	735	70.40
	3880	1 C.Y.		2.75	91	272.66	820	76.50
	3890	1-1/2 C.Y.		2.94	107	320.17	960	87.60
	3910	3 C.Y.		3.43	145	433.78	1,300	114.15
	3950	Stump chipper, 18" deep, 30 H.P.		6.88	232	697	2,100	194.45
	4110	Dozer, crawler, torque converter, diesel 80 H.P.		25.18	335	1,000	3,000	401.40
	4150	105 H.P.		34.23	600	1,800	5,400	633.85
	4200	140 H.P.		41.15	720	2,166	6,500	762.40
	4260	200 H.P.		62.97	1,675	5,000	15,000	1,504
	4310	300 H.P.		80.49	1,875	5,600	16,800	1,764
	4360	410 H.P.		106.42	3,200	9,630	28,900	2,777
	4370	500 H.P.		132.98	3,900	11,670	35,000	3,398
	4380	700 H.P.		229.47	5,475	16,421.52	49,300	5,120
	4400	Loader, crawler, torque conv., diesel, 1-1/2 C.Y., 80 H.P.		29.45	550	1,651	4,950	565.80
	4450	1-1/2 to 1-3/4 C.Y., 95 H.P.		30.18	695	2,091.42	6,275	659.75
	4510	1-3/4 to 2-1/4 C.Y., 130 H.P.		47.61	965	2,900	8,700	960.90
	4530	2-1/2 to 3-1/4 C.Y., 190 H.P.		57.61	1,175	3,540	10,600	1,169
	4560	3-1/2 to 5 C.Y., 275 H.P.		71.19	1,525	4,595.96	13,800	1,489
	4610	Front end loader, 4WD, articulated frame, diesel, 1 to 1-1/4 C.Y., 70 H.P.		16.58	282	846.90	2,550	302
	4620	1-1/2 to 1-3/4 C.Y., 95 H.P.		19.94	440	1,320	3,950	423.50

## 01 54 33 | Equipment Rental

		UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY		
20	4650	1-3/4 to 2 C.Y., 130 H.P.	Ea.	21.00	395	1,187.72	3,575	405.55	20
	4710	2-1/2 to 3-1/2 C.Y., 145 H.P.		29.44	780	2,333	7,000	702.10	
	4730	3 to 4-1/2 C.Y., 185 H.P.		31.99	890	2,667	8,000	789.35	
	4760	5-1/4 to 5-3/4 C.Y., 270 H.P.		53.03	890	2,666	8,000	957.50	
	4810	7 to 9 C.Y., 475 H.P.		90.90	2,550	7,667	23,000	2,261	
	4870	9 to 11 C.Y., 620 H.P.		131.52	2,700	8,107.48	24,300	2,674	
	4880	Skid-steer loader, wheeled, 10 C.F., 30 H.P. gas		9.54	169	506.07	1,525	177.55	
	4890	1 C.Y., 78 H.P., diesel		18.38	420	1,265.18	3,800	400.10	
	4892	Skid-steer attachment, auger		.74	145	433.50	1,300	92.65	
	4893	Backhoe		.74	122	366.64	1,100	79.25	
	4894	Broom		.70	140	420.25	1,250	89.70	
	4895	Forks		.15	32	96	288	20.45	
	4896	Grapple		.72	88.50	265.25	795	58.80	
	4897	Concrete hammer		1.05	183	550	1,650	118.40	
	4898	Tree spade		.60	103	309.84	930	66.75	
	4899	Trencher		.65	102	305	915	66.20	
	4900	Trencher, chain, boom type, gas, operator walking, 12 H.P.		4.16	206	618.25	1,850	156.95	
	4910	Operator riding, 40 H.P.		16.64	450	1,343.75	4,025	401.85	
	5000	Wheel type, diesel, 4' deep, 12" wide		68.50	965	2,891.84	8,675	1,126	
	5100	6' deep, 20" wide		87.32	1,050	3,127.50	9,375	1,324	
	5150	Chain type, diesel, 5' deep, 8" wide		16.25	360	1,084.44	3,250	346.90	
	5200	Diesel, 8' deep, 16" wide		89.39	1,925	5,783.68	17,400	1,872	
	5202	Rock trencher, wheel type, 6" wide x 18" deep		46.98	90	270	810	429.85	
	5206	Chain type, 18" wide x 7' deep		104.38	283	850	2,550	1,005	
	5210	Tree spade, self-propelled		13.65	230	690	2,075	247.20	
	5250	Truck, dump, 2-axle, 12 ton, 8 C.Y. payload, 220 H.P.		23.88	395	1,185	3,550	428.05	
	5300	Three axle dump, 16 ton, 12 C.Y. payload, 400 H.P.		44.50	360	1,084.44	3,250	572.90	
	5310	Four axle dump, 25 ton, 18 C.Y. payload, 450 H.P.		49.85	525	1,575.02	4,725	713.80	
	5350	Dump trailer only, rear dump, 16-1/2 C.Y.		5.73	151	454.43	1,375	136.70	
	5400	20 C.Y.		6.18	170	511.24	1,525	151.70	
	5450	Flatbed, single axle, 1-1/2 ton rating		19.00	73.50	221.02	665	196.15	
	5500	3 ton rating		23.05	1,050	3,180	9,550	820.40	
	5550	Off highway rear dump, 25 ton capacity		62.67	1,475	4,389.40	13,200	1,379	
	5600	35 ton capacity		66.90	665	2,000	6,000	935.20	
	5610	50 ton capacity		83.87	1,825	5,499.66	16,500	1,771	
	5620	65 ton capacity		89.56	2,000	5,990.24	18,000	1,915	
	5630	100 ton capacity		121.24	2,950	8,830.44	26,500	2,736	
	6000	Vibratory plow, 25 H.P., walking		6.77	300	900	2,700	234.20	
40	0010	GENERAL EQUIPMENT RENTAL without operators	R015433 -10						40
	0020	Aerial lift, scissor type, to 20' high, 1200 lb. capacity, electric	Ea.	3.48	129	385.75	1,150	105	
	0030	To 30' high, 1200 lb. capacity		3.77	203	607.67	1,825	151.70	
	0040	Over 30' high, 1500 lb. capacity		5.13	243	727.50	2,175	186.60	
	0070	Articulating boom, to 45' high, 500 lb. capacity, diesel	R015433 -15						
	0075	To 60' high, 500 lb. capacity		9.92	250	750	2,250	229.35	
				13.66	300	900	2,700	289.25	
	0080	To 80' high, 500 lb. capacity		16.05	900	2,702.25	8,100	668.85	
	0085	To 125' high, 500 lb. capacity		18.34	1,525	4,603.50	13,800	1,067	
	0100	Telescoping boom to 40' high, 500 lb. capacity, diesel		11.24	315	945	2,825	278.90	
	0105	To 45' high, 500 lb. capacity		12.51	320	965	2,900	293.05	
	0110	To 60' high, 500 lb. capacity		16.36	300	900	2,700	310.90	
	0115	To 80' high, 500 lb. capacity		21.27	355	1,067	3,200	383.55	
	0120	To 100' high, 500 lb. capacity		28.71	865	2,587.75	7,775	747.25	
	0125	To 120' high, 500 lb. capacity		29.16	1,450	4,348.50	13,000	1,103	
	0195	Air compressor, portable, 6.5 CFM, electric		.90	44.50	133	400	33.80	
	0196	Gasoline		.65	56	167.50	505	38.70	
	0200	Towed type, gas engine, 60 CFM		9.43	129	387.50	1,175	152.95	
	0300	160 CFM		10.47	198	595	1,775	202.80	
	0400	Diesel engine, rotary screw, 250 CFM		12.08	175	524	1,575	201.50	
	0500	365 CFM		16.00	310	937	2,800	315.40	

## 01 54 33 | Equipment Rental

			UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY
40	0550	450 CFM	Ea.	19.95	277	832.25	2,500	326.05
	0600	600 CFM		34.10	248	743.62	2,225	421.50
	0700	750 CFM		34.62	435	1,306.50	3,925	538.25
	0930	Air tools, breaker, pavement, 60 lb.		.57	81.50	245	735	53.50
	0940	80 lb.		.56	81	242.50	730	53
	0950	Drills, hand (jackhammer), 65 lb.		.67	68	203.50	610	46.05
	0960	Track or wagon, swing boom, 4" drifter		54.66	1,025	3,104	9,300	1,058
	0970	5" drifter		63.30	1,025	3,104	9,300	1,127
	0975	Track mounted quarry drill, 6" diameter drill		101.91	1,900	5,665	17,000	1,948
	0980	Dust control per drill		1.04	25	75.50	227	23.40
	0990	Hammer, chipping, 12 lb.		.60	46	138	415	32.40
	1000	Hose, air with couplings, 50' long, 3/4" diameter		.07	12	36	108	7.75
	1100	1" diameter		.08	12.35	37	111	8
	1200	1-1/2" diameter		.22	37.50	112.50	340	24.25
	1300	2" diameter		.24	45	135	405	28.90
	1400	2-1/2" diameter		.36	57.50	172.50	520	37.35
	1410	3" diameter		.42	58.50	175	525	38.35
	1450	Drill, steel, 7/8" x 2'		.08	12.90	38.73	116	8.40
	1460	7/8" x 6'		.12	19.60	58.87	177	12.70
	1520	Moil points		.03	7	21	63	4.40
	1525	Pneumatic nailer w/accessories		.48	39.50	118	355	27.40
	1530	Sheeting driver for 60 lb. breaker		.04	7.75	23.24	69.50	5
	1540	For 90 lb. breaker		.13	10.50	31.50	94.50	7.35
	1550	Spade, 25 lb.		.50	7.40	22.21	66.50	8.45
	1560	Tamper, single, 35 lb.		.59	48.50	145.75	435	33.85
	1570	Triple, 140 lb.		.89	61.50	184.87	555	44.05
	1580	Wrenches, impact, air powered, up to 3/4" bolt		.43	49.50	148.25	445	33.05
	1590	Up to 1-1/4" bolt		.58	79.50	238.50	715	52.30
	1600	Barricades, barrels, reflectorized, 1 to 99 barrels		.03	4	12	36	2.65
	1610	100 to 200 barrels		.02	4.41	13.22	39.50	2.85
	1620	Barrels with flashers, 1 to 99 barrels		.03	6.40	19.16	57.50	4.10
	1630	100 to 200 barrels		.03	5.10	15.34	46	3.30
	1640	Barrels with steady burn type C lights		.05	8.45	25.30	76	5.45
	1650	Illuminated board, trailer mounted, with generator		3.28	139	418.28	1,250	109.85
	1670	Portable barricade, stock, with flashers, 1 to 6 units		.03	6.35	19.11	57.50	4.10
	1680	25 to 50 units		.03	5.95	17.82	53.50	3.85
	1685	Butt fusion machine, wheeled, 1.5 HP electric, 2" - 8" diameter pipe		2.63	225	675	2,025	156.05
	1690	Tracked, 20 HP diesel, 4"-12" diameter pipe		11.23	560	1,685	5,050	426.85
	1695	83 HP diesel, 8" - 24" diameter pipe		51.32	1,100	3,325	9,975	1,076
	1700	Carts, brick, gas engine, 1000 lb. capacity		2.94	65	195	585	62.55
	1800	1500 lb., 7-1/2' lift		2.92	69.50	208	625	64.95
	1822	Dehumidifier, medium, 6 lb./hr., 150 CFM		1.19	76.50	229.28	690	55.35
	1824	Large, 18 lb./hr., 600 CFM		2.19	585	1,750	5,250	367.55
	1830	Distributor, asphalt, trailer mounted, 2000 gal., 38 H.P. diesel		10.99	355	1,058.62	3,175	299.65
	1840	3000 gal., 38 H.P. diesel		12.87	380	1,136.08	3,400	330.15
	1850	Drill, rotary hammer, electric		1.11	71.50	214	640	51.70
	1860	Carbide bit, 1-1/2" diameter, add to electric rotary hammer		.03	41.50	125	375	25.25
	1865	Rotary, crawler, 250 H.P.		135.77	2,300	6,868.12	20,600	2,460
	1870	Emulsion sprayer, 65 gal., 5 H.P. gas engine		2.77	107	320.17	960	86.15
	1880	200 gal., 5 H.P. engine		7.22	179	537.06	1,600	165.20
	1900	Floor auto-scrubbing machine, walk-behind, 28" path		5.62	222	667	2,000	178.40
	1930	Floodlight, mercury vapor, or quartz, on tripod, 1000 watt		.46	36.50	110	330	25.65
	1940	2000 watt		.59	28	84.69	254	21.65
	1950	Floodlights, trailer mounted with generator, 1 - 300 watt light		3.54	78.50	235.48	705	75.45
	1960	2 - 1000 watt lights		4.49	87.50	262.33	785	88.35
	2000	4 - 300 watt lights		4.24	100	299.51	900	93.85
	2005	Foam spray rig, incl. box trailer, compressor, generator, proportioner		25.46	535	1,600.84	4,800	523.85
	2015	Forklift, pneumatic tire, rough terr, straight mast, 5000 lb, 12' lift, gas		18.59	219	655.83	1,975	279.90

## 01 54 33 | Equipment Rental

		UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY	
40	2025	8000 lb, 12' lift	Ea.	22.68	360	1,084.44	3,250	398.35
	2030	5000 lb, 12' lift, diesel		15.41	244	733.29	2,200	269.90
	2035	8000 lb, 12' lift, diesel		16.70	277	831.40	2,500	299.90
	2045	All terrain, telescoping boom, diesel, 5000 lb, 10' reach, 19' lift		17.20	233	700	2,100	277.60
	2055	6600 lb, 29' reach, 42' lift		21.04	233	700	2,100	308.30
	2065	10,000 lb, 31' reach, 45' lift		23.03	315	950	2,850	374.20
	2070	Cushion tire, smooth floor, gas, 5000 lb capacity		8.23	247	741.50	2,225	214.10
	2075	8000 lb capacity		11.33	275	826.25	2,475	255.90
	2085	Diesel, 5000 lb capacity		7.73	210	629.25	1,900	187.65
	2090	12,000 lb capacity		12.01	400	1,194.50	3,575	335
	2095	20,000 lb capacity		17.20	660	1,980	5,950	533.60
	2100	Generator, electric, gas engine, 1.5 kW to 3 kW		2.57	46.50	140	420	48.55
	2200	5 kW		3.21	91	272.50	820	80.15
	2300	10 kW		5.91	108	322.50	970	111.80
	2400	25 kW		7.38	405	1,210	3,625	301.10
	2500	Diesel engine, 20 kW		9.18	229	687.50	2,075	210.95
	2600	50 kW		15.90	370	1,110	3,325	349.20
	2700	100 kW		28.51	445	1,340.50	4,025	496.20
	2800	250 kW		54.19	750	2,249.33	6,750	883.40
	2850	Hammer, hydraulic, for mounting on boom, to 500 ft lb.		2.89	93.50	279.89	840	79.10
	2860	1000 ft lb.		4.59	139	418.28	1,250	120.40
	2900	Heaters, space, oil or electric, 50 MBH		1.46	46.50	140	420	39.65
	3000	100 MBH		2.71	46.50	140	420	49.70
	3100	300 MBH		7.90	135	405	1,225	144.20
	3150	500 MBH		13.12	200	600	1,800	224.95
	3200	Hose, water, suction with coupling, 20' long, 2" diameter		.02	5.65	17	51	3.55
	3210	3" diameter		.03	14.15	42.50	128	8.75
	3220	4" diameter		.03	28	84	252	17.05
	3230	6" diameter		.11	40.50	121.50	365	25.20
	3240	8" diameter		.27	53.50	160	480	34.15
	3250	Discharge hose with coupling, 50' long, 2" diameter		.01	6.50	19.50	58.50	4
	3260	3" diameter		.01	7.35	22	66	4.50
	3270	4" diameter		.02	21	62.50	188	12.65
	3280	6" diameter		.06	29	87	261	17.90
	3290	8" diameter		.24	37.50	112.50	340	24.40
	3295	Insulation blower		.83	117	350	1,050	76.65
	3300	Ladders, extension type, 16' to 36' long		.18	41.50	125	375	26.45
	3400	40' to 60' long		.64	120	360.50	1,075	77.20
	3405	Lance for cutting concrete		2.20	65	195	585	56.60
	3407	Lawn mower, rotary, 22", 5 H.P.		1.05	38.50	115	345	31.40
	3408	48" self-propelled		2.89	138	415	1,250	106.10
	3410	Level, electronic, automatic, with tripod and leveling rod		1.05	37.50	112	335	30.80
	3430	Laser type, for pipe and sewer line and grade		2.17	117	350	1,050	87.35
	3440	Rotating beam for interior control		.90	64	192.50	580	45.70
	3460	Builder's optical transit, with tripod and rod		.10	37.50	112	335	23.20
	3500	Light towers, towable, with diesel generator, 2000 watt		4.25	101	303.64	910	94.75
	3600	4000 watt		4.50	165	495	1,475	135
	3700	Mixer, powered, plaster and mortar, 6 C.F., 7 H.P.		2.05	83.50	250	750	66.40
	3800	10 C.F., 9 H.P.		2.24	124	372.50	1,125	92.40
	3850	Nailer, pneumatic		.48	33.50	100.18	300	23.85
	3900	Paint sprayers complete, 8 CFM		.85	61.50	184.87	555	43.75
	4000	17 CFM		1.60	110	330.50	990	78.85
	4020	Pavers, bituminous, rubber tires, 8' wide, 50 H.P., diesel		31.93	570	1,704.12	5,100	596.25
	4030	10' wide, 150 H.P.		95.62	1,950	5,835.32	17,500	1,932
	4050	Crawler, 8' wide, 100 H.P., diesel		87.59	2,050	6,170.98	18,500	1,935
	4060	10' wide, 150 H.P.		103.97	2,350	7,048.86	21,100	2,241
	4070	Concrete paver, 12' to 24' wide, 250 H.P.		87.62	1,675	5,060.72	15,200	1,713
	4080	Placer-spreader-trimmer, 24' wide, 300 H.P.	↓	117.51	2,550	7,668.54	23,000	2,474

## 01 54 33 | Equipment Rental

			UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY
40	4100	Pump, centrifugal gas pump, 1-1/2" diam., 65 GPM	Ea.	3.92	54	162.15	485	63.80
	4200	2" diameter, 130 GPM		4.98	44	132.50	400	66.35
	4300	3" diameter, 250 GPM		5.12	56	167.50	505	74.45
	4400	6" diameter, 1500 GPM		22.24	91.50	275	825	232.90
	4500	Submersible electric pump, 1-1/4" diameter, 55 GPM		.40	36	107.50	325	24.70
	4600	1-1/2" diameter, 83 GPM		.44	43.50	130	390	29.55
	4700	2" diameter, 120 GPM		1.64	61.50	185	555	50.15
	4800	3" diameter, 300 GPM		3.03	109	327.50	985	89.75
	4900	4" diameter, 560 GPM		14.75	61.50	185	555	155
	5000	6" diameter, 1590 GPM		22.08	65	195	585	215.60
	5100	Diaphragm pump, gas, single, 1-1/2" diameter		1.13	38.50	115	345	32
	5200	2" diameter		3.98	91.50	275	825	86.80
	5300	3" diameter		4.05	95	285	855	89.40
	5400	Double, 4" diameter		6.03	95	285	855	105.25
	5450	Pressure washer 5 GPM, 3000 psi		3.87	110	330	990	96.95
	5460	7 GPM, 3000 psi		4.94	85	255	765	90.50
	5500	Trash pump, self-priming, gas, 2" diameter		3.82	108	325	975	95.55
	5600	Diesel, 4" diameter		6.68	162	485	1,450	150.40
	5650	Diesel, 6" diameter		16.85	162	485	1,450	231.80
	5655	Grout Pump		18.70	281	841.73	2,525	317.90
	5700	Salamanders, L.P. gas fired, 100,000 BTU		2.88	57.50	172.50	520	57.55
	5705	50,000 BTU		1.66	23.50	71	213	27.50
	5720	Sandblaster, portable, open top, 3 C.F. capacity		.60	132	395	1,175	83.80
	5730	6 C.F. capacity		1.00	132	395	1,175	87
	5740	Accessories for above		.14	24	71.26	214	15.35
	5750	Sander, floor		.77	73.50	220	660	50.15
	5760	Edger		.52	35	105	315	25.15
	5800	Saw, chain, gas engine, 18" long		1.75	63.50	190	570	52
	5900	Hydraulic powered, 36" long		.78	58.50	175	525	41.25
	5950	60" long		.78	65	195	585	45.25
	6000	Masonry, table mounted, 14" diameter, 5 H.P.		1.32	76.50	230	690	56.55
	6050	Portable cut-off, 8 H.P.		1.81	77.50	232.50	700	61
	6100	Circular, hand held, electric, 7-1/4" diameter		.23	13.85	41.50	125	10.10
	6200	12" diameter		.24	41	122.50	370	26.40
	6250	Wall saw, w/hydraulic power, 10 H.P.		3.29	98.50	296	890	85.50
	6275	Shot blaster, walk-behind, 20" wide		4.73	281	841.73	2,525	206.20
	6280	Sidewalk broom, walk-behind		2.24	82.50	247.87	745	67.50
	6300	Steam cleaner, 100 gallons per hour		3.34	82.50	247.87	745	76.30
	6310	200 gallons per hour		4.33	100	299.51	900	94.55
	6340	Tar Kettle/Pot, 400 gallons		16.48	127	380	1,150	207.85
	6350	Torch, cutting, acetylene-oxygen, 150' hose, excludes gases		.45	15.30	45.96	138	12.80
	6360	Hourly operating cost includes tips and gas		20.92	7	20.98	63	171.55
	6410	Toilet, portable chemical		.13	23	69.20	208	14.90
	6420	Recycle flush type		.16	28.50	85.72	257	18.45
	6430	Toilet, fresh water flush, garden hose,		.19	34	102.25	305	22
	6440	Hoisted, non-flush, for high rise		.16	28	83.66	251	18
	6465	Tractor, farm with attachment		17.37	390	1,172.50	3,525	373.40
	6480	Trailers, platform, flush deck, 2 axle, 3 ton capacity		1.69	94.50	284	850	70.30
	6500	25 ton capacity		6.23	143	428.61	1,275	135.55
	6600	40 ton capacity		8.04	203	609.35	1,825	186.20
	6700	3 axle, 50 ton capacity		8.72	225	676.48	2,025	205.05
	6800	75 ton capacity		11.08	300	898.54	2,700	268.30
	6810	Trailer mounted cable reel for high voltage line work		5.89	28.50	85	255	64.10
	6820	Trailer mounted cable tensioning rig		11.67	28.50	85	255	110.40
	6830	Cable pulling rig		73.77	28.50	85	255	607.15
	6850	Portable cable/wire puller, 8000 lb max pulling capacity		3.70	120	360	1,075	101.60
	6900	Water tank trailer, engine driven discharge, 5000 gallons		7.16	158	475.09	1,425	152.25
	6925	10,000 gallons		9.75	215	645.50	1,925	207.10

**01 54 | Construction Aids**

<b>01 54 33   Equipment Rental</b>		<b>UNIT</b>	<b>HOURLY OPER. COST</b>	<b>RENT PER DAY</b>	<b>RENT PER WEEK</b>	<b>RENT PER MONTH</b>	<b>EQUIPMENT COST/DAY</b>
40	6950 Water truck, off highway, 6000 gallons	Ea.	71.75	835	2,504.54	7,525	1,075
	7010 Tram car for high voltage line work, powered, 2 conductor		6.88	28.50	85	255	72.05
	7020 Transit (builder's level) with tripod		.10	17.55	52.67	158	11.30
	7030 Trench box, 3000 lb., 6' x 8'		.56	96.50	290.22	870	62.50
	7040 7200 lb., 6' x 20'		.72	187	560	1,675	117.75
	7050 8000 lb., 8' x 16'		1.08	186	557.71	1,675	120.15
	7060 9500 lb., 8' x 20'		1.20	232	697.14	2,100	149.05
	7065 11,000 lb., 8' x 24'		1.26	219	655.83	1,975	141.25
	7070 12,000 lb., 10' x 20'		1.49	263	790.09	2,375	169.95
	7100 Truck, pickup, 3/4 ton, 2 wheel drive		9.24	61.50	184.87	555	110.85
	7200 4 wheel drive		9.48	167	500	1,500	175.85
	7250 Crew carrier, 9 passenger		12.66	108	325	975	166.25
	7290 Flat bed truck, 20,000 lb. GVW		15.26	133	397.63	1,200	201.60
	7300 Tractor, 4 x 2, 220 H.P.		22.25	215	645.50	1,925	307.10
	7410 330 H.P.		32.33	294	883.04	2,650	435.25
	7500 6 x 4, 380 H.P.		36.09	340	1,022.47	3,075	493.25
	7600 450 H.P.		44.23	415	1,239.36	3,725	601.75
	7610 Tractor, with A frame, boom and winch, 225 H.P.		24.74	293	877.88	2,625	373.50
	7620 Vacuum truck, hazardous material, 2500 gallons		12.79	310	929.52	2,800	288.25
	7625 5,000 gallons		13.02	440	1,316.82	3,950	367.55
	7650 Vacuum, HEPA, 16 gallon, wet/dry		.85	122	365	1,100	79.80
	55 gallon, wet/dry		.78	25.50	76.50	230	21.50
	7660 Water tank, portable		.73	160	480.25	1,450	101.90
	7690 Sewer/catch basin vacuum, 14 C.Y., 1500 gallons		17.31	665	1,988.14	5,975	536.15
	7700 Welder, electric, 200 amp		3.81	33.50	100	300	50.50
	7800 300 amp		5.55	103	310	930	106.40
	7900 Gas engine, 200 amp		8.95	58.50	175	525	106.55
	8000 300 amp		10.13	110	330	990	147
	8100 Wheelbarrow, any size		.06	11.15	33.50	101	7.20
	8200 Wrecking ball, 4000 lb.		2.50	60	180	540	56
50	0010 HIGHWAY EQUIPMENT RENTAL without operators	R015433 -10					
	0050 Asphalt batch plant, portable drum mixer, 100 ton/hr.	Ea.	88.41	1,550	4,621.78	13,900	1,632
	0060 200 ton/hr.		101.99	1,650	4,931.62	14,800	1,802
	0070 300 ton/hr.		119.86	1,925	5,783.68	17,400	2,116
	0100 Backhoe attachment, long stick, up to 185 H.P., 10.5' long		.37	25.50	76.43	229	18.25
	0140 Up to 250 H.P., 12' long		.41	28.50	85.72	257	20.45
	0180 Over 250 H.P., 15' long		.56	39	116.71	350	27.85
	0200 Special dipper arm, up to 100 H.P., 32' long		1.16	79.50	238.58	715	56.95
	0240 Over 100 H.P., 33' long		1.44	100	299.51	900	71.45
	0280 Catch basin/sewer clearing truck, 3 ton, 9 C.Y., 1000 gal.		35.39	420	1,265.18	3,800	536.15
	0300 Concrete batch plant, portable, electric, 200 C.Y./hr.		24.18	560	1,678.30	5,025	529.15
	0520 Grader/dozer attachment, ripper/scarifier, rear mounted, up to 135 H.P.		3.15	63.50	190.04	570	63.20
	0540 Up to 180 H.P.		4.13	95.50	287.12	860	90.50
	0580 Up to 250 H.P.		5.85	153	459.60	1,375	138.75
	0700 Pvmt. removal bucket, for hyd. excavator, up to 90 H.P.		2.16	58	174.54	525	52.20
	0740 Up to 200 H.P.		2.31	74.50	223.08	670	63.05
	0780 Over 200 H.P.		2.52	91	273.69	820	74.90
	0900 Aggregate spreader, self-propelled, 187 H.P.		50.60	740	2,220.52	6,650	848.90
	1000 Chemical spreader, 3 C.Y.		3.17	96.50	290	870	83.35
	1900 Hammermill, traveling, 250 H.P.		67.35	515	1,550	4,650	848.80
	2000 Horizontal borer, 3" diameter, 13 H.P. gas driven		5.42	232	695	2,075	182.35
	2150 Horizontal directional drill, 20,000 lb. thrust, 78 H.P. diesel		27.58	530	1,590	4,775	538.65
	2160 30,000 lb. thrust, 115 H.P.		33.90	615	1,850	5,550	641.20
	2170 50,000 lb. thrust, 170 H.P.		48.60	710	2,135	6,400	815.80
	2190 Mud trailer for HDD, 1500 gallons, 175 H.P., gas		25.50	175	525	1,575	309
	2200 Hydromulcher, diesel, 3000 gallon, for truck mounting		17.43	227	680	2,050	275.45
	2300 Gas, 600 gallon		7.49	95	285	855	116.95
	2400 Joint & crack cleaner, walk behind, 25 H.P.		3.16	45.50	136	410	52.45

## 01 54 33 | Equipment Rental

		UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY	
50	2500 Filler, trailer mounted, 400 gallons, 20 H.P.	Ea.	8.35	147	440	1,325	154.75	
	3000 Paint striper, self-propelled, 40 gallon, 22 H.P.		6.76	122	365	1,100	127.10	
	3100 120 gallon, 120 H.P.		19.23	380	1,140	3,425	381.80	
	3200 Post drivers, 6' I-Beam frame, for truck mounting		12.41	320	960	2,875	291.30	
	3400 Road sweeper, self-propelled, 8' wide, 90 H.P.		35.91	715	2,143.06	6,425	715.85	
	3450 Road sweeper, vacuum assisted, 4 C.Y., 220 gallons		58.28	670	2,013.96	6,050	869	
	4000 Road mixer, self-propelled, 130 H.P.		46.23	825	2,478.72	7,425	865.60	
	4100 310 H.P.		75.01	2,150	6,480.82	19,400	1,896	
	4220 Cold mix paver, incl. pug mill and bitumen tank, 165 H.P.		94.97	2,325	6,945.58	20,800	2,149	
	4240 Pavement brush, towed		3.43	100	299.51	900	87.30	
	4250 Paver, asphalt, wheel or crawler, 130 H.P., diesel		94.23	2,275	6,816.48	20,400	2,117	
	4300 Paver, road widener, gas, 1' to 6', 67 H.P.		46.66	975	2,917.66	8,750	956.80	
	4400 Diesel, 2' to 14', 88 H.P.		56.38	1,150	3,459.88	10,400	1,143	
	4600 Slipform pavers, curb and gutter, 2 track, 75 H.P.		57.83	1,250	3,769.72	11,300	1,217	
	4700 4 track, 165 H.P.		35.69	845	2,530.36	7,600	791.55	
	4800 Median barrier, 215 H.P.		58.43	1,350	4,027.92	12,100	1,273	
	4901 Trailer, low bed, 75 ton capacity		10.71	282	846.90	2,550	255.05	
	5000 Road planer, walk behind, 10" cutting width, 10 H.P.		2.45	243	730	2,200	165.65	
	5100 Self-propelled, 12" cutting width, 64 H.P.		8.26	190	570	1,700	180.05	
	5120 Traffic line remover, metal ball blaster, truck mounted, 115 H.P.		46.56	905	2,720	8,150	916.50	
	5140 Grinder, truck mounted, 115 H.P.		50.89	905	2,720	8,150	951.15	
	5160 Walk-behind, 11 H.P.		3.56	142	425	1,275	113.45	
	5200 Pavement profiler, 4' to 6' wide, 450 H.P.		216.58	1,275	3,800	11,400	2,493	
	5300 8' to 10' wide, 750 H.P.		331.58	1,325	3,975	11,900	3,448	
	5400 Roadway plate, steel, 1" x 8' x 20'		.09	61	182.50	550	37.20	
	5600 Stabilizer, self-propelled, 150 H.P.		41.14	1,025	3,100	9,300	949.10	
	5700 310 H.P.		76.18	1,300	3,900	11,700	1,389	
	5800 Striper, truck mounted, 120 gallon paint, 460 H.P.		48.74	340	1,015	3,050	592.95	
	5900 Thermal paint heating kettle, 115 gallons		7.71	61.50	185	555	98.65	
	6000 Tar kettle, 330 gallon, trailer mounted		12.27	96.50	290	870	156.20	
	7000 Tunnel locomotive, diesel, 8 to 12 ton		29.76	620	1,859.04	5,575	609.85	
	7005 Electric, 10 ton		29.25	705	2,117.24	6,350	657.40	
	7010 Muck cars, 1/2 C.Y. capacity		2.30	26.50	80.04	240	34.40	
	7020 1 C.Y. capacity		2.51	35	104.31	315	40.95	
	7030 2 C.Y. capacity		2.66	39	116.71	350	44.60	
	7040 Side dump, 2 C.Y. capacity		2.87	48	144.59	435	51.90	
	7050 3 C.Y. capacity		3.85	53	159.05	475	62.65	
	7060 5 C.Y. capacity		5.62	68.50	205.53	615	86.10	
	7100 Ventilating blower for tunnel, 7-1/2 H.P.		2.14	52.50	158.02	475	48.70	
	7110 10 H.P.		2.42	55	165.25	495	52.40	
	7120 20 H.P.		3.54	71.50	214.82	645	71.30	
	7140 40 H.P.		6.14	94.50	284.02	850	105.90	
	7160 60 H.P.		8.69	102	304.68	915	130.45	
	7175 75 H.P.		10.37	158	475.09	1,425	177.95	
	7180 200 H.P.		20.78	310	934.68	2,800	353.20	
	7800 Windrow loader, elevating		53.94	1,650	4,975	14,900	1,427	
60	0010 LIFTING AND HOISTING EQUIPMENT RENTAL without operators	R015433 -10	Ea.	14.41	201	604.19	1,825	236.10
	0150 Crane, flatbed mounted, 3 ton capacity			39.72	2,600	7,800	23,400	1,878
	0200 Crane, climbing, 106' jib, 6000 lb. capacity, 410 fpm	R312316 -45		46.43	2,275	6,800	20,400	1,731
	0300 101' jib, 10,250 lb. capacity, 270 fpm			45.16	2,250	6,715	20,100	1,704
	0500 Tower, static, 130' high, 106' jib, 6200 lb. capacity at 400 fpm			12.50	550	1,652.48	4,950	430.50
	0520 Mini crawler spider crane, up to 24" wide, 1990 lb. lifting capacity			14.52	655	1,962.32	5,875	508.65
	0525 Up to 30" wide, 6450 lb. lifting capacity			23.10	800	2,401.26	7,200	665.05
	0530 Up to 52" wide, 6680 lb. lifting capacity			25.79	885	2,659.46	7,975	738.25
	0535 Up to 55" wide, 8920 lb. lifting capacity			34.92	1,375	4,131.20	12,400	1,106
	0540 Up to 66" wide, 13,350 lb. lifting capacity			36.96	830	2,483	7,450	792.30
	0600 Crawler mounted, lattice boom, 1/2 C.Y., 15 tons at 12' radius			50.42	930	2,790	8,375	961.35
	0700 3/4 C.Y., 20 tons at 12' radius							

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## 01 54 33 | Equipment Rental

		UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY	
60	0800	1 C.Y., 25 tons at 12' radius	Ea.	67.42	985	2,950	8,850	1,129
	0900	1-1/2 C.Y., 40 tons at 12' radius		66.31	1,125	3,375	10,100	1,206
	1000	2 C.Y., 50 tons at 12' radius		88.77	1,325	4,000	12,000	1,510
	1100	3 C.Y., 75 tons at 12' radius		75.26	2,325	7,000	21,000	2,002
	1200	100 ton capacity, 60' boom		85.91	2,675	8,000	24,000	2,287
	1300	165 ton capacity, 60' boom		106.10	3,000	9,000	27,000	2,649
	1400	200 ton capacity, 70' boom		138.21	3,825	11,500	34,500	3,406
	1500	350 ton capacity, 80' boom		182.20	4,175	12,500	37,500	3,958
	1600	Truck mounted, lattice boom, 6 x 4, 20 tons at 10' radius		39.76	1,950	5,850	17,600	1,488
	1700	25 tons at 10' radius		42.73	2,325	7,000	21,000	1,742
	1800	8 x 4, 30 tons at 10' radius		45.54	2,500	7,500	22,500	1,864
	1900	40 tons at 12' radius		48.55	2,725	8,200	24,600	2,028
	2000	60 tons at 15' radius		53.69	1,650	4,950	14,900	1,419
	2050	82 tons at 15' radius		59.43	1,775	5,350	16,100	1,545
	2100	90 tons at 15' radius		66.39	1,950	5,825	17,500	1,696
	2200	115 tons at 15' radius		74.90	2,175	6,525	19,600	1,904
	2300	150 tons at 18' radius		81.09	2,700	8,100	24,300	2,269
	2350	165 tons at 18' radius		87.03	2,425	7,275	21,800	2,151
	2400	Truck mounted, hydraulic, 12 ton capacity		29.50	390	1,175	3,525	471
	2500	25 ton capacity		36.36	485	1,450	4,350	580.85
	2550	33 ton capacity		50.67	900	2,700	8,100	945.35
	2560	40 ton capacity		49.47	900	2,700	8,100	935.80
	2600	55 ton capacity		53.78	915	2,750	8,250	980.20
	2700	80 ton capacity		75.71	1,475	4,400	13,200	1,486
	2720	100 ton capacity		74.96	1,550	4,675	14,000	1,535
	2740	120 ton capacity		102.81	1,825	5,500	16,500	1,922
	2760	150 ton capacity		109.92	2,050	6,125	18,400	2,104
	2800	Self-propelled, 4 x 4, with telescoping boom, 5 ton		15.14	430	1,285	3,850	378.10
	2900	12-1/2 ton capacity		21.42	430	1,285	3,850	428.30
	3000	15 ton capacity		34.42	450	1,350	4,050	545.35
	3050	20 ton capacity		24.02	650	1,950	5,850	582.20
	3100	25 ton capacity		36.69	1,425	4,250	12,800	1,144
	3150	40 ton capacity		44.90	660	1,975	5,925	754.20
	3200	Derricks, guy, 20 ton capacity, 60' boom, 75' mast		22.74	1,425	4,250	12,800	1,032
	3300	100' boom, 115' mast		36.04	2,000	6,000	18,000	1,488
	3400	Stiffleg, 20 ton capacity, 70' boom, 37' mast		25.41	615	1,850	5,550	573.25
	3500	100' boom, 47' mast		39.32	665	2,000	6,000	714.55
	3550	Helicopter, small, lift to 1250 lb. maximum, w/pilot		99.14	2,150	6,435	19,300	2,080
	3600	Hoists, chain type, overhead, manual, 3/4 ton		.14	10.25	30.70	92	7.30
	3900	10 ton		.79	6.20	18.59	56	10
	4000	Hoist and tower, 5000 lb. cap., portable electric, 40' high		5.12	142	426	1,275	126.20
	4100	For each added 10' section, add		.12	31.50	95	285	19.95
	4200	Hoist and single tubular tower, 5000 lb. electric, 100' high		6.96	105	315	945	118.65
	4300	For each added 6'-6" section, add		.21	38.50	115	345	24.65
	4400	Hoist and double tubular tower, 5000 lb., 100' high		7.57	105	315	945	123.60
	4500	For each added 6'-6" section, add		.23	41.50	125	375	26.80
	4550	Hoist and tower, mast type, 6000 lb., 100' high		8.24	94.50	284	850	122.70
	4570	For each added 10' section, add		.13	31.50	95	285	20.05
	4600	Hoist and tower, personnel, electric, 2000 lb., 100' @ 125 fpm		17.50	25	75	225	155
	4700	3000 lb., 100' @ 200 fpm		20.02	25	75	225	175.15
	4800	3000 lb., 150' @ 300 fpm		22.22	25	75	225	192.75
	4900	4000 lb., 100' @ 300 fpm		22.98	25	75	225	198.85
	5000	6000 lb., 100' @ 275 fpm		24.70	25	75	225	212.60
	5100	For added heights up to 500', add	L.F.	.01	3.33	10	30	2.10
	5200	Jacks, hydraulic, 20 ton	Ea.	.05	19.65	59	177	12.20
	5500	100 ton		.40	26	78.50	236	18.90
	6100	Jacks, hydraulic, climbing w/50' jackrods, control console, 30 ton cap.		2.17	31	93	279	35.90
	6150	For each added 10' jackrod section, add		.05	5	15	45	3.40

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**01 54 33 | Equipment Rental**

			UNIT	HOURLY OPER. COST	RENT PER DAY	RENT PER WEEK	RENT PER MONTH	EQUIPMENT COST/DAY
60	6300	50 ton capacity	Ea.	3.48	33.50	100	300	47.85
	6350	For each added 10' jackrod section, add		.06	5	15	45	3.50
	6500	125 ton capacity		9.10	51.50	155	465	103.85
	6550	For each added 10' jackrod section, add		.61	5	15	45	7.90
	6600	Cable jack, 10 ton capacity with 200' cable		1.82	35.50	107	320	35.95
	6650	For each added 50' of cable, add		.22	15	45	135	10.75
70	0010	<b>WELLPOINT EQUIPMENT RENTAL</b> without operators	R015433 -10					
	0020	Based on 2 months rental						
	0100	Combination jetting & wellpoint pump, 60 H.P. diesel	Ea.	15.67	298	895	2,675	304.35
	0200	High pressure gas jet pump, 200 H.P., 300 psi	"	33.83	275	825	2,475	435.65
	0300	Discharge pipe, 8" diameter	L.F.	.01	1.40	4.20	12.60	.90
	0350	12" diameter		.01	2.07	6.20	18.60	1.35
	0400	Header pipe, flows up to 150 GPM, 4" diameter		.01	.73	2.20	6.60	.50
	0500	400 GPM, 6" diameter		.01	1.07	3.20	9.60	.70
	0600	800 GPM, 8" diameter		.01	1.40	4.20	12.60	.95
	0700	1500 GPM, 10" diameter		.01	1.73	5.20	15.60	1.15
	0800	2500 GPM, 12" diameter		.03	2.07	6.20	18.60	1.45
	0900	4500 GPM, 16" diameter		.03	2.40	7.20	21.50	1.70
	0950	For quick coupling aluminum and plastic pipe, add	▼	.03	9.35	28	84	5.85
	1100	Wellpoint, 25' long, with fittings & riser pipe, 1-1/2" or 2" diameter	Ea.	.07	132	395	1,175	79.55
	1200	Wellpoint pump, diesel powered, 4" suction, 20 H.P.		7.00	150	450	1,350	146
	1300	6" suction, 30 H.P.		9.39	167	500	1,500	175.15
	1400	8" suction, 40 H.P.		12.73	250	750	2,250	251.80
	1500	10" suction, 75 H.P.		18.77	265	795	2,375	309.20
	1600	12" suction, 100 H.P.		27.24	298	895	2,675	396.90
	1700	12" suction, 175 H.P.	▼	38.98	315	950	2,850	501.80
80	0010	<b>MARINE EQUIPMENT RENTAL</b> without operators	R015433 -10					
	0200	Barge, 400 Ton, 30' wide x 90' long	Ea.	17.63	1,200	3,588.98	10,800	858.85
	0240	800 Ton, 45' wide x 90' long		22.14	1,475	4,415.22	13,200	1,060
	2000	Tugboat, diesel, 100 H.P.		29.57	238	712.63	2,150	379.10
	2040	250 H.P.		57.41	430	1,291	3,875	717.50
	2080	380 H.P.		124.99	1,300	3,873	11,600	1,774
	3000	Small work boat, gas, 16-foot, 50 H.P.		11.35	48	143.56	430	119.50
	4000	Large, diesel, 48-foot, 200 H.P.		74.68	1,375	4,105.38	12,300	1,418
	2700	Hydro Excavator w/EXT boom 12 C.Y., 1200 gallons		37.70	1,600	4,800	14,400	1,262
	5470	10,000 psi		39.55	720	2,160	6,475	748.40
	5480	40,000 psi	▼	27.88	980	2,940	8,825	811.05

# Crews - Residential

Crew No.	Incl. Bare Costs Subs O&P				Cost Per Labor-Hour	Crew No.	Incl. Bare Costs Subs O&P			
	Hr.	Daily	Hr.	Daily			Hr.	Daily	Hr.	
<b>Crew A-1</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Concrete Saw, Gas Manual		111.55		122.71	13.94	15.34				
8 L.H., Daily Totals		\$333.95		\$487.90	\$41.74	\$60.99				
<b>Crew A-1A</b>					Bare Costs	Incl. O&P				
1 Skilled Worker	\$36.95	\$295.60	\$61.05	\$488.40	\$36.95	\$61.05				
1 Shot Blaster, 20"		206.20		226.82	25.77	28.35				
8 L.H., Daily Totals		\$501.80		\$715.22	\$62.73	\$89.40				
<b>Crew A-1B</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Concrete Saw		111.50		122.65	13.94	15.33				
8 L.H., Daily Totals		\$333.90		\$487.85	\$41.74	\$60.98				
<b>Crew A-1C</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Chain Saw, Gas, 18"		52.00		57.20	6.50	7.15				
8 L.H., Daily Totals		\$274.40		\$422.40	\$34.30	\$52.80				
<b>Crew A-1D</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Vibrating Plate, Gas, 18"		31.55		34.70	3.94	4.34				
8 L.H., Daily Totals		\$253.95		\$399.90	\$31.74	\$49.99				
<b>Crew A-1E</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Vibrating Plate, Gas, 21"		165.35		181.88	20.67	22.74				
8 L.H., Daily Totals		\$387.75		\$547.09	\$48.47	\$68.39				
<b>Crew A-1F</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Rammer/Tamper, Gas, 8"		46.50		51.15	5.81	6.39				
8 L.H., Daily Totals		\$268.90		\$416.35	\$33.61	\$52.04				
<b>Crew A-1G</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Rammer/Tamper, Gas, 15"		54.00		59.40	6.75	7.42				
8 L.H., Daily Totals		\$276.40		\$424.60	\$34.55	\$53.08				
<b>Crew A-1H</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Exterior Steam Cleaner		76.30		83.93	9.54	10.49				
8 L.H., Daily Totals		\$298.70		\$449.13	\$37.34	\$56.14				
<b>Crew A-1J</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Cultivator, Walk-Behind, 5 H.P.		53.05		58.35	6.63	7.29				
8 L.H., Daily Totals		\$275.45		\$423.56	\$34.43	\$52.94				
<b>Crew A-1K</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Cultivator, Walk-Behind, 8 H.P.		101.40		111.54	12.68	13.94				
8 L.H., Daily Totals		\$323.80		\$476.74	\$40.48	\$59.59				
<b>Crew A-1M</b>					Bare Costs	Incl. O&P				
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65				
1 Snow Blower, Walk-Behind		67.50		74.25	8.44	9.28				
8 L.H., Daily Totals		\$289.90		\$439.45	\$36.24	\$54.93				
<b>Crew A-2</b>					Bare Costs	Incl. O&P				
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$27.80	\$45.65				
1 Truck Driver (light)		33.10		264.80	54.25	434.00				
1 Flatbed Truck, Gas, 1.5 Ton				196.15		215.76				
8 L.H., Daily Totals		\$905.75		\$1380.17		\$37.74				
<b>Crew A-2A</b>					Bare Costs	Incl. O&P				
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$27.80	\$45.65				
1 Truck Driver (light)		33.10		264.80	54.25	434.00				
1 Flatbed Truck, Gas, 1.5 Ton				196.15		215.76				
1 Concrete Saw				111.50		122.65				
8 L.H., Daily Totals		\$1017.25		\$1502.82		\$42.39				
<b>Crew A-2B</b>					Bare Costs	Incl. O&P				
1 Truck Driver (light)	\$33.10	\$264.80	\$54.25	\$434.00	\$33.10	\$54.25				
1 Flatbed Truck, Gas, 1.5 Ton				196.15		215.76				
8 L.H., Daily Totals		\$460.95		\$649.76		\$57.62				
<b>Crew A-3A</b>					Bare Costs	Incl. O&P				
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95				
1 Pickup Truck, 4x4, 3/4 Ton				175.85		193.44				
8 L.H., Daily Totals		\$464.25		\$665.03		\$58.03				
<b>Crew A-3B</b>					Bare Costs	Incl. O&P				
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$35.90	\$58.75				
1 Truck Driver (heavy)		33.80		270.40	55.40	443.20				
1 Dump Truck, 12 C.Y., 400 H.P.				572.90		630.19				
1 F.E. Loader, W.M., 2.5 C.Y.				702.10		772.31				
16 L.H., Daily Totals		\$1849.40		\$2342.50		\$115.59				
<b>Crew A-3C</b>					Bare Costs	Incl. O&P				
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95				
1 Loader, Skid Steer, 78 H.P.				400.10		440.11				
8 L.H., Daily Totals		\$688.50		\$911.71		\$86.06				
<b>Crew A-3D</b>					Bare Costs	Incl. O&P				
1 Truck Driver (light)	\$33.10	\$264.80	\$54.25	\$434.00	\$33.10	\$54.25				
1 Pickup Truck, 4x4, 3/4 Ton				175.85		193.44				
1 Flatbed Trailer, 25 Ton				135.55		149.10				
8 L.H., Daily Totals		\$576.20		\$776.54		\$72.03				
<b>Crew A-3E</b>					Bare Costs	Incl. O&P				
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$36.13	\$59.13				
1 Truck Driver (heavy)		33.80		270.40	55.40	443.20				
1 Pickup Truck, 4x4, 3/4 Ton				175.85		193.44				
16 L.H., Daily Totals		\$753.85		\$1139.43		\$47.12				
<b>Crew A-3F</b>					Bare Costs	Incl. O&P				
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$36.13	\$59.13				
1 Truck Driver (heavy)		33.80		270.40	55.40	443.20				
1 Pickup Truck, 4x4, 3/4 Ton				175.85		193.44				
1 Truck Tractor, 6x4, 380 H.P.				493.25		542.58				
1 Lowbed Trailer, 75 Ton				255.05		280.56				
16 L.H., Daily Totals		\$1502.15		\$1962.57		\$93.88				

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# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew A-3G						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$36.13	\$59.13
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		
1 Pickup Truck, 4x4, 3/4 Ton		175.85		193.44		
1 Truck Tractor, 6x4, 450 H.P.		601.75		661.92		
1 Lowbed Trailer, 75 Ton		255.05		280.56	64.54	70.99
16 L.H., Daily Totals		\$1610.65		\$2081.92	\$100.67	\$130.12
Crew A-3H					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$38.45	\$62.85
1 Hyd. Crane, 12 Ton (Daily)		724.85		797.34	90.61	99.67
8 L.H., Daily Totals		\$1032.45		\$1300.14	\$129.06	\$162.52
Crew A-3I					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$38.45	\$62.85
1 Hyd. Crane, 25 Ton (Daily)		801.40		881.54	100.18	110.19
8 L.H., Daily Totals		\$1109.00		\$1384.34	\$138.63	\$173.04
Crew A-3J					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$38.45	\$62.85
1 Hyd. Crane, 40 Ton (Daily)		1272.00		1399.20	159.00	174.90
8 L.H., Daily Totals		\$1579.60		\$1902.00	\$197.45	\$237.75
Crew A-3K					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$35.90	\$58.67
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Hyd. Crane, 55 Ton (Daily)		1362.00		1498.20		
1 P/U Truck, 3/4 Ton (Daily)		142.15		156.37	94.01	103.41
16 L.H., Daily Totals		\$2078.55		\$2593.36	\$129.91	\$162.09
Crew A-3L					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$35.90	\$58.67
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Hyd. Crane, 80 Ton (Daily)		2101.00		2311.10		
1 P/U Truck, 3/4 Ton (Daily)		142.15		156.37	140.20	154.22
16 L.H., Daily Totals		\$2817.55		\$3406.26	\$176.10	\$212.89
Crew A-3M					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$35.90	\$58.67
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Hyd. Crane, 100 Ton (Daily)		2227.00		2449.70		
1 P/U Truck, 3/4 Ton (Daily)		142.15		156.37	148.07	162.88
16 L.H., Daily Totals		\$2943.55		\$3544.86	\$183.97	\$221.55
Crew A-3N					Bare Costs	Incl. O&P
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$38.45	\$62.85
1 Tower Crane (monthly)		1693.00		1862.30	211.63	232.79
8 L.H., Daily Totals		\$2000.60		\$2365.10	\$250.07	\$295.64
Crew A-3P					Bare Costs	Incl. O&P
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95
1 A.T. Forklift, 31' reach, 45' lift		374.20		411.62	46.77	51.45
8 L.H., Daily Totals		\$662.60		\$883.22	\$82.83	\$110.40
Crew A-3Q					Bare Costs	Incl. O&P
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95
1 Pickup Truck, 4x4, 3/4 Ton		175.85		193.44		
1 Flatbed Trailer, 3 Ton		70.30		77.33	30.77	33.85
8 L.H., Daily Totals		\$534.55		\$742.37	\$66.82	\$92.80

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew A-3R						
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95
1 Forklift, Smooth Floor, 8,000 Lb.		255.90		281.49	31.99	35.19
8 L.H., Daily Totals		\$544.30		\$753.09	\$68.04	\$94.14
Crew A-4					Bare Costs	Incl. O&P
2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$34.17	\$55.98
1 Painter, Ordinary	30.20	241.60	49.15	393.20		
24 L.H., Daily Totals		\$820.00		\$1343.60	\$34.17	\$55.98
Crew A-5					Bare Costs	Incl. O&P
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$28.39	\$46.61
.25 Truck Driver (light)	33.10	66.20	54.25	108.50		
.25 Flatbed Truck, Gas, 1.5 Ton		49.04		53.94	2.72	3.00
18 L.H., Daily Totals		\$560.04		\$892.84	\$31.11	\$49.60
Crew A-6					Bare Costs	Incl. O&P
1 Instrument Man	\$36.95	\$295.60	\$61.05	\$488.40	\$36.08	\$59.35
1 Rodman/Chairman	35.20	281.60	57.65	461.20		
1 Level, Electronic		30.80		33.88	1.93	2.12
16 L.H., Daily Totals		\$608.00		\$983.48	\$38.00	\$61.47
Crew A-7					Bare Costs	Incl. O&P
1 Chief of Party	\$42.95	\$343.60	\$70.40	\$563.20	\$38.37	\$63.03
1 Instrument Man	36.95	295.60	61.05	488.40		
1 Rodman/Chairman	35.20	281.60	57.65	461.20		
1 Level, Electronic		30.80		33.88	1.28	1.41
24 L.H., Daily Totals		\$951.60		\$1546.68	\$39.65	\$64.44
Crew A-8					Bare Costs	Incl. O&P
1 Chief of Party	\$42.95	\$343.60	\$70.40	\$563.20	\$37.58	\$61.69
1 Instrument Man	36.95	295.60	61.05	488.40		
2 Rodmen/Chairmen	35.20	563.20	57.65	922.40		
1 Level, Electronic		30.80		33.88	0.96	1.06
32 L.H., Daily Totals		\$1233.20		\$2007.88	\$38.54	\$62.75
Crew A-9					Bare Costs	Incl. O&P
1 Asbestos Foreman	\$37.45	\$299.60	\$62.75	\$502.00	\$37.01	\$62.01
7 Asbestos Workers	36.95	2069.20	61.90	3466.40		
64 L.H., Daily Totals		\$2368.80		\$3968.40	\$37.01	\$62.01
Crew A-10A					Bare Costs	Incl. O&P
1 Asbestos Foreman	\$37.45	\$299.60	\$62.75	\$502.00	\$37.12	\$62.18
2 Asbestos Workers	36.95	591.20	61.90	990.40		
24 L.H., Daily Totals		\$890.80		\$1492.40	\$37.12	\$62.18
Crew A-10B					Bare Costs	Incl. O&P
1 Asbestos Foreman	\$37.45	\$299.60	\$62.75	\$502.00	\$37.08	\$62.11
3 Asbestos Workers	36.95	886.80	61.90	1485.60		
32 L.H., Daily Totals		\$1186.40		\$1987.60	\$37.08	\$62.11
Crew A-10C					Bare Costs	Incl. O&P
3 Asbestos Workers	\$36.95	\$886.80	\$61.90	\$1485.60	\$36.95	\$61.90
1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76	8.17	8.99
24 L.H., Daily Totals		\$1082.95		\$1701.37	\$45.12	\$70.89

# Crews - Residential

Incl.  
Cost  
Crew No. Bare Costs Subs O&P Per Labor-Hour

Incl.  
Cost  
Crew No. Bare Costs Subs O&P Per Labor-Hour

Crew A-10D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Asbestos Workers	\$36.95	\$591.20	\$61.90	\$990.40	\$36.42	\$60.29
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Hydraulic Crane, 33 Ton		945.35		1039.89	29.54	32.50
32 L.H., Daily Totals		\$2110.95		\$2969.09	\$65.97	\$92.78

Crew A-11	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Asbestos Foreman	\$37.45	\$299.60	\$62.75	\$502.00	\$37.01	\$62.01
7 Asbestos Workers	36.95	2069.20	61.90	3466.40		
2 Chip. Hammers, 12 Lb., Elec.		64.80		71.28	1.01	1.11
64 L.H., Daily Totals		\$2433.60		\$4039.68	\$38.02	\$63.12

Crew A-12	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Asbestos Foreman	\$37.45	\$299.60	\$62.75	\$502.00	\$37.01	\$62.01
7 Asbestos Workers	36.95	2069.20	61.90	3466.40		
1 Trk-Mtd Vac, 14 CY, 1500 Gal.		536.15		589.76		
1 Flatbed Truck, 20,000 GW		201.60		221.76	11.53	12.68
64 L.H., Daily Totals		\$3106.55		\$4779.93	\$48.54	\$74.69

Crew A-13	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95
1 Trk-Mtd Vac, 14 CY, 1500 Gal.		536.15		589.76		
1 Flatbed Truck, 20,000 GW		201.60		221.76	92.22	101.44
8 L.H., Daily Totals		\$1026.15		\$1283.13	\$128.27	\$160.39

Crew B-1	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75
2 Laborers	27.80	444.80	45.65	730.40		
24 L.H., Daily Totals		\$683.20		\$1122.00	\$28.47	\$46.75

Crew B-1A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75
2 Laborers	27.80	444.80	45.65	730.40		
2 Cutting Torches		25.60		28.16		
2 Sets of Gases		343.10		377.41	15.36	16.90
24 L.H., Daily Totals		\$1051.90		\$1527.57	\$43.83	\$63.65

Crew B-1B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.96	\$50.77
2 Laborers	27.80	444.80	45.65	730.40		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
2 Cutting Torches		25.60		28.16		
2 Sets of Gases		343.10		377.41		
1 Hyd. Crane, 12 Ton		471.00		518.10	26.24	28.86
32 L.H., Daily Totals		\$1830.50		\$2548.47	\$57.20	\$79.64

Crew B-1C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75
2 Laborers	27.80	444.80	45.65	730.40		
1 Telescoping Boom Lift, to 60'		310.90		341.99	12.95	14.25
24 L.H., Daily Totals		\$994.10		\$1463.99	\$41.42	\$61.00

Crew B-1D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$27.80	\$45.65
1 Small Work Boat, Gas, 50 H.P.		119.50		131.45		
1 Pressure Washer, 7 GPM		90.50		99.55	13.13	14.44
16 L.H., Daily Totals		\$654.80		\$961.40	\$40.92	\$60.09

Crew B-1E	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.30	\$46.48
3 Laborers	27.80	667.20	45.65	1095.60		
1 Work Boat, Diesel, 200 H.P.				1418.00	1559.80	
2 Pressure Washers, 7 GPM				181.00	199.10	54.97
32 L.H., Daily Totals					\$2504.60	\$78.27

Crew B-1F	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Skilled Workers	\$36.95	\$591.20	\$61.05	\$976.80	\$33.90	\$55.92
1 Laborer	27.80	222.40	45.65	365.20		
1 Small Work Boat, Gas, 50 H.P.		119.50		131.45		
1 Pressure Washer, 7 GPM		90.50		99.55	8.75	9.63
24 L.H., Daily Totals					\$1023.60	\$42.65

Crew B-1G	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$27.80	\$45.65
1 Small Work Boat, Gas, 50 H.P.		119.50		131.45	7.47	8.22
16 L.H., Daily Totals					\$564.30	\$35.27

Crew B-1H	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Skilled Workers	\$36.95	\$591.20	\$61.05	\$976.80	\$33.90	\$55.92
1 Laborer	27.80	222.40	45.65	365.20		
1 Small Work Boat, Gas, 50 H.P.		119.50		131.45	4.98	5.48
24 L.H., Daily Totals					\$933.10	\$38.88

Crew B-1J	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (inside)	\$28.30	\$226.40	\$46.50	\$372.00	\$28.05	\$46.08
1 Laborer	27.80	222.40	45.65	365.20		
16 L.H., Daily Totals					\$448.80	\$28.05

Crew B-1K	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Carpenter Foreman (inside)	\$36.65	\$293.20	\$60.20	\$481.60	\$36.40	\$59.80
1 Carpenter	36.15	289.20	59.40	475.20		
16 L.H., Daily Totals					\$582.40	\$36.40

Crew B-2	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75
2 Laborers	27.80	444.80	45.65	730.40		
1 Telescoping Boom Lift, to 60'		310.90		341.99	12.95	14.25
24 L.H., Daily Totals					\$994.10	\$41.42

Crew B-3	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.83	\$52.19
2 Laborers	27.80	444.80	45.65	730.40		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40		
1 Crawler Loader, 3 C.Y.		1169.00		1285.90		
2 Dump Trucks, 12 C.Y., 400 H.P.		1145.80		1260.38	48.23	53.05
48 L.H., Daily Totals					\$3842.80	\$80.06

Crew B-3A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
4 Laborers	\$27.80	\$889.60	\$45.65	\$1460.80	\$29.84	\$48.94
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30	17.19	18.91
40 L.H., Daily Totals					\$1881.15	\$47.03

## **Crews - Residential**

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
Crew B-3B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$31.85	\$52.20
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		
1 Backhoe Loader, 80 H.P.		232.40		255.64		
1 Dump Truck, 12 C.Y., 400 H.P.		572.90		630.19	25.17	27.68
32 L.H., Daily Totals		\$1824.50		\$2556.23	\$57.02	\$79.88
Crew B-3C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$30.35	\$49.76
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Crawler Loader, 4 C.Y.		1489.00		1637.90	46.53	51.18
32 L.H., Daily Totals		\$2460.20		\$3230.30	\$76.88	\$100.95
Crew B-4	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.13	\$47.83
4 Laborers	27.80	889.60	45.65	1460.80		
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		
1 Truck Tractor, 220 H.P.		307.10		337.81		
1 Flatbed Trailer, 40 Ton		186.20		204.82	10.28	11.30
48 L.H., Daily Totals		\$1891.70		\$2838.23	\$39.41	\$59.13
Crew B-5	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.24	\$49.60
3 Laborers	27.80	667.20	45.65	1095.60		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Air Compressor, 250 cfm		201.50		221.65		
2 Breakers, Pavement, 60 lb.		107.00		117.70		
2 -50' Air Hoses, 1.5"		48.50		53.35		
1 Crawler Loader, 3 C.Y.		1169.00		1285.90	38.15	41.97
40 L.H., Daily Totals		\$2735.60		\$3662.60	\$68.39	\$91.56
Crew B-5A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.35	\$51.40
6 Laborers	27.80	1334.40	45.65	2191.20		
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60		
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40		
1 Air Compressor, 365 cfm		315.40		346.94		
2 Breakers, Pavement, 60 lb.		107.00		117.70		
8 -50' Air Hoses, 1"		64.00		70.40		
2 Dump Trucks, 8 C.Y., 220 H.P.		856.10		941.71	13.98	15.38
96 L.H., Daily Totals		\$4352.50		\$6411.15	\$45.34	\$66.78
Crew B-5B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Powderman	\$36.95	\$295.60	\$61.05	\$488.40	\$35.73	\$58.58
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60		
3 Truck Drivers (heavy)	33.80	811.20	55.40	1329.60		
1 F.E. Loader, W.M., 2.5 C.Y.		702.10		772.31		
3 Dump Trucks, 12 C.Y., 400 H.P.		1718.70		1890.57		
1 Air Compressor, 365 cfm		315.40		346.94	57.00	62.70
48 L.H., Daily Totals		\$4451.00		\$5821.42	\$92.73	\$121.28

Crew No.	Bare Costs		Incl. Subs & O&P		Cost Per Labor-Hour	
Crew B-5C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$32.60	\$53.40
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
2 Dump Trucks, 12 C.Y., 400 H.P.		1145.80		1260.38		
1 Crawler Loader, 4 C.Y.		1489.00		1637.90		
1 S.P. Crane, 4x4, 25 Ton		1144.00		1258.40	59.04	64.95
64 L.H., Daily Totals		\$5865.20		\$7574.28	\$91.64	\$118.35
Crew B-5D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.83	\$50.57
3 Laborers	27.80	667.20	45.65	1095.60		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		
1 Air Compressor, 250 cfm		201.50		221.65		
2 Breakers, Pavement, 60 lb.		107.00		117.70		
2-50' Air Hoses, 1.5"		48.50		53.35		
1 Crawler Loader, 3 C.Y.		1169.00		1285.90		
1 Dump Truck, 12 C.Y., 400 H.P.		572.90		630.19	43.73	48.10
48 L.H., Daily Totals		\$3578.90		\$4735.99	\$74.56	\$98.67
Crew B-5E	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$47.65	\$381.20	\$31.35	\$51.23
4 Laborers	27.80	889.60	45.65	1460.80		
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60		
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		
1 Water Tank Trailer, 5000 Gal.		152.25		167.47		
1 High Pressure Water Jet, 40 KSI		811.05		892.16		
2-50' Air Hoses, 1.5"		48.50		53.35		
1 Crawler Loader, 3 C.Y.		1169.00		1285.90		
1 Dump Truck, 12 C.Y., 400 H.P.		572.90		630.19	43.03	47.33
64 L.H., Daily Totals		\$4760.01		\$6307.78	\$74.38	\$98.56
Crew B-6	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$30.55	\$50.08
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 Backhoe Loader, 48 H.P.		213.75		235.13	8.91	9.80
24 L.H., Daily Totals		\$946.95		\$1437.13	\$39.46	\$59.88
Crew B-6A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
.5 Labor Foreman (outside)	\$29.80	\$119.20	\$48.95	\$195.80	\$32.28	\$52.89
1 Laborer	27.80	222.40	45.65	365.20		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Vacuum Truck, 5000 Gal.		367.55		404.31	18.38	20.22
20 L.H., Daily Totals		\$1013.15		\$1462.11	\$50.66	\$73.11
Crew B-6B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.47	\$46.75
4 Laborers	27.80	889.60	45.65	1460.80		
1 S.P. Crane, 4x4, 5 Ton		378.10		415.91		
1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76		
1 Butt Fusion Mach., 4"-12" diam.		426.85		469.54	20.86	22.94
48 L.H., Daily Totals		\$2367.50		\$3345.21	\$49.32	\$69.69

## Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
<b>Crew B-6C</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.47
4 Laborers	27.80	889.60	45.65	1460.80	\$46.75
1 S.P. Crane, 4x4, 12 Ton					
					428.30
1 Flatbed Truck, Gas, 3 Ton					471.13
					820.40
1 Butt Fusion Mach., 8"-24" diam.					902.44
					1076.00
48 L.H., Daily Totals					\$1183.60
					48.43
					53.27
					\$76.90
					\$100.02
<b>Crew B-6D</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
0.5 Labor Foreman (outside)	\$29.80	\$119.20	\$47.65	\$190.60	\$32.28
1 Laborer	27.80	222.40	45.65	365.20	\$52.63
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
1 Hydro Excavator, 12 C.Y.					63.08
					1262.00
20 L.H., Daily Totals					1388.20
					69.39
					\$2440.36
					\$95.36
					\$122.02
<b>Crew B-7</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.83
4 Laborers	27.80	889.60	45.65	1460.80	\$48.94
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
1 Brush Chipper, 12", 130 H.P.					392.80
					432.08
1 Crawler Loader, 3 C.Y.					1169.00
					1285.90
2 Chain Saws, Gas, 36" Long					82.50
					90.75
48 L.H., Daily Totals					34.26
					37.68
					\$3076.30
					\$4157.93
					\$64.09
					\$86.62
<b>Crew B-7A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$30.55
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60	\$50.08
1 Rake w/Tractor					339.45
					373.39
2 Chain Saws, Gas, 18"					104.00
					114.40
24 L.H., Daily Totals					18.48
					20.32
					\$1176.65
					\$1689.80
					\$49.03
					\$70.41
<b>Crew B-7B</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.40
4 Laborers	27.80	889.60	45.65	1460.80	\$49.86
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20	
1 Brush Chipper, 12", 130 H.P.					392.80
					432.08
1 Crawler Loader, 3 C.Y.					1169.00
					1285.90
2 Chain Saws, Gas, 36" Long					82.50
					90.75
1 Dump Truck, 8 C.Y., 220 H.P.					428.05
					470.86
56 L.H., Daily Totals					37.01
					40.71
					\$3774.75
					\$5071.98
					\$67.41
					\$90.57
<b>Crew B-7C</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.40
4 Laborers	27.80	889.60	45.65	1460.80	\$49.86
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20	
1 Brush Chipper, 12", 130 H.P.					392.80
					432.08
1 Crawler Loader, 3 C.Y.					1169.00
					1285.90
2 Chain Saws, Gas, 36" Long					82.50
					90.75
1 Dump Truck, 12 C.Y., 400 H.P.					572.90
					630.19
56 L.H., Daily Totals					39.59
					43.55
					\$3919.60
					\$5231.32
					\$69.99
					\$93.42
<b>Crew B-8</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.71
2 Laborers	27.80	444.80	45.65	730.40	\$53.61
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60	
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40	
1 Hyd. Crane, 25 Ton					580.85
					638.93
1 Crawler Loader, 3 C.Y.					1169.00
					1285.90
2 Dump Trucks, 12 C.Y., 400 H.P.					1145.80
					1260.38
56 L.H., Daily Totals					51.71
					56.88
					\$4727.65
					\$6187.22
					\$84.42
					\$110.49

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
<b>Crew B-9</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.20
4 Laborers	27.80	889.60	45.65	1460.80	\$46.31
1 Air Compressor, 250 cfm					201.50
					221.65
2 Breakers, Pavement, 60 lb.					107.00
					117.70
2-50' Air Hoses, 1.5"					48.50
					53.35
40 L.H., Daily Totals					8.93
					9.82
					\$1485.00
					\$2245.10
					\$37.13
					\$56.13
<b>Crew B-9A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$29.80
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20	\$48.90
1 Water Tank Trailer, 5000 Gal.					152.25
					167.47
1 Truck Tractor, 220 H.P.					307.10
					337.81
2-50' Discharge Hoses, 3"					9.00
					9.90
24 L.H., Daily Totals					19.51
					21.47
					\$1183.55
					\$1688.79
					\$49.31
					\$70.37
<b>Crew B-9B</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$29.80
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20	\$48.90
2-50' Discharge Hoses, 3"					9.00
					9.90
1 Water Tank Trailer, 5000 Gal.					152.25
					167.47
1 Truck Tractor, 220 H.P.					307.10
					337.81
1 Pressure Washer					96.95
					106.65
24 L.H., Daily Totals					23.55
					25.91
					\$1280.50
					\$1795.43
					\$53.35
					\$74.81
<b>Crew B-9D</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.20
4 Common Laborers	27.80	889.60	45.65	1460.80	\$46.31
1 Air Compressor, 250 cfm					201.50
					221.65
2-50' Air Hoses, 1.5"					48.50
					53.35
2 Air Powered Tamers					67.70
					74.47
40 L.H., Daily Totals					7.94
					8.74
					\$1445.70
					\$2201.87
					\$36.14
					\$55.05
<b>Crew B-9E</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$31.88
1 Laborer	27.80	222.40	45.65	365.20	\$51.77
1 Chip. Hammers, 12 Lb., Elec.					32.40
					35.64
16 L.H., Daily Totals					2.02
					2.23
					\$542.40
					\$864.04
					\$33.90
					\$54.00
<b>Crew B-10</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	\$38.00
8 L.H., Daily Totals					62.10
					\$304.00
					\$496.80
					\$38.00
					\$62.10
<b>Crew B-10A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
1 Roller, 2-Drum, W.B., 7.5 H.P.					166.10
					182.71
8 L.H., Daily Totals					20.76
					22.84
					\$470.10
					\$679.51
					\$58.76
					\$84.94
<b>Crew B-10B</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
1 Dozer, 200 H.P.					1504.00
					1654.40
8 L.H., Daily Totals					188.00
					206.80
					\$1808.00
					\$2151.20
					\$226.00
					\$268.90
<b>Crew B-10C</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
1 Dozer, 200 H.P.					1504.00
					1654.40
1 Vibratory Roller, Towed, 23 Ton					514.75
					566.23
8 L.H., Daily Totals					252.34
					277.58
					\$2322.75
					\$2717.43
					\$290.34
					\$339.68

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour				
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P			
<b>Crew B-10D</b>							<b>Crew B-10N</b>									
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Dozer, 200 H.P.		1504.00		1654.40			1 F.E. Loader, T.M., 1.5 C.Y.		565.80		622.38		70.72	77.80		
1 Sheepst. Roller, Towed		436.90		480.59			8 L.H., Daily Totals					\$869.80		\$1119.18	\$108.72	\$139.90
8 L.H., Daily Totals		\$2244.90		\$2631.79												
<b>Crew B-10E</b>							<b>Crew B-100</b>									
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Tandem Roller, 5 Ton		255.65		281.21			1 F.E. Loader, T.M., 2.25 C.Y.		960.90		1056.99		120.11	132.12		
8 L.H., Daily Totals		\$559.65		\$778.01			8 L.H., Daily Totals					\$1264.90		\$1553.79	\$158.11	\$194.22
<b>Crew B-10F</b>							<b>Crew B-10P</b>									
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Tandem Roller, 10 Ton		236.75		260.43			1 Crawler Loader, 3 C.Y.					1169.00		1285.90	146.13	160.74
8 L.H., Daily Totals		\$540.75		\$757.23			8 L.H., Daily Totals					\$1473.00		\$1782.70	\$184.13	\$222.84
<b>Crew B-10G</b>							<b>Crew B-10Q</b>									
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Sheepsfoot Roller, 240 H.P.		1348.00		1482.80			1 Crawler Loader, 4 C.Y.					1489.00		1637.90	186.13	204.74
8 L.H., Daily Totals		\$1652.00		\$1979.60			8 L.H., Daily Totals					\$1793.00		\$2134.70	\$224.13	\$266.84
<b>Crew B-10H</b>							<b>Crew B-10R</b>									
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Diaphragm Water Pump, 2"		86.80		95.48			1 F.E. Loader, W.M., 1 C.Y.					302.00		332.20	37.75	41.52
1 -20' Suction Hose, 2"		3.55		3.90			8 L.H., Daily Totals					\$606.00		\$829.00	\$75.75	\$103.63
2-50' Discharge Hoses, 2"		8.00		8.80												
8 L.H., Daily Totals		\$402.35		\$604.99			<b>Crew B-10S</b>									
<b>Crew B-10I</b>							1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 F.E. Loader, W.M., 1.5 C.Y.					423.50		465.85	52.94	58.23
1 Diaphragm Water Pump, 4"		105.25		115.78			8 L.H., Daily Totals					\$727.50		\$962.65	\$90.94	\$120.33
1 -20' Suction Hose, 4"		17.05		18.75												
2-50' Discharge Hoses, 4"		25.30		27.83			<b>Crew B-10T</b>									
8 L.H., Daily Totals		\$451.60		\$659.16			1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
<b>Crew B-10J</b>							1 F.E. Loader, W.M., 2.5 C.Y.					702.10		772.31	87.76	96.54
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	8 L.H., Daily Totals					\$1006.10		\$1269.11	\$125.76	\$158.64
1 Centrifugal Water Pump, 3"		74.45		81.89												
1 -20' Suction Hose, 3"		8.75		9.63			<b>Crew B-10U</b>									
2-50' Discharge Hoses, 3"		9.00		9.90			1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
8 L.H., Daily Totals		\$396.20		\$598.22			1 F.E. Loader, W.M., 5.5 C.Y.					957.50		1053.25	119.69	131.66
<b>Crew B-10K</b>							8 L.H., Daily Totals					\$1261.50		\$1550.05	\$157.69	\$193.76
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10										
1 Centrifugal Water Pump, 3"		232.90		256.19			<b>Crew B-10V</b>									
1 -20' Suction Hose, 6"		25.20		27.72			1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
2-50' Discharge Hoses, 6"		35.80		39.38			1 Dozer, 700 H.P.					5120.00		5632.00	640.00	704.00
8 L.H., Daily Totals		\$597.90		\$820.09			8 L.H., Daily Totals					\$5424.00		\$6128.80	\$678.00	\$766.10
<b>Crew B-10L</b>																
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	<b>Crew B-10W</b>									
1 Dozer, 80 H.P.		401.40		441.54			1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
8 L.H., Daily Totals		\$705.40		\$938.34			1 Dozer, 105 H.P.					633.85		697.24	79.23	87.15
<b>Crew B-10M</b>							8 L.H., Daily Totals					\$937.85		\$1194.04	\$117.23	\$149.25
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10										
1 Dozer, 300 H.P.		1764.00		1940.40			<b>Crew B-10X</b>									
8 L.H., Daily Totals		\$2068.00		\$2437.20			1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
<b>Crew B-10N</b>							1 Dozer, 410 H.P.					2777.00		3054.70	347.13	381.84
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	8 L.H., Daily Totals					\$3081.00		\$3551.50	\$385.13	\$443.94
1 Vibr. Roller, Towed, 12 Ton																
<b>Crew B-10O</b>							<b>Crew B-10Y</b>									
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10			
1 Vibr. Roller, Towed, 12 Ton							1 Vibr. Roller, Towed, 12 Ton					578.60		636.46	72.33	79.56
8 L.H., Daily Totals		\$882.60		\$1133.26			8 L.H., Daily Totals					\$882.60		\$110.33	\$141.66	

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-11A</b>							<b>Crew B-12B</b>						
1 Equipment Oper. (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$32.90	\$53.88	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Dozer, 200 H.P.		1504.00		1654.40		94.00	1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30		42.97
16 L.H., Daily Totals		\$2030.40		\$2516.40		\$126.90	16 L.H., Daily Totals		\$1217.55		\$1624.31		\$76.10
<b>Crew B-11B</b>							<b>Crew B-12C</b>						
1 Equipment Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$31.93	\$52.30	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Air Powered Tamper		33.85		37.23			1 Hyd. Excavator, 2 C.Y.		951.30		1046.43		59.46
1 Air Compressor, 365 cfm		315.40		346.94			16 L.H., Daily Totals		\$1481.30		\$1914.43		\$92.58
2-50' Air Hoses, 1.5"		48.50		53.35		24.86	16 L.H., Daily Totals		\$2688.00		\$3241.80		\$119.65
16 L.H., Daily Totals		\$908.55		\$1274.33		\$56.78	\$79.65						
<b>Crew B-11C</b>							<b>Crew B-12D</b>						
1 Equipment Oper. (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$32.90	\$53.88	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Backhoe Loader, 48 H.P.		213.75		235.13		13.36	1 Hyd. Excavator, 3.5 C.Y.		2158.00		2373.80		148.36
16 L.H., Daily Totals		\$740.15		\$1097.13		\$46.26	16 L.H., Daily Totals		\$2688.00		\$3241.80		\$202.61
<b>Crew B-11K</b>							<b>Crew B-12E</b>						
1 Equipment Oper. (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$32.90	\$53.88	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Trencher, Chain Type, 8' D		1872.00		2059.20		117.00	1 Hyd. Excavator, .5 C.Y.		452.10		497.31		28.26
16 L.H., Daily Totals		\$2398.40		\$2921.20		\$149.90	16 L.H., Daily Totals		\$982.10		\$1365.31		\$85.33
<b>Crew B-11L</b>							<b>Crew B-12F</b>						
1 Equipment Oper. (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$32.90	\$53.88	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Grader, 30,000 Lbs.		1062.00		1168.20		66.38	1 Hyd. Excavator, .75 C.Y.		694.25		763.67		47.73
16 L.H., Daily Totals		\$1588.40		\$2030.20		\$99.28	16 L.H., Daily Totals		\$1224.25		\$1631.68		\$101.98
<b>Crew B-11M</b>							<b>Crew B-12G</b>						
1 Equipment Oper. (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$32.90	\$53.88	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Backhoe Loader, 80 H.P.		232.40		255.64		14.53	1 Crawler Crane, 15 Ton		792.30		871.53		59.08
16 L.H., Daily Totals		\$758.80		\$1117.64		\$47.42	1 Clamshell Bucket, .5 C.Y.		67.10		73.81		
<b>Crew B-11W</b>							16 L.H., Daily Totals		\$1389.40		\$1813.34		\$113.33
1 Equipment Operator (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$33.65	\$55.15	<b>Crew B-12H</b>						
1 Common Laborer	27.80	222.40	45.65	365.20			1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
10 Truck Drivers (heavy)		33.80	2704.00	55.40	4432.00		1 Laborer	27.80	222.40	45.65	365.20		
1 Dozer, 200 H.P.		1504.00		1654.40			1 Crawler Crane, 25 Ton		1129.00		1241.90		
1 Vibratory Roller, Towed, 23 Ton		514.75		566.23			1 Clamshell Bucket, 1 C.Y.		68.55		75.41		74.85
10 Dump Trucks, 8 C.Y., 220 H.P.		4280.50		4708.55		65.62	16 L.H., Daily Totals		\$1727.55		\$2185.30		82.33
96 L.H., Daily Totals		\$9529.65		\$12223.17		\$99.27	\$127.32						
<b>Crew B-11Y</b>							<b>Crew B-12I</b>						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.42	\$51.50	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
5 Common Laborers	27.80	1112.00	45.65	1826.00			1 Laborer	27.80	222.40	45.65	365.20		
3 Equipment Operators (med.)	38.00	912.00	62.10	1490.40			1 Crawler Crane, 20 Ton		961.35		1057.48		
1 Dozer, 80 H.P.		401.40		441.54			1 Dragline Bucket, .75 C.Y.		61.25		67.38		63.91
2 Rollers, 2-Drum, W.B., 7.5 H.P.		332.20		365.42			16 L.H., Daily Totals		\$1552.60		\$1992.86		\$124.55
4 Vibrating Plates, Gas, 21"		661.40		727.54		19.38	16 L.H., Daily Totals						
72 L.H., Daily Totals		\$3657.40		\$5242.50		\$50.80	\$72.81						
<b>Crew B-12A</b>							<b>Crew B-12J</b>						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20			1 Laborer	27.80	222.40	45.65	365.20		
1 Hyd. Excavator, 1 C.Y.		795.30		874.83		49.71	1 Gradall, 5/8 C.Y.		846.50		931.15		52.91
16 L.H., Daily Totals		\$1325.30		\$1742.83		\$82.83	16 L.H., Daily Totals		\$1376.50		\$1799.15		\$86.03
													\$112.45

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew B-12K						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Gradaill, 3 Ton, 1 C.Y.		973.80		1071.18	60.86	66.95
16 L.H., Daily Totals		\$1503.80		\$1939.18	\$93.99	\$121.20
Crew B-12L						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 15 Ton		792.30		871.53		
1 F.E. Attachment, .5 C.Y.		65.25		71.78	53.60	58.96
16 L.H., Daily Totals		\$1387.55		\$1811.31	\$86.72	\$113.21
Crew B-12M						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 20 Ton		961.35		1057.48		
1 F.E. Attachment, .75 C.Y.		70.40		77.44	64.48	70.93
16 L.H., Daily Totals		\$1561.75		\$2002.93	\$97.61	\$125.18
Crew B-12N						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 25 Ton		1129.00		1241.90		
1 F.E. Attachment, 1 C.Y.		76.50		84.15	75.34	82.88
16 L.H., Daily Totals		\$1735.50		\$2194.05	\$108.47	\$137.13
Crew B-12O						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 40 Ton		1206.00		1326.60		
1 F.E. Attachment, 1.5 C.Y.		87.60		96.36	80.85	88.94
16 L.H., Daily Totals		\$1823.60		\$2290.96	\$113.97	\$143.19
Crew B-12P						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 40 Ton		1206.00		1326.60		
1 Dragline Bucket, 1.5 C.Y.		65.05		71.56	79.44	87.38
16 L.H., Daily Totals		\$1801.05		\$2266.16	\$112.57	\$141.63
Crew B-12Q						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Hyd. Excavator, 5/8 C.Y.		598.25		658.08	37.39	41.13
16 L.H., Daily Totals		\$1128.25		\$1526.08	\$70.52	\$95.38
Crew B-12S						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Hyd. Excavator, 2.5 C.Y.		1465.00		1611.50	91.56	100.72
16 L.H., Daily Totals		\$1995.00		\$2479.50	\$124.69	\$154.97
Crew B-12T						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 75 Ton		2002.00		2202.20		
1 F.E. Attachment, 3 C.Y.		114.15		125.57	132.26	145.49
16 L.H., Daily Totals		\$2646.15		\$3195.76	\$165.38	\$199.74

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew B-12V						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$33.13	\$54.25
1 Laborer	27.80	222.40	45.65	365.20		
1 Crawler Crane, 75 Ton		2002.00		2202.20		
1 Dragline Bucket, 3 C.Y.		71.60		78.76	129.60	142.56
16 L.H., Daily Totals		\$2603.60		\$3148.96	\$162.72	\$196.81
Crew B-12Y						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$31.35	\$51.38
2 Laborers	27.80	444.80	45.65	730.40		
1 Hyd. Excavator, 3.5 C.Y.		2158.00		2373.80	89.92	98.91
24 L.H., Daily Totals		\$2910.40		\$3607.00	\$121.27	\$150.29
Crew B-12Z						
1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$31.35	\$51.38
2 Laborers	27.80	444.80	45.65	730.40		
1 Hyd. Excavator, 2.5 C.Y.		1465.00		1611.50	61.04	67.15
24 L.H., Daily Totals		\$2217.40		\$2844.70	\$92.39	\$118.53
Crew B-13						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.91	\$49.07
4 Laborers	27.80	889.60	45.65	1460.80		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Hyd. Crane, 25 Ton		580.85		638.93	12.10	13.31
48 L.H., Daily Totals		\$2016.45		\$2994.14	\$42.01	\$62.38
Crew B-13A						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.71	\$53.61
2 Laborers	27.80	444.80	45.65	730.40		
2 Equipment Operators (med.)	38.00	608.00	62.10	993.60		
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40		
1 Crawler Crane, 75 Ton		2002.00		2202.20		
1 Crawler Loader, 4 C.Y.		1489.00		1637.90		
2 Dump Trucks, 8 C.Y., 220 H.P.		856.10		941.71	77.63	85.39
56 L.H., Daily Totals		\$6179.10		\$7783.81	\$110.34	\$139.00
Crew B-13B						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.40	\$49.84
4 Laborers	27.80	889.60	45.65	1460.80		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Hyd. Crane, 55 Ton		980.20		1078.22	17.50	19.25
56 L.H., Daily Totals		\$2682.60		\$3869.42	\$47.90	\$69.10
Crew B-13C						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.40	\$49.84
4 Laborers	27.80	889.60	45.65	1460.80		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Crawler Crane, 100 Ton		2287.00		2515.70	40.84	44.92
56 L.H., Daily Totals		\$3989.40		\$5306.90	\$71.24	\$94.77
Crew B-13D						
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Hyd. Excavator, 1 C.Y.		795.30		874.83		
1 Trench Box		117.75		129.53	57.07	62.77
16 L.H., Daily Totals		\$1443.05		\$1872.36	\$90.19	\$117.02

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-13E</b>							<b>Crew B-13M</b>						
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25	2 Equip. Oper. (crane)	\$38.45	\$615.20	\$62.85	\$1005.60	\$38.45	\$62.85
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Hyd. Excavator, 2.5 C.Y.		1465.00		1611.50		
1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30			1 Hyd. Hammer, 8000 ft-lb		907.75		998.52		
1 Trench Box		117.75		129.53	50.33	55.36	1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30	191.27	210.40
16 L.H., Daily Totals		\$1335.30		\$1753.83	\$83.46	\$109.61	16 L.H., Daily Totals		\$3675.50		\$4371.93	\$229.72	\$273.25
<b>Crew B-13F</b>							<b>Crew B-13N</b>						
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25	2 Equip. Oper. (crane)	\$38.45	\$615.20	\$62.85	\$1005.60	\$38.45	\$62.85
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Hyd. Excavator, 3.5 C.Y.		2158.00		2373.80		
1 Hyd. Excavator, 3.5 C.Y.		2158.00		2373.80			1 Hyd. Hammer, 12,000 ft-lb		871.75		958.92		
1 Trench Box		117.75		129.53	142.23	156.46	1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30	232.33	255.56
16 L.H., Daily Totals		\$2805.75		\$3371.32	\$175.36	\$210.71	16 L.H., Daily Totals		\$4332.50		\$5094.63	\$270.78	\$318.41
<b>Crew B-13G</b>							<b>Crew B-14</b>						
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.51	\$48.42
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			4 Laborers	27.80	889.60	45.65	1460.80		
1 Gradall, .75 C.Y.		694.25		763.67			1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 Trench Box		117.75		129.53	50.75	55.83	1 Backhoe Loader, 48 H.P.		213.75		235.13	4.45	4.90
16 L.H., Daily Totals		\$1342.00		\$1761.20	\$83.88	\$110.08	48 L.H., Daily Totals		\$1630.15		\$2559.13	\$33.96	\$53.32
<b>Crew B-13H</b>							<b>Crew B-14A</b>						
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$34.90	\$57.12
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			.5 Laborer	27.80	111.20	45.65	182.60		
1 Gradall, 5/8 C.Y.		846.50		931.15			1 Hyd. Excavator, 4.5 C.Y.		3409.00		3749.90		
1 Trench Box		117.75		129.53	60.27	66.29	12 L.H., Daily Totals		\$3827.80		\$4435.30	\$318.98	\$369.61
16 L.H., Daily Totals		\$1494.25		\$1928.68	\$93.39	\$120.54	<b>Crew B-14B</b>						
<b>Crew B-13I</b>							1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$34.90	\$57.12
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25	.5 Laborer	27.80	111.20	45.65	182.60		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Hyd. Excavator, 6 C.Y.		3464.00		3810.40		
1 Gradall, 3 Ton, 1 C.Y.		973.80		1071.18			12 L.H., Daily Totals		\$3882.80		\$4495.80	\$323.57	\$374.65
1 Trench Box		117.75		129.53	68.22	75.04	<b>Crew B-14C</b>						
16 L.H., Daily Totals		\$1621.55		\$2068.70	\$101.35	\$129.29	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$34.90	\$57.12
<b>Crew B-13J</b>							.5 Laborer	27.80	111.20	45.65	182.60		
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.13	\$54.25	1 Hyd. Excavator, 7 C.Y.		3437.00		3780.70		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			12 L.H., Daily Totals		\$3855.80		\$4466.10	\$321.32	\$372.18
1 Hyd. Excavator, 2.5 C.Y.		1465.00		1611.50			<b>Crew B-14F</b>						
1 Trench Box		117.75		129.53	98.92	108.81	1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$34.90	\$57.12
16 L.H., Daily Totals		\$2112.75		\$2609.03	\$132.05	\$163.06	.5 Laborer	27.80	111.20	45.65	182.60		
<b>Crew B-13K</b>							1 Hyd. Shovel, 7 C.Y.		4099.00		4508.90		
2 Equip. Oper. (crane)	\$38.45	\$615.20	\$62.85	\$1005.60	\$38.45	\$62.85	12 L.H., Daily Totals		\$4517.80		\$5194.30	\$376.48	\$432.86
1 Hyd. Excavator, .75 C.Y.		694.25		763.67			<b>Crew B-14G</b>						
1 Hyd. Hammer, 4000 ft-lb		641.50		705.65			1 Equip. Oper. (crane)	\$38.45	\$307.60	\$62.85	\$502.80	\$34.90	\$57.12
1 Hyd. Excavator, .75 C.Y.		694.25		763.67	126.88	139.56	.5 Laborer	27.80	111.20	45.65	182.60		
16 L.H., Daily Totals		\$2645.20		\$3238.60	\$165.32	\$202.41	1 Hyd. Shovel, 12 C.Y.		5951.00		6546.10		
<b>Crew B-13L</b>							12 L.H., Daily Totals		\$6369.80		\$7231.50		
2 Equip. Oper. (crane)	\$38.45	\$615.20	\$62.85	\$1005.60	\$38.45	\$62.85	<b>Crew B-14J</b>						
1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30			1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$34.60	\$56.62
1 Hyd. Hammer, 5000 ft-lb		697.25		766.98			.5 Laborer	27.80	111.20	45.65	182.60		
1 Hyd. Excavator, .75 C.Y.		694.25		763.67	129.94	142.93	1 F.E. Loader, 8 C.Y.		2261.00		2487.10		
16 L.H., Daily Totals		\$2694.25		\$3292.55	\$168.39	\$205.78	12 L.H., Daily Totals		\$2676.20		\$3166.50	\$223.02	\$263.88

# Crews - Residential

Crew No.	Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Incl. Subs O&P		Cost Per Labor-Hour
	Bare Costs				Bare Costs		
<b>Crew B-14K</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$34.60	\$56.62	
.5 Laborer	27.80	111.20	45.65	182.60			
1 F.E. Loader, 10 C.Y.		2674.00		2941.40	222.83	245.12	
<b>12 L.H., Daily Totals</b>		<b>\$3089.20</b>		<b>\$3620.80</b>	<b>\$257.43</b>	<b>\$301.73</b>	
<b>Crew B-15</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Equipment Oper. (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$34.14	\$55.92	
.5 Laborer	27.80	111.20	45.65	182.60			
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40			
2 Dump Trucks, 12 C.Y., 400 H.P.		1145.80		1260.38			
1 Dozer, 200 H.P.		1504.00		1654.40	94.64	104.10	
<b>28 L.H., Daily Totals</b>		<b>\$3605.80</b>		<b>\$4480.58</b>	<b>\$128.78</b>	<b>\$160.02</b>	
<b>Crew B-16</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.80	\$48.91	
2 Laborers	27.80	444.80	45.65	730.40			
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			
1 Dump Truck, 12 C.Y., 400 H.P.		572.90		630.19	17.90	19.69	
<b>32 L.H., Daily Totals</b>		<b>\$1526.50</b>		<b>\$2195.39</b>	<b>\$47.70</b>	<b>\$68.61</b>	
<b>Crew B-17</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$31.36	\$51.41	
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			
1 Backhoe Loader, 48 H.P.		213.75		235.13			
1 Dump Truck, 8 C.Y., 220 H.P.		428.05		470.86	20.06	22.06	
<b>32 L.H., Daily Totals</b>		<b>\$1645.40</b>		<b>\$2351.18</b>	<b>\$51.42</b>	<b>\$73.47</b>	
<b>Crew B-17A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$30.23	\$49.72	
6 Laborers	27.80	1334.40	45.65	2191.20			
1 Skilled Worker Foreman (out)	38.95	311.60	64.35	514.80			
1 Skilled Worker	36.95	295.60	61.05	488.40			
<b>80 L.H., Daily Totals</b>		<b>\$2418.40</b>		<b>\$3977.60</b>	<b>\$30.23</b>	<b>\$49.72</b>	
<b>Crew B-17B</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$31.36	\$51.41	
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			
1 Backhoe Loader, 48 H.P.		213.75		235.13			
1 Dump Truck, 12 C.Y., 400 H.P.		572.90		630.19	24.58	27.04	
<b>32 L.H., Daily Totals</b>		<b>\$1790.25</b>		<b>\$2510.51</b>	<b>\$55.95</b>	<b>\$78.45</b>	
<b>Crew B-18</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75	
2 Laborers	27.80	444.80	45.65	730.40			
1 Vibrating Plate, Gas, 21"		165.35		181.88	6.89	7.58	
<b>24 L.H., Daily Totals</b>		<b>\$848.55</b>		<b>\$1303.89</b>	<b>\$35.36</b>	<b>\$54.33</b>	
<b>Crew B-19</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40	\$36.07	\$60.56	
4 Pile Drivers	36.85	1179.20	62.40	1996.80			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 Building Laborer	27.80	222.40	45.65	365.20			
1 Crawler Crane, 40 Ton		1206.00		1326.60			
1 Lead, 90' High		367.45		404.19			
1 Hammer, Diesel, 22k ft-lb		436.45		480.10	35.89	39.48	
<b>56 L.H., Daily Totals</b>		<b>\$4029.90</b>		<b>\$5602.09</b>	<b>\$71.96</b>	<b>\$100.04</b>	
<b>Crew B-19A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40			
4 Pile Drivers	36.85	1179.20	62.40	1996.80			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 Common Laborer	27.80	222.40	45.65	365.20			
1 Crawler Crane, 75 Ton		2002.00		2202.20			
1 Lead, 90' High		367.45		404.19			
1 Hammer, Diesel, 41k ft-lb		576.65		634.32	52.61	57.87	
<b>56 L.H., Daily Totals</b>		<b>\$4966.10</b>		<b>\$6631.91</b>	<b>\$88.68</b>	<b>\$118.43</b>	
<b>Crew B-19B</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40			
4 Pile Drivers	36.85	1179.20	62.40	1996.80			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 Common Laborer	27.80	222.40	45.65	365.20			
1 Crawler Crane, 40 Ton		1206.00		1326.60			
1 Lead, 90' High		367.45		404.19			
1 Hammer, Diesel, 22k ft-lb		436.45		480.10			
<b>56 L.H., Daily Totals</b>		<b>\$4888.75</b>		<b>\$6546.82</b>	<b>\$87.30</b>	<b>\$116.91</b>	
<b>Crew B-19C</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40			
4 Pile Drivers	36.85	1179.20	62.40	1996.80			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 Common Laborer	27.80	222.40	45.65	365.20			
1 Crawler Crane, 75 Ton		2002.00		2202.20			
1 Lead, 90' High		367.45		404.19			
1 Hammer, Diesel, 41k ft-lb		576.65		634.32			
<b>56 L.H., Daily Totals</b>		<b>\$5824.95</b>		<b>\$7576.65</b>	<b>\$104.02</b>	<b>\$135.30</b>	
<b>Crew B-20</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			
2 Laborers	27.80	444.80	45.65	730.40			
<b>24 L.H., Daily Totals</b>		<b>\$683.20</b>		<b>\$1122.00</b>	<b>\$28.47</b>	<b>\$46.75</b>	
<b>Crew B-20A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			
1 Laborer	27.80	222.40	45.65	365.20			
1 Plumber	40.60	324.80	66.45	531.60			
1 Plumber Apprentice	32.50	260.00	53.20	425.60			
<b>32 L.H., Daily Totals</b>		<b>\$1045.60</b>		<b>\$1714.00</b>	<b>\$32.67</b>	<b>\$53.56</b>	
<b>Crew B-21</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			
2 Laborers	27.80	444.80	45.65	730.40			
.5 Equip. Oper. (crane)	38.45	153.80	62.85	251.40			
.5 S.P. Crane, 4x4, 5 Ton		189.05		207.96	6.75	7.43	
<b>28 L.H., Daily Totals</b>		<b>\$1026.05</b>		<b>\$1581.36</b>	<b>\$36.64</b>	<b>\$56.48</b>	
<b>Crew B-21A</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			
1 Laborer	27.80	222.40	45.65	365.20			
1 Plumber	40.60	324.80	66.45	531.60			
1 Plumber Apprentice	32.50	260.00	53.20	425.60			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 S.P. Crane, 4x4, 12 Ton		428.30		471.13	10.71	11.78	
<b>40 L.H., Daily Totals</b>		<b>\$1781.50</b>		<b>\$2687.93</b>	<b>\$44.54</b>	<b>\$67.20</b>	

# Crews - Residential

Crew No.	Incl. Bare Costs		Cost Per Labor-Hour		Bare Costs	Incl. O&P	Cost Per Labor-Hour
	Bare Costs	Subs O&P	Hr.	Daily			
<b>Crew B-21B</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.33	\$49.75	
3 Laborers	27.80	667.20	45.65	1095.60			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 Hyd. Crane, 12 Ton		471.00		518.10	11.78	12.95	
40 L.H., Daily Totals		\$1684.20		\$2508.10	\$42.10	\$62.70	
<b>Crew B-21C</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.40	\$49.84	
4 Laborers	27.80	889.60	45.65	1460.80			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00			
2 Cutting Torches		25.60		28.16			
2 Sets of Gases		343.10		377.41			
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60	36.87	40.56	
56 L.H., Daily Totals		\$3767.10		\$5062.37	\$67.27	\$90.40	
<b>Crew B-22</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.46	\$49.97	
2 Laborers	27.80	444.80	45.65	730.40			
.75 Equip. Oper. (crane)	38.45	230.70	62.85	377.10			
.75 S.P. Crane, 4x4, 5 Ton		283.57		311.93	9.45	10.40	
30 L.H., Daily Totals		\$1197.47		\$1811.03	\$39.92	\$60.37	
<b>Crew B-22A</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.16	\$52.83	
1 Skilled Worker	36.95	295.60	61.05	488.40			
2 Laborers	27.80	444.80	45.65	730.40			
1 Equipment Operator, Crane	38.45	307.60	62.85	502.80			
1 S.P. Crane, 4x4, 5 Ton		378.10		415.91			
1 Butt Fusion Mach., 4"-12" diam.		426.85		469.54	20.12	22.14	
40 L.H., Daily Totals		\$2091.35		\$2998.65	\$52.28	\$74.97	
<b>Crew B-22B</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.16	\$52.83	
1 Skilled Worker	36.95	295.60	61.05	488.40			
2 Laborers	27.80	444.80	45.65	730.40			
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			
1 S.P. Crane, 4x4, 5 Ton		378.10		415.91			
1 Butt Fusion Mach., 8"-24" diam.		1076.00		1183.60	36.35	39.99	
40 L.H., Daily Totals		\$2740.50		\$3712.71	\$68.51	\$92.82	
<b>Crew B-22C</b>							
1 Skilled Worker	\$36.95	\$295.60	\$61.05	\$488.40	\$32.38	\$53.35	
1 Laborer	27.80	222.40	45.65	365.20			
1 Butt Fusion Mach., 2"-8" diam.		156.05		171.66	9.75	10.73	
16 L.H., Daily Totals		\$674.05		\$1025.26	\$42.13	\$64.08	
<b>Crew B-23</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.20	\$46.31	
4 Laborers	27.80	889.60	45.65	1460.80			
1 Drill Rig, Truck-Mounted		771.10		848.21			
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44	39.79	43.77	
40 L.H., Daily Totals		\$2719.50		\$3603.05	\$67.99	\$90.08	
<b>Crew B-23A</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.87	\$52.23	
1 Laborer	27.80	222.40	45.65	365.20			
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80			
1 Drill Rig, Truck-Mounted		771.10		848.21			
1 Pickup Truck, 3/4 Ton		110.85		121.94	36.75	40.42	
24 L.H., Daily Totals		\$1646.75		\$2223.74	\$68.61	\$92.66	

Crew No.	Incl. Bare Costs		Cost Per Labor-Hour		Bare Costs	Incl. O&P	Cost Per Labor-Hour
	Bare Costs	Subs O&P	Hr.	Daily			
<b>Crew B-23B</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.87	\$52.23	
1 Laborer	27.80	222.40	45.65	365.20			
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80			
1 Drill Rig, Truck-Mounted		771.10		848.21			
1 Pickup Truck, 3/4 Ton		110.85		121.94	23.90	25.19	
24 L.H., Daily Totals		\$1879.65		\$2479.93	\$78.32	\$103.33	
<b>Crew B-24</b>							
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$33.30	\$54.32	
1 Laborer	27.80	222.40	45.65	365.20			
1 Carpenter	36.15	289.20	59.40	475.20			
24 L.H., Daily Totals		\$799.20		\$1303.60	\$33.30	\$54.32	
<b>Crew B-25</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.76	\$50.44	
7 Laborers	27.80	1556.80	45.65	2556.40			
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40			
1 Asphalt Paver, 130 H.P.		2117.00		2328.70			
1 Tandem Roller, 10 Ton		236.75		260.43			
1 Roller, Pneum. Whl., 12 Ton		345.75		380.32	30.68	33.74	
88 L.H., Daily Totals		\$5406.70		\$7407.85	\$61.44	\$84.18	
<b>Crew B-25B</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.37	\$51.41	
7 Laborers	27.80	1556.80	45.65	2556.40			
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20			
1 Asphalt Paver, 130 H.P.		2117.00		2328.70			
2 Tandem Rollers, 10 Ton		473.50		520.85			
1 Roller, Pneum. Whl., 12 Ton		345.75		380.32	30.59	33.64	
96 L.H., Daily Totals		\$5947.45		\$8165.07	\$61.95	\$85.05	
<b>Crew B-25C</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.53	\$51.68	
3 Laborers	27.80	667.20	45.65	1095.60			
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60			
1 Asphalt Paver, 130 H.P.		2117.00		2328.70			
1 Tandem Roller, 10 Ton		236.75		260.43	49.04	53.94	
48 L.H., Daily Totals		\$3867.35		\$5069.93	\$80.57	\$105.62	
<b>Crew B-25D</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.71	\$51.97	
3 Laborers	27.80	667.20	45.65	1095.60			
2.125 Equip. Oper. (medium)	38.00	646.00	62.10	1055.70			
.125 Truck Driver (heavy)	33.80	33.80	55.40	55.40			
.125 Truck Tractor, 6x4, 380 H.P.		61.66		67.82			
.125 Dist. Tanker, 3000 Gallon		41.27		45.40			
1 Asphalt Paver, 130 H.P.		2117.00		2328.70			
1 Tandem Roller, 10 Ton		236.75		260.43	49.13	54.05	
50 L.H., Daily Totals		\$4042.08		\$5300.64	\$80.84	\$106.01	
<b>Crew B-25E</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.87	\$52.23	
3 Laborers	27.80	667.20	45.65	1095.60			
2.250 Equip. Oper. (medium)	38.00	684.00	62.10	1117.80			
.25 Truck Driver (heavy)	33.80	67.60	55.40	110.80			
.25 Truck Tractor, 6x4, 380 H.P.		123.31		135.64			
.25 Dist. Tanker, 3000 Gallon		82.54		90.79			
1 Asphalt Paver, 130 H.P.		2117.00		2328.70			
1 Tandem Roller, 10 Ton		236.75		260.43	49.22	54.15	
52 L.H., Daily Totals		\$4216.80		\$5531.36	\$81.09	\$106.37	

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew B-26</b>						<b>Crew B-30</b>					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.64	1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$35.20
6 Laborers	27.80	1334.40	45.65	2191.20		2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40	\$57.63
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60		1 Hyd. Excavator, 1.5 C.Y.		687.55		756.30	
1 Rodman (reinf.)	39.50	316.00	65.00	520.00		2 Dump Trucks, 12 C.Y., 400 H.P.		1145.80		1260.38	76.39
1 Cement Finisher	35.95	287.60	57.90	463.20							84.03
1 Grader, 30,000 Lbs.		1062.00		1168.20							
1 Paving Mach. & Equip.		2474.00		2721.40							
88 L.H., Daily Totals		\$6320.40		\$8449.20		24 L.H., Daily Totals		\$2678.15		\$3399.89	\$111.59
<b>Crew B-26A</b>											
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.64	<b>Crew B-31</b>					
6 Laborers	27.80	1334.40	45.65	2191.20		1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.20
2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60		4 Laborers	27.80	889.60	45.65	1460.80	\$46.31
1 Rodman (reinf.)	39.50	316.00	65.00	520.00		1 Air Compressor, 250 cfm		201.50		221.65	
1 Cement Finisher	35.95	287.60	57.90	463.20		1 Sheeting Driver		7.35		8.09	
1 Grader, 30,000 Lbs.		1062.00		1168.20		2-50' Air Hoses, 1.5"		48.50		53.35	6.43
1 Paving Mach. & Equip.		2474.00		2721.40							7.08
1 Concrete Saw		111.50		122.65		40 L.H., Daily Totals		\$1385.35		\$2135.49	\$34.63
88 L.H., Daily Totals		\$6431.90		\$8571.85							\$53.39
<b>Crew B-26B</b>						<b>Crew B-32</b>					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.17	1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$35.45
6 Laborers	27.80	1334.40	45.65	2191.20		3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40	\$57.99
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40		1 Grader, 30,000 Lbs.		1062.00		1168.20	
1 Rodman (reinf.)	39.50	316.00	65.00	520.00		1 Tandem Roller, 10 Ton		236.75		260.43	
1 Cement Finisher	35.95	287.60	57.90	463.20		1 Dozer, 200 H.P.		1504.00		1654.40	87.59
1 Grader, 30,000 Lbs.		1062.00		1168.20		32 L.H., Daily Totals		\$3937.15		\$4938.63	\$123.04
1 Paving Mach. & Equip.		2474.00		2721.40							\$154.33
1 Concrete Pump, 110' Boom		470.75		517.83							
96 L.H., Daily Totals		\$7095.15		\$9463.83							
<b>Crew B-26C</b>						<b>Crew B-32A</b>					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.00	1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$34.60
6 Laborers	27.80	1334.40	45.65	2191.20		2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60	\$56.62
1 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40		1 Dozer, 200 H.P.		1504.00		1654.40	
1 Rodman (reinf.)	39.50	316.00	65.00	520.00		1 Roller, Vibratory, 25 Ton		664.35		730.78	71.93
1 Cement Finisher	35.95	287.60	57.90	463.20		24 L.H., Daily Totals		\$2556.75		\$3257.78	\$106.53
1 Paving Mach. & Equip.		2474.00		2721.40							\$135.74
1 Concrete Saw		111.50		122.65							
80 L.H., Daily Totals		\$5065.90		\$6906.85							
<b>Crew B-27</b>						<b>Crew B-32B</b>					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.30	1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$34.60
3 Laborers	27.80	1334.40	45.65	2191.20		2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60	\$56.62
1 Berm Machine		304.00	62.10	496.80		1 Dozer, 200 H.P.		1504.00		1654.40	
1 Rodman (reinf.)	39.50	316.00	65.00	520.00		1 Roller, Vibratory, 25 Ton		664.35		730.78	90.35
1 Cement Finisher	35.95	287.60	57.90	463.20		24 L.H., Daily Totals		\$2998.75		\$3743.99	\$124.95
1 Paving Mach. & Equip.		2474.00		2721.40							\$156.00
1 Concrete Saw		111.50		122.65							
32 L.H., Daily Totals		\$1177.55		\$1786.35							
<b>Crew B-28</b>						<b>Crew B-32C</b>					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.30	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.23
2 Carpenters	36.15	\$578.40	59.40	\$950.40	\$33.37	2 Laborers	27.80	444.80	45.65	730.40	\$54.42
1 Laborer	27.80	222.40	45.65	365.20		3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40	
24 L.H., Daily Totals		\$800.80		\$1315.60		1 Grader, 30,000 Lbs.		1062.00		1168.20	
<b>Crew B-29</b>						1 Tandem Roller, 10 Ton		236.75		260.43	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.91	1 Dozer, 200 H.P.		1504.00		1654.40	58.39
4 Laborers	27.80	889.60	45.65	1460.80		48 L.H., Daily Totals		\$4397.95		\$5695.43	\$91.62
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							\$118.65
1 Grader, 5/8 C.Y.		846.50		931.15							
48 L.H., Daily Totals		\$2282.10		\$3286.35							
<b>Crew B-30</b>						<b>Crew B-33A</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00				1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00				1 Scrapper, Towed, 7 C.Y.		62.10		124.20	\$62.10
1 Scraper, Towed, 7 C.Y.		127.80				1.250 Dozers, 300 H.P.		2205.00		2425.50	233.28
1.250 Dozers, 300 H.P.		140.58				10 L.H., Daily Totals		\$2712.80		\$3187.08	\$271.28
											\$318.71
<b>Crew B-33B</b>						<b>Crew B-33B</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00				1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00				1 Scrapper, Towed, 10 C.Y.		62.10		124.20	\$62.10
1 Scrapper, Towed, 10 C.Y.		159.70				1.250 Dozers, 300 H.P.		2205.00		2425.50	236.47
1.250 Dozers, 300 H.P.		175.67				10 L.H., Daily Totals		\$2744.70		\$3222.17	\$274.47
											\$322.22

# Crews - Residential

Crew No.	Incl. Bare Costs		Cost Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily	
<b>Crew B-33C</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00	62.10	124.20	\$62.10
1 Scraper, Towed, 15 C.Y.		176.75		194.43	
1.250 Dozers, 300 H.P.		2205.00		2425.50	
10 L.H., Daily Totals		\$2761.75		\$3240.93	\$276.18
					\$324.09
<b>Crew B-33D</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00	62.10	124.20	\$62.10
1 S.P. Scraper, 14 C.Y.		2395.00		2634.50	
.25 Dozer, 300 H.P.		441.00		485.10	
10 L.H., Daily Totals		\$3216.00		\$3740.60	\$321.60
					\$374.06
<b>Crew B-33E</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00	62.10	124.20	\$62.10
1 S.P. Scraper, 21 C.Y.		2628.00		2890.80	
.25 Dozer, 300 H.P.		441.00		485.10	
10 L.H., Daily Totals		\$3449.00		\$3996.90	\$344.90
					\$399.69
<b>Crew B-33F</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00	62.10	124.20	\$62.10
1 Elev. Scraper, 11 C.Y.		1133.00		1246.30	
.25 Dozer, 300 H.P.		441.00		485.10	
10 L.H., Daily Totals		\$1954.00		\$2352.40	\$195.40
					\$235.24
<b>Crew B-33G</b>					
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00
.25 Equip. Oper. (medium)	38.00	76.00	62.10	124.20	\$62.10
1 Elev. Scraper, 22 C.Y.		1884.00		2072.40	
.25 Dozer, 300 H.P.		441.00		485.10	
10 L.H., Daily Totals		\$2705.00		\$3178.50	\$270.50
					\$317.85
<b>Crew B-33K</b>					
1 Equipment Operator (med.)	\$38.00	\$304.00	\$62.10	\$496.80	\$35.09
.25 Equipment Operator (med.)	38.00	76.00	62.10	124.20	\$57.40
.5 Laborer	27.80	111.20	45.65	182.60	
1 S.P. Scraper, 31 C.Y.		3667.00		4033.70	
.25 Dozer, 410 H.P.		694.25		763.67	
14 L.H., Daily Totals		\$4852.45		\$5600.98	\$346.60
					\$400.07
<b>Crew B-34A</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, 8 C.Y., 220 H.P.		428.05		470.86	Incl. O&P
8 L.H., Daily Totals		\$698.45		\$914.05	\$87.31
					\$114.26
<b>Crew B-34B</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, 12 C.Y., 400 H.P.		572.90		630.19	Incl. O&P
8 L.H., Daily Totals		\$843.30		\$1073.39	\$105.41
					\$134.17
<b>Crew B-34C</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Truck Tractor, 6x4, 380 H.P.		493.25		542.58	Incl. O&P
1 Dump Trailer, 16.5 C.Y.		136.70		150.37	
8 L.H., Daily Totals		\$900.35		\$1136.15	\$112.54
					\$142.02

Crew No.	Incl. Bare Costs		Cost Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily	
<b>Crew B-34D</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Truck Tractor, 6x4, 380 H.P.		493.25		542.58	Incl. O&P
1 Dump Trailer, 20 C.Y.		151.70		166.87	
8 L.H., Daily Totals		\$915.35		\$1152.65	\$114.42
					\$144.08
<b>Crew B-34E</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, Off Hwy., 25 Ton		1379.00		1516.90	Incl. O&P
8 L.H., Daily Totals		\$1649.40		\$1960.10	\$206.18
					\$245.01
<b>Crew B-34F</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, Off Hwy., 35 Ton		935.20		1028.72	Incl. O&P
8 L.H., Daily Totals		\$1205.60		\$1471.92	
					\$183.99
<b>Crew B-34G</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, Off Hwy., 50 Ton		1771.00		1948.10	Incl. O&P
8 L.H., Daily Totals		\$2041.40		\$2391.30	
					\$298.91
<b>Crew B-34H</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, Off Hwy., 65 Ton		1915.00		2106.50	Incl. O&P
8 L.H., Daily Totals		\$2185.40		\$2549.70	
					\$318.71
<b>Crew B-34I</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, 18 C.Y., 450 H.P.		713.80		785.18	Incl. O&P
8 L.H., Daily Totals		\$984.20		\$1228.38	
					\$153.55
<b>Crew B-34J</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Dump Truck, Off Hwy., 100 Ton		2736.00		3009.60	Incl. O&P
8 L.H., Daily Totals		\$3006.40		\$3452.80	
					\$375.80
<b>Crew B-34K</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Truck Tractor, 6x4, 450 H.P.		601.75		661.92	Incl. O&P
1 Lowbed Trailer, 75 Ton		255.05		280.56	
8 L.H., Daily Totals		\$1127.20		\$1385.68	
					\$173.21
<b>Crew B-34L</b>					
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	Bare Costs
1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76	Incl. O&P
8 L.H., Daily Totals		\$484.55		\$687.37	
					\$85.92
<b>Crew B-34M</b>					
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	Bare Costs
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44	Incl. O&P
8 L.H., Daily Totals		\$1108.80		\$1374.04	
					\$171.76
<b>Crew B-34N</b>					
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	Bare Costs
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	Incl. O&P
1 Truck Tractor, 6x4, 380 H.P.		493.25		542.58	
1 Flatbed Trailer, 40 Ton		186.20		204.82	
8 L.H., Daily Totals		\$1253.85		\$1687.40	
					\$105.46

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew B-34P</b>						<b>Crew B-34W</b>					
1 Pipe Fitter	\$41.95	\$335.60	\$68.65	\$549.20	\$37.68	1 Truck Drivers (heavy)	\$33.80	\$1352.00	\$55.40	\$2216.00	\$34.68
1 Truck Driver (light)	33.10	264.80	54.25	434.00		2 Equip. Oper. (crane)	38.45	615.20	62.85	1005.60	\$56.80
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		1 Equip. Oper. (mechanic)	38.45	307.60	62.85	502.80	
1 Flatbed Truck, Gas, 3 Ton						1 Laborer	27.80	222.40	45.65	365.20	
1 Backhoe Loader, 48 H.P.						4 Truck Tractors, 6x4, 380 H.P.		1973.00		2170.30	
						2 Equipment Trailers, 50 Ton		410.10		451.11	
						2 Flatbed Trailers, 40 Ton		372.40		409.64	
						1 Pickup Truck, 4x4, 3/4 Ton		175.85		193.44	
						1 S.P. Crane, 4x4, 20 Ton		582.20		640.42	48.80 53.68
<b>24 L.H., Daily Totals</b>		\$1938.55		\$2617.57	\$80.77	<b>72 L.H., Daily Totals</b>		\$6010.75		\$7954.51	\$83.48 \$110.48
<b>Crew B-34Q</b>						<b>Crew B-35</b>					
1 Pipe Fitter	\$41.95	\$335.60	\$68.65	\$549.20	\$37.83	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$34.72
1 Truck Driver (light)	33.10	264.80	54.25	434.00		1 Skilled Worker	36.95	295.60	61.05	488.40	\$56.99
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		1 Welder (plumber)	40.60	324.80	66.45	531.60	
1 Flatbed Trailer, 25 Ton						1 Laborer	27.80	222.40	45.65	365.20	
1 Dump Truck, 8 C.Y., 220 H.P.						1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80	
1 Hyd. Crane, 25 Ton						1 Welder, Electric, 300 amp		106.40		117.04	
						1 Hyd. Excavator, .75 C.Y.		694.25		763.67	20.02 22.02
<b>24 L.H., Daily Totals</b>		\$2052.45		\$2744.90	\$85.52	<b>40 L.H., Daily Totals</b>		\$2189.45		\$3160.32	\$54.74 \$79.01
<b>Crew B-34R</b>						<b>Crew B-35A</b>					
1 Pipe Fitter	\$41.95	\$335.60	\$68.65	\$549.20	\$37.83	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.54
1 Truck Driver (light)	33.10	264.80	54.25	434.00		2 Laborers	27.80	444.80	45.65	730.40	\$55.01
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		1 Skilled Worker	36.95	295.60	61.05	488.40	
1 Flatbed Trailer, 25 Ton						1 Welder (plumber)	40.60	324.80	66.45	531.60	
1 Dump Truck, 8 C.Y., 220 H.P.						1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80	
1 Hyd. Crane, 25 Ton						1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00	
1 Hyd. Excavator, 1 C.Y.						1 Welder, Gas Engine, 300 amp		147.00		161.70	
						1 Crawler Crane, 75 Ton		2002.00		2202.20	38.38 42.21
<b>24 L.H., Daily Totals</b>		\$2847.75		\$3619.72	\$118.66	<b>56 L.H., Daily Totals</b>		\$4027.00		\$5444.70	\$71.91 \$97.23
<b>Crew B-34S</b>						<b>Crew B-36</b>					
2 Pipe Fitters	\$41.95	\$671.20	\$68.65	\$1098.40	\$39.04	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.28
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		2 Laborers	27.80	444.80	45.65	730.40	\$52.89
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		2 Equip. Oper. (medium)	38.00	608.00	62.10	993.60	
1 Flatbed Trailer, 40 Ton						1 Dozer, 200 H.P.		1504.00		1654.40	
1 Truck Tractor, 6x4, 380 H.P.						1 Aggregate Spreader		65.75		72.33	
1 Hyd. Crane, 80 Ton						1 Tandem Roller, 10 Ton		236.75		260.43	45.16 49.68
1 Hyd. Excavator, 2 C.Y.						<b>40 L.H., Daily Totals</b>		\$3097.70		\$4102.75	\$77.44 \$102.57
						<b>Crew B-36A</b>					
<b>32 L.H., Daily Totals</b>		\$4365.95		\$5472.82	\$136.44	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.91
<b>Crew B-34T</b>						2 Laborers	27.80	444.80	45.65	730.40	\$55.52
2 Pipe Filters	\$41.95	\$671.20	\$68.65	\$1098.40	\$39.04	4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20	
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20		1 Dozer, 200 H.P.		1504.00		1654.40	
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		1 Aggregate Spreader		65.75		72.33	
1 Flatbed Trailer, 40 Ton						1 Tandem Roller, 10 Ton		236.75		260.43	
1 Truck Tractor, 6x4, 380 H.P.						1 Roller, Pneum. Whl., 12 Ton		345.75		380.32	38.43 42.28
1 Hyd. Crane, 80 Ton						<b>56 L.H., Daily Totals</b>		\$4051.45		\$5476.68	\$72.35 \$97.80
<b>32 L.H., Daily Totals</b>		\$3414.65		\$4426.40	\$106.71						
<b>Crew B-34U</b>											
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	\$34.92						
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Truck Tractor, 220 H.P.											
1 Flatbed Trailer, 25 Ton											
<b>16 L.H., Daily Totals</b>		\$1001.45		\$1401.71	\$62.59						
<b>Crew B-34V</b>											
1 Truck Driver (heavy)	\$33.80	\$270.40	\$55.40	\$443.20	\$36.10						
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Truck Tractor, 6x4, 450 H.P.											
1 Equipment Trailer, 50 Ton											
1 Pickup Truck, 4x4, 3/4 Ton											
<b>24 L.H., Daily Totals</b>		\$1849.05		\$2498.51	\$77.04						

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew B-36B</b>							<b>Crew B-37D</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.90	\$55.51	1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$30.45	\$49.95	
2 Laborers	27.80	444.80	45.65	730.40			1 Truck Driver (light)	33.10	264.80	54.25	434.00			
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20			1 Pickup Truck, 3/4 Ton		110.85		121.94	6.93	7.62	
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			16 L.H., Daily Totals		\$598.05		\$921.13	\$37.38	\$57.57	
1 Grader, 30,000 Lbs.		1062.00		1168.20										
1 F.E. Loader, Crl, 1.5 C.Y.		659.75		725.73										
1 Dozer, 300 H.P.		1764.00		1940.40										
1 Roller, Vibratory, 25 Ton		664.35		730.78										
1 Truck Tractor, 6x4, 450 H.P.		601.75		661.92										
1 Water Tank Trailer, 5000 Gal.		152.25		167.47		76.63	84.29							
64 L.H., Daily Totals		\$7073.70		\$8946.91		\$110.53	\$139.80							
<b>Crew B-36C</b>							<b>Crew B-37E</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$35.52	\$58.13	3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$31.95	\$52.36	
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40			1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80			
1 Grader, 30,000 Lbs.		1062.00		1168.20			2 Truck Drivers (light)	33.10	529.60	54.25	868.00			
1 Dozer, 300 H.P.		1764.00		1940.40			4 Barrels w/ Flasher		16.40		18.04			
1 Roller, Vibratory, 25 Ton		664.35		730.78			1 Concrete Saw		111.50		122.65			
1 Truck Tractor, 6x4, 450 H.P.		601.75		661.92			1 Rotary Hammer Drill		51.70		56.87			
1 Water Tank Trailer, 5000 Gal.		152.25		167.47			1 Hammer Drill Bit		25.25		27.77			
40 L.H., Daily Totals		\$5665.15		\$6993.98		106.11	116.72	1 Loader, Skid Steer, 30 H.P.		177.55		195.31		
<b>Crew B-36E</b>							1 Conc. Hammer Attach.		118.40		130.24			
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$35.93	\$58.79	1 Vibrating Plate, Gas, 18"		31.55		34.70			
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20			2 Flatbed Trucks, Gas, 1.5 Ton		392.30		431.53	16.51	18.16	
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			56 L.H., Daily Totals		\$2713.85		\$3949.11	\$48.46	\$70.52	
1 Grader, 30,000 Lbs.		1062.00		1168.20										
1 Dozer, 300 H.P.		1764.00		1940.40										
1 Roller, Vibratory, 25 Ton		664.35		730.78										
1 Truck Tractor, 6x4, 380 H.P.		493.25		542.58										
1 Dist. Tanker, 3000 Gallon		330.15		363.17		89.87	98.86							
48 L.H., Daily Totals		\$6038.55		\$7567.13		\$125.80	\$157.65							
<b>Crew B-37</b>							<b>Crew B-37F</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.51	\$48.42	3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$29.13	\$47.80	
4 Laborers	27.80	889.60	45.65	1460.80			1 Truck Driver (light)	33.10	264.80	54.25	434.00			
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			4 Barrels w/ Flasher		16.40		18.04			
1 Tandem Roller, 5 Ton		255.65		281.21		5.33	5.86	1 Concrete Mixer, 10 C.F.		140.30		154.33		
48 L.H., Daily Totals		\$1672.05		\$2605.22			1 Air Compressor, 60 cfm		152.95		168.25			
<b>Crew B-37A</b>							1 50' Air Hose, 3/4"		7.75		8.53			
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$29.57	\$48.52	1 Spade (Chipper)		8.45		9.29			
1 Truck Driver (light)	33.10	264.80	54.25	434.00			1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76	16.31	17.94	
1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76			32 L.H., Daily Totals		\$1454.00		\$2103.80	\$45.44	\$65.74	
1 Tar Kettle, T.M.		156.20		171.82		14.68	16.15							
24 L.H., Daily Totals		\$1061.95		\$1551.98		\$44.25	\$64.67							
<b>Crew B-37B</b>							<b>Crew B-37G</b>							
3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$29.13	\$47.80	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.51	\$48.42	
1 Truck Driver (light)	33.10	264.80	54.25	434.00			4 Laborers	27.80	889.60	45.65	1460.80			
1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76			1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			
1 Tar Kettle, T.M.		156.20		171.82		5.33	5.86	1 Berm Machine		271.95		299.14		
32 L.H., Daily Totals		\$1284.35		\$1917.18			1 Tandem Roller, 5 Ton		255.65		281.21	10.99	12.09	
<b>Crew B-37C</b>							48 L.H., Daily Totals		\$1944.00		\$2904.36	\$40.50	\$60.51	
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$30.45	\$49.95								
2 Truck Drivers (light)	33.10	529.60	54.25	868.00										
2 Flatbed Trucks, Gas, 1.5 Ton		392.30		431.53										
1 Tar Kettle, T.M.		156.20		171.82		17.14	18.85							
32 L.H., Daily Totals		\$1522.90		\$2201.75		\$47.59	\$68.80							

# Crews - Residential

Crew No.	Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Incl. Subs O&P		Cost Per Labor-Hour	
	Bare Costs		Hr.	Daily		Bare Costs		Hr.	Daily
<b>Crew B-37I</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-40</b>	<b>Hr.</b>	<b>Daily</b>
3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$31.95	\$52.36	1 Pile Driver Foreman (outside)	\$38.85	\$310.80
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			4 Pile Drivers	36.85	1179.20
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80			1 Building Laborer	27.80	222.40
2 Truck Drivers (light)	33.10	529.60	54.25	868.00			1 Equip. Oper. (crane)	38.45	307.60
4 Barrels w/ Flasher			16.40	18.04			1 Crawler Crane, 40 Ton		1206.00
1 Concrete Saw			111.50	122.65			1 Vibratory Hammer & Gen.		2271.00
1 Rotary Hammer Drill			51.70	56.87					
1 Hammer Drill Bit			25.25	27.77					
1 Air Compressor, 60 cfm			152.95	168.25					
1 -50' Air Hose, 3/4"			7.75	8.53					
1 Spade (Chipper)			8.45	9.29					
1 Loader, Skid Steer, 30 H.P.			177.55	195.31					
1 Conc. Hammer Attach.			118.40	130.24					
1 Concrete Mixer, 10 C.F.			140.30	154.33					
1 Vibrating Plate, Gas, 18"			31.55	34.70					
2 Flatbed Trucks, Gas, 1.5 Ton			392.30	431.53					
					22.04	24.24			
<b>56 L.H., Daily Totals</b>		<b>\$3023.30</b>		<b>\$4289.51</b>		<b>\$53.99</b>		<b>\$76.60</b>	
<b>Crew B-37J</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-40B</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.51	\$48.42	1 Labor Foreman (outside)	\$29.80	\$238.40
4 Laborers	27.80	889.60	45.65	1460.80			3 Laborers	27.80	667.20
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			1 Equip. Oper. (crane)	38.45	307.60
1 Air Compressor, 60 cfm			152.95	168.25			1 Equip. Oper. (oiler)	33.35	266.80
1 -50' Air Hose, 3/4"			7.75	8.53			1 Lattice Boom Crane, 40 Ton		2028.00
2 Concrete Mixers, 10 C.F.			280.60	308.66					
2 Flatbed Trucks, Gas, 1.5 Ton			392.30	431.53					
1 Shot Blaster, 20"			206.20	226.82					
<b>48 L.H., Daily Totals</b>		<b>\$2456.20</b>		<b>\$3467.78</b>		<b>\$51.17</b>		<b>\$72.25</b>	
<b>Crew B-37K</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-41</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.51	\$48.42	1 Labor Foreman (outside)	\$29.80	\$238.40
4 Laborers	27.80	889.60	45.65	1460.80			4 Laborers	27.80	889.60
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			.25 Equip. Oper. (crane)	38.45	76.90
1 Air Compressor, 60 cfm			152.95	168.25			.25 Equip. Oper. (oiler)	33.35	66.70
1 -50' Air Hose, 3/4"			7.75	8.53			.25 Crawler Crane, 40 Ton		301.50
2 Flatbed Trucks, Gas, 1.5 Ton			392.30	431.53					
1 Shot Blaster, 20"			206.20	226.82					
<b>48 L.H., Daily Totals</b>		<b>\$2175.60</b>		<b>\$3159.12</b>		<b>\$45.33</b>		<b>\$65.81</b>	
<b>Crew B-38</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-42</b>	<b>Hr.</b>	<b>Daily</b>
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$30.55	\$50.08	1 Labor Foreman (outside)	\$29.80	\$238.40
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			4 Laborers	27.80	889.60
1 Backhoe Loader, 48 H.P.			213.75	235.13			1 Equip. Oper. (crane)	38.45	307.60
1 Hyd. Hammer (1200 lb.)			175.15	192.66			1 Welder	40.60	324.80
1 F.E. Loader, W.M., 4 C.Y.			789.35	868.28			1 Hyd. Crane, 25 Ton		580.85
1 Pmv. Rem. Bucket			63.05	69.36			1 Welder, Gas Engine, 300 amp		147.00
<b>24 L.H., Daily Totals</b>		<b>\$1974.50</b>		<b>\$2567.43</b>		<b>\$82.27</b>		<b>\$106.98</b>	
<b>Crew B-39</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-43</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.13	\$46.20	1 Labor Foreman (outside)	\$29.80	\$238.40
5 Laborers	27.80	1112.00	45.65	1826.00			4 Laborers	27.80	889.60
1 Air Compressor, 250 cfm			201.50	221.65			1 Drill Rig, Truck-Mounted		771.10
2 Breakers, Pavement, 60 lb.			107.00	117.70					
2 -50' Air Hoses, 1.5"			48.50	53.35					
<b>48 L.H., Daily Totals</b>		<b>\$1707.40</b>		<b>\$2610.30</b>		<b>\$35.57</b>		<b>\$54.38</b>	
<b>Crew B-40</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-44</b>	<b>Hr.</b>	<b>Daily</b>
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40			1 Pile Driver Foreman (outside)	\$38.85	\$310.80
4 Pile Drivers	36.85	1179.20	62.40	1996.80			4 Pile Drivers	36.85	1179.20
1 Building Laborer	27.80	222.40	45.65	365.20			1 Building Laborer	27.80	222.40
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Equip. Oper. (crane)	38.45	307.60
1 Crawler Crane, 40 Ton			1206.00	1326.60			2 Laborers	27.80	444.80
1 Vibratory Hammer & Gen.			2271.00	2498.10			1 Crawler Crane, 40 Ton		1206.00
<b>56 L.H., Daily Totals</b>		<b>\$5497.00</b>		<b>\$7215.90</b>		<b>\$98.16</b>		<b>\$128.86</b>	
<b>Crew B-40B</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-45</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			1 Labor Foreman (outside)	\$29.80	\$238.40
3 Laborers	27.80	667.20	45.65	1095.60			4 Laborers	27.80	889.60
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Equip. Oper. (crane)	38.45	307.60
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00			2 Laborers	27.80	444.80
1 Lattice Boom Crane, 40 Ton			2028.00	2230.80			1 Crawler Crane, 40 Ton		1206.00
<b>48 L.H., Daily Totals</b>		<b>\$3508.00</b>		<b>\$4656.80</b>		<b>\$122.09</b>		<b>\$163.30</b>	
<b>Crew B-41</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-46</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			1 Labor Foreman (outside)	\$29.80	\$238.40
4 Laborers	27.80	889.60	45.65	1460.80			4 Laborers	27.80	889.60
.25 Equip. Oper. (crane)	38.45	76.90	62.85	125.70			1 Equip. Oper. (crane)	38.45	307.60
.25 Equip. Oper. (oiler)	33.35	66.70	54.50	109.00			2 Laborers	27.80	444.80
.25 Crawler Crane, 40 Ton			301.50	331.65			1 Crawler Crane, 40 Ton		1206.00
<b>44 L.H., Daily Totals</b>		<b>\$1573.10</b>		<b>\$2418.75</b>		<b>\$68.85</b>		<b>\$146.48</b>	
<b>Crew B-42</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-47</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			1 Labor Foreman (outside)	\$29.80	\$238.40
4 Laborers	27.80	889.60	45.65	1460.80			4 Laborers	27.80	889.60
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Equip. Oper. (crane)	38.45	307.60
1 Welder	40.60	324.80	66.45	531.60			2 Laborers	27.80	444.80
1 Hyd. Crane, 25 Ton			580.85	638.93			1 Crawler Crane, 40 Ton		1206.00
1 Welder, Gas Engine, 300 amp			147.00	161.70			1 Lead, 60' High		209.25
1 Horz. Boring Csg. Mch.			314.25	345.68			1 Hammer, Diesel, 15K ft.-lbs.		678.76
<b>56 L.H., Daily Totals</b>		<b>\$2802.50</b>		<b>\$4033.11</b>		<b>\$106.98</b>		<b>\$122.07</b>	
<b>Crew B-43</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-48</b>	<b>Hr.</b>	<b>Daily</b>
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60			1 Labor Foreman (outside)	\$29.80	\$238.40
4 Laborers	27.80	889.60	45.65	1460.80			4 Laborers	27.80	889.60
1 Drill Rig, Truck-Mounted			771.10	848.21			1 Drill Rig, Truck-Mounted		771.10
<b>40 L.H., Daily Totals</b>		<b>\$1899.10</b>		<b>\$2700.61</b>		<b>\$68.85</b>		<b>\$71.21</b>	
<b>Crew B-44</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-49</b>	<b>Hr.</b>	<b>Daily</b>
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40			1 Pile Driver Foreman (outside)	\$38.85	\$310.80
4 Pile Drivers	36.85	1179.20	62.40	1996.80			4 Pile Drivers	36.85	1179.20
1 Building Laborer	27.80	222.40	45.65	365.20			1 Building Laborer	27.80	222.40
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Equip. Oper. (crane)	38.45	307.60
2 Laborers	27.80	444.80	45.65	730.40			2 Laborers	27.80	444.80
1 Crawler Crane, 40 Ton			1206.00	1326.60			1 Crawler Crane, 40 Ton		1206.00
1 Lead, 60' High			209.25	230.18			1 Lead, 60' High		209.25
1 Hammer, Diesel, 15K ft.-lbs.			678.76	718.76			1 Hammer, Diesel, 15K ft.-lbs.		678.76
<b>64 L.H., Daily Totals</b>		<b>\$4274.70</b>		<b>\$5991.93</b>		<b>\$66.79</b>		<b>\$93.62</b>	
<b>Crew B-45</b>	<b>Hr.</b>	<b>Daily</b>	<b>Hr.</b>	<b>Daily</b>	<b>Bare Costs</b>	<b>Incl. O&amp;P</b>	<b>Crew B-50</b>	<b>Hr.</b>	<b>Daily</b>
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20			1 Building Laborer	\$27.80	\$222.40
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			1 Truck Driver (heavy)	33.80	270.40
1 Dist. Tanker, 3000 Gallon			330.15	363.17			1 Dist. Tanker, 3000 Gallon		330.15
1 Truck Tractor, 6x4, 380 H.P.			493.25	542.58			1 Truck Tractor, 6x4, 380 H.P.		493.25
<b>16 L.H., Daily Totals</b>		<b>\$1316.20</b>		<b>\$1714.14</b>		<b>\$82.26</b>		<b>\$107.13</b>	

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-46</b>						
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40	\$32.66	\$54.59
2 Pile Drivers	36.85	589.60	62.40	998.40		
3 Laborers	27.80	667.20	45.65	1095.60		
1 Chain Saw, Gas, 36" Long		41.25		45.38	0.86	0.95
48 L.H., Daily Totals		\$1608.85		\$2665.78	\$33.52	\$55.54
<b>Crew B-47</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Blast Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.80	\$47.30
1 Driller	27.80	222.40	45.65	365.20		
1 Air Track Drill, 4"		1058.00		1163.80		
1 Air Compressor, 600 cfm		421.50		463.65		
2-50' Air Hoses, 3"		76.70		84.37	97.26	106.99
16 L.H., Daily Totals		\$2017.00		\$2468.62	\$126.06	\$154.29
<b>Crew B-47A</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Drilling Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.87	\$55.43
1 Equip. Oper. (heavy)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Air Track Drill, 5"		1127.00		1239.70	46.96	51.65
24 L.H., Daily Totals		\$1939.80		\$2570.10	\$80.83	\$107.09
<b>Crew B-47C</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$31.93	\$52.30
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 Air Compressor, 750 cfm		538.25		592.08		
2-50' Air Hoses, 3"		76.70		84.37		
1 Air Track Drill, 4"		1058.00		1163.80	104.56	115.02
16 L.H., Daily Totals		\$2183.75		\$2677.05	\$136.48	\$167.32
<b>Crew B-47E</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.30	\$46.48
3 Laborers	27.80	667.20	45.65	1095.60		
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44	25.64	28.20
32 L.H., Daily Totals		\$1726.00		\$2389.64	\$53.94	\$74.68
<b>Crew B-47G</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75
2 Laborers	27.80	444.80	45.65	730.40		
1 Air Track Drill, 4"		1058.00		1163.80		
1 Air Compressor, 600 cfm		421.50		463.65		
2-50' Air Hoses, 3"		76.70		84.37		
1 Gunite Pump Rig		317.90		349.69	78.09	85.90
24 L.H., Daily Totals		\$2557.30		\$3183.51	\$106.55	\$132.65
<b>Crew B-47H</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Skilled Worker Foreman (out)	\$38.95	\$311.60	\$64.35	\$514.80	\$37.45	\$61.88
3 Skilled Workers	36.95	886.80	61.05	1465.20		
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44	25.64	28.20
32 L.H., Daily Totals		\$2018.80		\$2882.44	\$63.09	\$90.08
<b>Crew B-48</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.91	\$49.07
4 Laborers	27.80	889.60	45.65	1460.80		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Centr. Water Pump, 6"		232.90		256.19		
1-20' Suction Hose, 6"		25.20		27.72		
1-50' Discharge Hose, 6"		17.90		19.69		
1 Drill Rig, Truck-Mounted		771.10		848.21	21.81	24.00
48 L.H., Daily Totals		\$2482.70		\$3507.01	\$51.72	\$73.06

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-49</b>						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.22	\$51.65
5 Laborers	27.80	1112.00	45.65	1826.00		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
2 Pile Drivers	36.85	589.60	62.40	998.40		
1 Hyd. Crane, 25 Ton		580.85		638.93		
1 Centr. Water Pump, 6"		232.90		256.19		
1-20' Suction Hose, 6"		25.20		27.72		
1-50' Discharge Hose, 6"		17.90		19.69		
1 Drill Rig, Truck-Mounted		771.10		848.21	22.61	24.87
72 L.H., Daily Totals		\$3875.55		\$5509.55	\$53.83	\$76.52
<b>Crew B-50</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Pile Driver Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40	\$33.65	\$56.25
6 Pile Drivers	36.85	1768.80	62.40	2995.20		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
5 Laborers	27.80	1112.00	45.65	1826.00		
1 Crawler Crane, 40 Ton		1206.00		1326.60		
1 Lead, 60' High		209.25		230.18		
1 Hammer, Diesel, 15K ft.-lbs.		617.05		678.76		
1 Air Compressor, 600 cfm		421.50		463.65		
2-50' Air Hoses, 3"		76.70		84.37		
1 Chain Saw, Gas, 36" Long		41.25		45.38	24.73	27.20
104 L.H., Daily Totals		\$6070.95		\$8679.33	\$58.37	\$83.45
<b>Crew B-51</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.02	\$47.63
4 Laborers	27.80	889.60	45.65	1460.80		
1 Truck Driver (light)	33.10	264.80	54.25	434.00		
1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76	4.09	4.50
48 L.H., Daily Totals		\$1588.95		\$2502.17	\$33.10	\$52.13
<b>Crew B-52</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.84	\$50.64
1 Carpenter	36.15	289.20	59.40	475.20		
4 Laborers	27.80	889.60	45.65	1460.80		
.5 Rodman (reinf.)	39.50	158.00	65.00	260.00		
.5 Equip. Oper. (medium)	38.00	152.00	62.10	248.40		
.5 Crawler Loader, 3 C.Y.		584.50		642.95	10.44	11.48
56 L.H., Daily Totals		\$2311.70		\$3478.95	\$41.28	\$62.12
<b>Crew B-53</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Building Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65
1 Trencher, Chain, 12 H.P.		156.95		172.65	19.62	21.58
8 L.H., Daily Totals		\$379.35		\$537.85	\$47.42	\$67.23
<b>Crew B-54</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95
1 Trencher, Chain, 40 H.P.		401.85		442.04	50.23	55.25
8 L.H., Daily Totals		\$690.25		\$913.63	\$86.28	\$114.20
<b>Crew B-54A</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
17 Labor Foreman (outside)	\$29.80	\$40.53	\$48.95	\$66.57	\$36.81	\$60.19
1 Equipment Operator (med.)	38.00	304.00	62.10	496.80		
1 Wheel Trencher, 67 H.P.		1126.00		1238.60	120.30	132.33
9.36 L.H., Daily Totals		\$1470.53		\$1801.97	\$157.11	\$192.52
<b>Crew B-54B</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
.25 Labor Foreman (outside)	\$29.80	\$59.60	\$48.95	\$97.90	\$36.36	\$59.47
1 Equipment Operator (med.)	38.00	304.00	62.10	496.80		
1 Wheel Trencher, 150 H.P.		1324.00		1456.40	132.40	145.64
10 L.H., Daily Totals		\$1687.60		\$2051.10	\$168.76	\$205.11

## Crews - Residential

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-68</b>						
2 Millwrights	\$38.55	\$616.80	\$61.25	\$980.00	\$37.72	\$60.48
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 R.T. Forklift, 5,000 Lb., diesel		269.90		296.89	11.25	12.37
24 L.H., Daily Totals		\$1175.10		\$1748.49	\$48.96	\$72.85
<b>Crew B-68A</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Millwright Foreman (inside)	\$39.05	\$312.40	\$62.05	\$496.40	\$38.72	\$61.52
2 Millwrights	38.55	616.80	61.25	980.00		
1 Forklift, Smooth Floor, 8,000 Lb.		255.90		281.49	10.66	11.73
24 L.H., Daily Totals		\$1185.10		\$1757.89	\$49.38	\$73.25
<b>Crew B-68B</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Millwright Foreman (inside)	\$39.05	\$312.40	\$62.05	\$496.40	\$40.11	\$64.76
2 Millwrights	38.55	616.80	61.25	980.00		
2 Electricians	41.70	667.20	67.95	1087.20		
2 Plumbers	40.60	649.60	66.45	1063.20		
1 R.T. Forklift, 5,000 Lb., gas		279.90		307.89	5.00	5.50
56 L.H., Daily Totals		\$2525.90		\$3934.69	\$45.11	\$70.26
<b>Crew B-68C</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Millwright Foreman (inside)	\$39.05	\$312.40	\$62.05	\$496.40	\$39.98	\$64.42
1 Millwright	38.55	308.40	61.25	490.00		
1 Electrician	41.70	333.60	67.95	543.60		
1 Plumber	40.60	324.80	66.45	531.60		
1 R.T. Forklift, 5,000 Lb., gas		279.90		307.89	8.75	9.62
32 L.H., Daily Totals		\$1559.10		\$2369.49	\$48.72	\$74.05
<b>Crew B-68D</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (inside)	\$28.30	\$226.40	\$46.50	\$372.00	\$30.72	\$50.37
1 Laborer	27.80	222.40	45.65	365.20		
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 R.T. Forklift, 5,000 Lb., gas		279.90		307.89	11.66	12.83
24 L.H., Daily Totals		\$1017.10		\$1516.69	\$42.38	\$63.20
<b>Crew B-68E</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Struc. Steel Foreman (inside)	\$40.85	\$326.80	\$69.80	\$558.40	\$40.42	\$69.07
3 Struc. Steel Workers	40.35	968.40	68.95	1654.80		
1 Welder	40.20	321.60	68.70	549.60		
1 Forklift, Smooth Floor, 8,000 Lb.		255.90		281.49	6.40	7.04
40 L.H., Daily Totals		\$1872.70		\$3044.29	\$46.82	\$76.11
<b>Crew B-68F</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Skilled Worker Foreman (out)	\$38.95	\$311.60	\$64.35	\$514.80	\$37.62	\$62.15
2 Skilled Workers	36.95	591.20	61.05	976.80		
1 R.T. Forklift, 5,000 Lb., gas		279.90		307.89	11.66	12.83
24 L.H., Daily Totals		\$1182.70		\$1799.49	\$49.28	\$74.98
<b>Crew B-68G</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
2 Structural Steel Workers	\$40.35	\$645.60	\$68.95	\$1103.20	\$40.35	\$68.95
1 R.T. Forklift, 5,000 Lb., gas		279.90		307.89	17.49	19.24
16 L.H., Daily Totals		\$925.50		\$1411.09	\$57.84	\$88.19
<b>Crew B-69</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.83	\$50.54
3 Laborers	27.80	667.20	45.65	1095.60		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00		
1 Hyd. Crane, 80 Ton		1486.00		1634.60	30.96	34.05
48 L.H., Daily Totals		\$2966.00		\$4060.60	\$61.79	\$84.60

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-69A</b>						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.19	\$50.98
3 Laborers	27.80	667.20	45.65	1095.60		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Concrete Finisher	35.95	287.60	57.90	463.20		
1 Curb/Gutter Paver, 2-Track		1217.00		1338.70	25.35	27.89
48 L.H., Daily Totals		\$2714.20		\$3785.90	\$56.55	\$78.87
<b>Crew B-69B</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.19	\$50.98
3 Laborers	27.80	667.20	45.65	1095.60		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Cement Finisher	35.95	287.60	57.90	463.20		
1 Curb/Gutter Paver, 4-Track		791.55		870.71	16.49	18.14
48 L.H., Daily Totals		\$2288.75		\$3317.91	\$47.68	\$69.12
<b>Crew B-70</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.46	\$53.17
3 Laborers	27.80	667.20	45.65	1095.60		
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40		
1 Grader, 30,000 Lbs.		1062.00		1168.20		
1 Ripper, Beam & 1 Shank		90.50		99.55		
1 Road Sweeper, S.P., 8' wide		715.85		787.43		
1 F.E. Loader, W.M., 1.5 C.Y.		423.50		465.85	40.93	45.02
56 L.H., Daily Totals		\$4109.45		\$5498.64	\$73.38	\$98.19
<b>Crew B-71</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.46	\$53.17
3 Laborers	27.80	667.20	45.65	1095.60		
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40		
1 Pvmt. Profiler, 750 H.P.		3448.00		3792.80		
1 Road Sweeper, S.P., 8' wide		715.85		787.43		
1 F.E. Loader, W.M., 1.5 C.Y.		423.50		465.85	81.92	90.11
56 L.H., Daily Totals		\$6404.95		\$8023.69	\$114.37	\$143.28
<b>Crew B-72</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.15	\$54.29
3 Laborers	27.80	667.20	45.65	1095.60		
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20		
1 Pvmt. Profiler, 750 H.P.		3448.00		3792.80		
1 Hammermill, 250 H.P.		848.80		933.68		
1 Windrow Loader		1427.00		1569.70		
1 Mix Paver, 165 H.P.		2149.00		2363.90		
1 Roller, Pneum. Whl., 12 Ton		345.75		380.32	128.41	141.26
64 L.H., Daily Totals		\$10340.15		\$12514.81	\$161.56	\$195.54
<b>Crew B-73</b>						
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$34.42	\$56.34
2 Laborers	27.80	444.80	45.65	730.40		
5 Equip. Oper. (medium)	38.00	1520.00	62.10	2484.00		
1 Road Mixer, 310 H.P.		1896.00		2085.60		
1 Tandem Roller, 10 Ton		236.75		260.43		
1 Hammermill, 250 H.P.		848.80		933.68		
1 Grader, 30,000 Lbs.		1062.00		1168.20		
.5 F.E. Loader, W.M., 1.5 C.Y.		211.75		232.93		
.5 Truck Tractor, 220 H.P.		153.55		168.91		
.5 Water Tank Trailer, 5000 Gal.		76.13		83.74	70.08	77.09
64 L.H., Daily Totals		\$6688.18		\$8539.47	\$104.50	\$133.43

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew B-74</b>							<b>Crew B-78</b>						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$34.65	\$56.73	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.20	\$46.31
1 Laborer	27.80	222.40	45.65	365.20			4 Laborers	27.80	889.60	45.65	1460.80		
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20			1 Paint Stripper, S.P., 40 Gallon		127.10		139.81		
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40			1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		
1 Grader, 30,000 Lbs.		1062.00		1168.20			1 Pickup Truck, 3/4 Ton		110.85		121.94	26.46	29.10
1 Ripper, Beam & 1 Shank		90.50		99.55			40 L.H., Daily Totals		\$2186.35		\$3016.59	\$54.66	\$75.41
2 Stabilizers, 310 H.P.		2778.00		3055.80									
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44									
1 Chem. Spreader, Towed		83.35		91.69			<b>Crew B-78B</b>						
1 Roller, Vibratory, 25 Ton		664.35		730.78			2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$28.72	\$47.13
1 Water Tank Trailer, 5000 Gal.		152.25		167.47			.25 Equip. Oper. (light)	36.05	72.10	58.95	117.90		
1 Truck Tractor, 220 H.P.		307.10		337.81			1 Pickup Truck, 3/4 Ton		110.85		121.94		
64 L.H., Daily Totals		\$8175.55		\$10184.15			1 Line Rem., 11 H.P., Walk Behind		113.45		124.80		
<b>Crew B-75</b>							.25 Road Sweeper, S.P., 8' wide		178.96		196.86	22.40	24.64
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$34.77	\$56.91	18 L.H., Daily Totals		\$920.16		\$1291.89	\$51.12	\$71.77
1 Laborer	27.80	222.40	45.65	365.20									
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20			<b>Crew B-78C</b>						
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.02	\$47.63
1 Grader, 30,000 Lbs.		1062.00		1168.20			4 Laborers	27.80	889.60	45.65	1460.80		
1 Ripper, Beam & 1 Shank		90.50		99.55			1 Truck Driver (light)	33.10	264.80	54.25	434.00		
2 Stabilizers, 310 H.P.		2778.00		3055.80			1 Paint Stripper, T.M., 120 Gal.		592.95		652.25		
1 Dist. Tanker, 3000 Gallon		330.15		363.17			1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		
1 Truck Tractor, 6x4, 380 H.P.		493.25		542.58			1 Pickup Truck, 3/4 Ton		110.85		121.94	31.75	34.93
1 Roller, Vibratory, 25 Ton		664.35		730.78			48 L.H., Daily Totals		\$2917.00		\$3963.02	\$60.77	\$82.56
56 L.H., Daily Totals		\$7365.45		\$9147.27									
<b>Crew B-76</b>							<b>Crew B-78D</b>						
1 Dock Builder Foreman (outside)	\$38.85	\$310.80	\$65.80	\$526.40	\$37.04	\$62.00	2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.73	\$47.17
5 Dock Builders	36.85	1474.00	62.40	2496.00			7 Laborers	27.80	1556.80	45.65	2556.40		
2 Equip. Oper. (crane)	38.45	615.20	62.85	1005.60			1 Truck Driver (light)	33.10	264.80	54.25	434.00		
1 Equip. Oper. (oilier)	33.35	266.80	54.50	436.00			1 Paint Stripper, T.M., 120 Gal.		592.95		652.25		
1 Crawler Crane, 50 Ton		1510.00		1661.00			1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		
1 Barge, 400 Ton		858.85		944.74			3 Pickup Trucks, 3/4 Ton		332.55		365.81		
1 Hammer, Diesel, 15K ft.-lbs.		617.05		678.76			1 Air Compressor, 60 cfm		152.95		168.25		
1 Lead, 60' High		209.25		230.18			1 -50' Air Hose, 3/4"		7.75		8.53		
1 Air Compressor, 600 cfm		421.50		463.65			1 Breaker, Pavement, 60 lb.		53.50		58.85	24.50	26.95
2 -50' Air Hoses, 3"		76.70		84.37			80 L.H., Daily Totals		\$4258.50		\$5929.71	\$53.23	\$74.12
72 L.H., Daily Totals		\$6360.15		\$8526.68									
<b>Crew B-76A</b>							<b>Crew B-78E</b>						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.07	\$49.32	2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.57	\$46.92
5 Laborers	27.80	1112.00	45.65	1826.00			9 Laborers	27.80	2001.60	45.65	3286.80		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Truck Driver (light)	33.10	264.80	54.25	434.00		
1 Equip. Oper. (oilier)	33.35	266.80	54.50	436.00			1 Paint Stripper, T.M., 120 Gal.		592.95		652.25		
1 Crawler Crane, 50 Ton		1510.00		1661.00			1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		
1 Barge, 400 Ton		858.85		944.74			4 Pickup Trucks, 3/4 Ton		443.40		487.74		
64 L.H., Daily Totals		\$4293.65		\$5762.14			2 Air Compressors, 60 cfm		305.90		336.49		
<b>Crew B-77</b>							2 -50' Air Hoses, 3/4"		15.50		17.05		
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.26	\$48.03	2 Breakers, Pavement, 60 lb.		107.00		117.70	23.80	26.18
3 Laborers	27.80	667.20	45.65	1095.60			96 L.H., Daily Totals		\$5028.35		\$7017.67	\$52.38	\$73.10
1 Truck Driver (light)	33.10	264.80	54.25	434.00									
1 Crack Cleaner, 25 H.P.		52.45		57.70			<b>Crew B-78F</b>						
1 Crack Filler, Trailer Mtd.		154.75		170.22			2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.46	\$46.74
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44			11 Laborers	27.80	2446.40	45.65	4017.20		
40 L.H., Daily Totals		\$2198.00		\$3051.56			1 Truck Driver (light)	33.10	264.80	54.25	434.00		
							1 Paint Stripper, T.M., 120 Gal.		592.95		652.25		
							1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		
							7 Pickup Trucks, 3/4 Ton		775.95		853.54		
							3 Air Compressors, 60 cfm		458.85		504.74		
							3 -50' Air Hoses, 3/4"		23.25		25.57		
							3 Breakers, Pavement, 60 lb.		160.50		176.55	25.28	27.81
							112 L.H., Daily Totals		\$6019.90		\$8349.49	\$53.75	\$74.55

## Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	
<b>Crew B-79</b>							<b>Crew B-80A</b>							
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.26	\$48.03	3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$27.80	\$45.65	
3 Laborers	27.80	667.20	45.65	1095.60			1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		34.18	37.60
1 Truck Driver (light)	33.10	264.80	54.25	434.00			24 L.H., Daily Totals		\$1487.60		\$1998.04		\$61.98	\$83.25
1 Paint Striper, T.M., 120 Gal.			592.95		652.25									
1 Heating Kettle, 115 Gallon			98.65		108.52									
1 Flatbed Truck, Gas, 3 Ton			820.40		902.44		<b>Crew B-80B</b>							
2 Pickup Trucks, 3/4 Ton			221.70		243.87		3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$29.86	\$48.98	
40 L.H., Daily Totals		\$2904.10		\$3828.27			1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			
							1 Crane, Flatbed Mounted, 3 Ton		236.10		259.71		7.38	8.12
							32 L.H., Daily Totals		\$1191.70		\$1826.91		\$37.24	\$57.09
<b>Crew B-79B</b>														
							<b>Crew B-80C</b>							
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65	2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$29.57	\$48.52	
1 Set of Gases		171.55		188.71			1 Truck Driver (light)	33.10	264.80	54.25	434.00			
8 L.H., Daily Totals		\$393.95		\$553.90			1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76			
							1 Manual Fence Post Auger, Gas		53.85		59.23		10.42	11.46
<b>Crew B-79C</b>							24 L.H., Daily Totals		\$959.60		\$1439.40		\$39.98	\$59.98
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.84	\$47.35	<b>Crew B-81</b>							
5 Laborers	27.80	1112.00	45.65	1826.00			1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$30.80	\$50.52	
1 Truck Driver (light)	33.10	264.80	54.25	434.00			1 Truck Driver (heavy)	33.80	270.40	55.40	443.20			
1 Paint Striper, T.M., 120 Gal.			592.95		652.25		1 Hydromulcher, T.M., 3000 Gal.		275.45		303.00			
1 Heating Kettle, 115 Gallon			98.65		108.52		1 Truck Tractor, 220 H.P.		307.10		337.81		36.41	40.05
1 Flatbed Truck, Gas, 3 Ton			820.40		902.44		16 L.H., Daily Totals		\$1075.35		\$1449.20		\$67.21	\$90.58
3 Pickup Trucks, 3/4 Ton			332.55		365.81									
1 Air Compressor, 60 cfm			152.95		168.25		<b>Crew B-81A</b>							
1 -50' Air Hose, 3/4"			7.75		8.53		1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$30.45	\$49.95	
1 Breaker, Pavement, 60 lb.			53.50		58.85		1 Truck Driver (light)	33.10	264.80	54.25	434.00			
56 L.H., Daily Totals		\$3673.95		\$4916.23			1 Hydromulcher, T.M., 600 Gal.		116.95		128.65			
							1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		58.58	64.44
<b>Crew B-79D</b>							16 L.H., Daily Totals		\$1424.55		\$1830.29		\$89.03	\$114.39
2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.96	\$47.55	<b>Crew B-82</b>							
5 Laborers	27.80	1112.00	45.65	1826.00			1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$31.93	\$52.30	
1 Truck Driver (light)	33.10	264.80	54.25	434.00			1 Equip. Oper. (light)	36.05	288.40	58.95	471.60			
1 Paint Striper, T.M., 120 Gal.			592.95		652.25		1 Horiz. Borer, 6 H.P.		182.35		200.59		11.40	12.54
1 Heating Kettle, 115 Gallon			98.65		108.52		16 L.H., Daily Totals		\$693.15		\$1037.39		\$43.32	\$64.84
1 Flatbed Truck, Gas, 3 Ton			820.40		902.44									
4 Pickup Trucks, 3/4 Ton			443.40		487.74		<b>Crew B-82A</b>							
1 Air Compressor, 60 cfm			152.95		168.25		2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40			
1 -50' Air Hose, 3/4"			7.75		8.53		2 Equip. Oper. (light)	36.05	576.80	58.95	943.20			
1 Breaker, Pavement, 60 lb.			53.50		58.85		2 Dump Truck, 8 C.Y., 220 H.P.		856.10		941.71			
64 L.H., Daily Totals		\$4023.20		\$5429.76			1 Flatbed Trailer, 25 Ton		135.55		149.10			
							1 Horiz. Dir. Drill, 20k lb. Thrust		538.65		592.51			
<b>Crew B-79E</b>							1 Mud Trailer for HDD, 1500 Gal.		309.00		339.90			
							1 Pickup Truck, 4x4, 3/4 Ton		175.85		193.44			
2 Labor Foremen (outside)	\$29.80	\$476.80	\$48.95	\$783.20	\$28.73	\$47.17	1 Flatbed Trailer, 3 Ton		70.30		77.33			
7 Laborers	27.80	1556.80	45.65	2556.40			1 Loader, Skid Steer, 78 H.P.		400.10		440.11		77.67	85.44
1 Truck Driver (light)	33.10	264.80	54.25	434.00			32 L.H., Daily Totals		\$3507.15		\$4407.70		\$109.60	\$137.74
1 Paint Striper, T.M., 120 Gal.			592.95		652.25									
1 Heating Kettle, 115 Gallon			98.65		108.52		<b>Crew B-82B</b>							
1 Flatbed Truck, Gas, 3 Ton			820.40		902.44		2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40			
5 Pickup Trucks, 3/4 Ton			554.25		609.67		2 Equip. Oper. (light)	36.05	576.80	58.95	943.20			
2 Air Compressors, 60 cfm			305.90		336.49		2 Dump Truck, 8 C.Y., 220 H.P.		856.10		941.71			
2 -50' Air Hoses, 3/4"			15.50		17.05		1 Flatbed Trailer, 25 Ton		135.55		149.10			
2 Breakers, Pavement, 60 lb.			107.00		117.70		1 Horiz. Dir. Drill, 30k lb. Thrust		641.20		705.32			
80 L.H., Daily Totals		\$4793.05		\$6517.72			1 Mud Trailer for HDD, 1500 Gal.		309.00		339.90			
							1 Pickup Truck, 4x4, 3/4 Ton		175.85		193.44			
<b>Crew B-80</b>							1 Flatbed Trailer, 3 Ton		70.30		77.33			
							1 Loader, Skid Steer, 78 H.P.		400.10		440.11		80.88	88.97
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75	32 L.H., Daily Totals		\$3609.70		\$4520.51		\$112.80	\$141.27
2 Laborers	27.80	444.80	45.65	730.40										
1 Flatbed Truck, Gas, 3 Ton			820.40		902.44									
1 Earth Auger, Truck-Mtd.			200.50		220.55									
24 L.H., Daily Totals		\$1704.10		\$2244.99		\$71.00								

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# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew B-82C</b>											
2 Laborers	\$27.80	\$444.80	\$45.65	\$730.40	\$31.93	\$52.30					
2 Equip. Oper. (light)	36.05	576.80	58.95	943.20							
2 Dump Truck, 8 C.Y., 220 H.P.		856.10		941.71							
1 Flatbed Trailer, 25 Ton		135.55		149.10							
1 Horiz. Dir. Drill, 50k lb. Thrust		815.80		897.38							
1 Mud Trailer for HDD, 1500 Gal.		309.00		339.90							
1 Pickup Truck, 4x4, 3/4 Ton		175.85		193.44							
1 Flatbed Trailer, 3 Ton		70.30		77.33							
1 Loader, Skid Steer, 78 H.P.		400.10		440.11	86.33	94.97					
<b>32 L.H., Daily Totals</b>		\$3784.30		\$4712.57	\$118.26	\$147.27					
<b>Crew B-82D</b>											
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$36.05	\$58.95					
1 Mud Trailer for HDD, 1500 Gal.		309.00		339.90	38.63	42.49					
<b>8 L.H., Daily Totals</b>		\$597.40		\$811.50	\$74.67	\$101.44					
<b>Crew B-83</b>											
1 Tugboat Captain	\$38.00	\$304.00	\$62.10	\$496.80	\$32.90	\$53.88					
1 Tugboat Hand	27.80	222.40	45.65	365.20							
1 Tugboat, 250 H.P.		717.50		789.25	44.84	49.33					
<b>16 L.H., Daily Totals</b>		\$1243.90		\$1651.25	\$77.74	\$103.20					
<b>Crew B-84</b>											
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10					
1 Rotary Mower/Tractor		366.75		403.43	45.84	50.43					
<b>8 L.H., Daily Totals</b>		\$670.75		\$900.23	\$83.84	\$112.53					
<b>Crew B-85</b>											
3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$31.04	\$50.89					
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80							
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20							
1 Telescoping Boom Lift, to 80'		383.55		421.90							
1 Brush Chipper, 12", 130 H.P.		392.80		432.08							
1 Pruning Saw, Rotary		26.40		29.04	20.07	22.08					
<b>40 L.H., Daily Totals</b>		\$2044.35		\$2918.63	\$51.11	\$72.97					
<b>Crew B-86</b>											
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10					
1 Stump Chipper, S.P.		194.45		213.90	24.31	26.74					
<b>8 L.H., Daily Totals</b>		\$498.45		\$710.70	\$62.31	\$88.84					
<b>Crew B-86A</b>											
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10					
1 Grader, 30,000 Lbs.		1062.00		1168.20	132.75	146.03					
<b>8 L.H., Daily Totals</b>		\$1366.00		\$1665.00	\$170.75	\$208.13					
<b>Crew B-86B</b>											
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10					
1 Dozer, 200 H.P.		1504.00		1654.40	188.00	206.80					
<b>8 L.H., Daily Totals</b>		\$1808.00		\$2151.20	\$226.00	\$268.90					
<b>Crew B-87</b>											
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$35.96	\$58.81					
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20							
2 Feller Bunchers, 100 H.P.		1177.20		1294.92							
1 Log Chipper, 22" Tree		552.00		607.20							
1 Dozer, 105 H.P.		633.85		697.24							
1 Chain Saw, Gas, 36" Long		41.25		45.38	60.11	66.12					
<b>40 L.H., Daily Totals</b>		\$3842.70		\$4997.13	\$96.07	\$124.93					
<b>Crew B-88</b>											
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$36.54	\$59.75					
6 Equip. Oper. (medium)		38.00		1824.00	62.10	2980.80					
2 Feller Bunchers, 100 H.P.				1177.20		1294.92					
1 Log Chipper, 22" Tree				552.00		607.20					
2 Log Skidders, 50 H.P.				1808.40		1989.24					
1 Dozer, 105 H.P.				633.85		697.24					
1 Chain Saw, Gas, 36" Long				41.25		45.38					
<b>56 L.H., Daily Totals</b>					\$6259.10		\$7979.97		\$111.77	\$142.50	
<b>Crew B-89</b>											
1 Skilled Worker	\$36.95	\$295.60	\$61.05	\$488.40	\$32.38	\$53.35					
1 Building Laborer		27.80		222.40	45.65	365.20					
1 Flatbed Truck, Gas, 3 Ton				820.40		902.44					
1 Concrete Saw				111.50		122.65					
1 Water Tank, 65 Gal.				101.90		112.09					
<b>16 L.H., Daily Totals</b>					\$1551.80		\$1990.78		\$96.99	\$124.42	
<b>Crew B-89A</b>											
1 Skilled Worker	\$36.95	\$295.60	\$61.05	\$488.40	\$32.38	\$53.35					
1 Laborer		27.80		222.40	45.65	365.20					
1 Core Drill (Large)				114.30		125.73					
<b>16 L.H., Daily Totals</b>					\$632.30		\$979.33		\$39.52	\$61.21	
<b>Crew B-89B</b>											
1 Equip. Oper. (light)	\$36.05	\$288.40	\$58.95	\$471.60	\$34.58	\$56.60					
1 Truck Driver (light)		33.10		264.80	54.25	434.00					
1 Wall Saw, Hydraulic, 10 H.P.				85.50		94.05					
1 Generator, Diesel, 100 kW				496.20		545.82					
1 Water Tank, 65 Gal.				101.90		112.09					
1 Flatbed Truck, Gas, 3 Ton				820.40		902.44					
<b>16 L.H., Daily Totals</b>					\$2057.20		\$2560.00		\$128.57	\$160.00	
<b>Crew B-89C</b>											
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$35.95	\$57.90					
1 Masonry cut-off saw, gas				61.00		67.10					
<b>8 L.H., Daily Totals</b>					\$348.60		\$530.30		\$43.58	\$66.29	
<b>Crew B-90</b>											
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.61	\$51.83					
3 Laborers		27.80		667.20	45.65	1095.60					
2 Equip. Oper. (light)		36.05		576.80	58.95	943.20					
2 Truck Drivers (heavy)		33.80		540.80	55.40	886.40					
1 Road Mixer, 310 H.P.				1896.00		2085.60					
1 Dist. Truck, 2000 Gal.				299.65		329.62					
<b>64 L.H., Daily Totals</b>					\$4218.85		\$5732.02		\$65.92	\$89.56	
<b>Crew B-90A</b>											
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.91	\$55.52					
2 Laborers		27.80		444.80	45.65	730.40					
4 Equip. Oper. (medium)		38.00		1216.00	62.10	1987.20					
2 Graders, 30,000 Lbs.				2124.00		2336.40					
1 Tandem Roller, 10 Ton				236.75		260.43					
1 Roller, Pneum. Whl., 12 Ton				345.75		380.32					
<b>56 L.H., Daily Totals</b>					\$4605.70		\$6086.35		\$82.24	\$108.68	

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew B-90B</b>											
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.23	\$54.42					
2 Laborers	27.80	444.80	45.65	730.40							
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40							
1 Roller, Pneum. Whl., 12 Ton		345.75		380.32							
1 Road Mixer, 310 H.P.		1896.00		2085.60	46.70	51.37					
48 L.H., Daily Totals		\$3836.95		\$5078.32	\$79.94	\$105.80					
<b>Crew B-90C</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.40	\$53.10					
4 Laborers	27.80	889.60	45.65	1460.80							
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40							
3 Truck Drivers (heavy)	33.80	811.20	55.40	1329.60							
3 Road Mixers, 310 H.P.		5688.00		6256.80	64.64	71.10					
88 L.H., Daily Totals		\$8539.20		\$10929.20	\$97.04	\$124.20					
<b>Crew B-90D</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.69	\$51.95					
6 Laborers	27.80	1334.40	45.65	2191.20							
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40							
3 Truck Drivers (heavy)	33.80	811.20	55.40	1329.60							
3 Road Mixers, 310 H.P.		5688.00		6256.80	54.69	60.16					
104 L.H., Daily Totals		\$8984.00		\$11659.60	\$86.38	\$112.11					
<b>Crew B-90E</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.09	\$52.58					
4 Laborers	27.80	889.60	45.65	1460.80							
3 Equip. Oper. (medium)	38.00	912.00	62.10	1490.40							
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20							
1 Road Mixer, 310 H.P.		1896.00		2085.60	26.33	28.97					
72 L.H., Daily Totals		\$4206.40		\$5871.60	\$58.42	\$81.55					
<b>Crew B-91</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.90	\$55.51					
2 Laborers	27.80	444.80	45.65	730.40							
4 Equip. Oper. (medium)	38.00	1216.00	62.10	1987.20							
1 Truck Driver (heavy)	33.80	270.40	55.40	443.20							
1 Dist. Tanker, 3000 Gallon		330.15		363.17							
1 Truck Tractor, 6x4, 380 H.P.		493.25		542.58							
1 Aggreg. Spreader, S.P.		848.90		933.79							
1 Roller, Pneum. Whl., 12 Ton		345.75		380.32							
1 Tandem Roller, 10 Ton		236.75		260.43	35.23	38.75					
64 L.H., Daily Totals		\$4424.40		\$6032.68	\$69.13	\$94.26					
<b>Crew B-91B</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$32.90	\$53.88					
1 Equipment Oper. (med.)	38.00	304.00	62.10	496.80							
1 Road Sweeper, Vac. Assist.		869.00		955.90	54.31	59.74					
16 L.H., Daily Totals		\$1395.40		\$1817.90	\$87.21	\$113.62					
<b>Crew B-91C</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$30.45	\$49.95					
1 Truck Driver (light)	33.10	264.80	54.25	434.00							
1 Catch Basin Cleaning Truck		536.15		589.76	33.51	36.86					
16 L.H., Daily Totals		\$1023.35		\$1388.96	\$63.96	\$86.81					
<b>Crew B-91D</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.80	\$53.73					
5 Laborers	27.80	1112.00	45.65	1826.00							
5 Equip. Oper. (medium)	38.00	1520.00	62.10	2484.00							
2 Truck Drivers (heavy)	33.80	540.80	55.40	886.40							
1 Aggreg. Spreader, S.P.		848.90		933.79							
2 Truck Tractors, 6x4, 380 H.P.		986.50		1085.15							
2 Dist. Tankers, 3000 Gallon		660.30		726.33							
2 Pavement Brushes, Towed		174.60		192.06							
2 Rollers Pneum. Whl., 12 Ton		691.50		760.65							
104 L.H., Daily Totals		\$6773.00		\$9285.98							
<b>Crew B-92</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.30	\$46.48					
3 Laborers	27.80	667.20	45.65	1095.60							
1 Crack Cleaner, 25 H.P.		52.45		57.70							
1 Air Compressor, 60 cfm		152.95		168.25							
1 Tar Kettle, T.M.		156.20		171.82							
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44							
32 L.H., Daily Totals		\$2087.60		\$2787.40							
<b>Crew B-93</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Equip. Oper. (medium)	\$38.00	\$304.00	\$62.10	\$496.80	\$38.00	\$62.10					
1 Feller Buncher, 100 H.P.		588.60		647.46							
8 L.H., Daily Totals		\$892.60		\$1144.26							
<b>Crew B-94A</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65					
1 Diaphragm Water Pump, 2"		86.80		95.48							
1-20' Suction Hose, 2"		3.55		3.90							
2-50' Discharge Hoses, 2"		8.00		8.80							
8 L.H., Daily Totals		\$320.75		\$473.38							
<b>Crew B-94B</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65					
1 Diaphragm Water Pump, 4"		105.25		115.78							
1-20' Suction Hose, 4"		17.05		18.75							
2-50' Discharge Hoses, 4"		25.30		27.83							
8 L.H., Daily Totals		\$370.00		\$527.56							
<b>Crew B-94C</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65					
1 Centrifugal Water Pump, 3"		74.45		81.89							
1-20' Suction Hose, 3"		8.75		9.63							
2-50' Discharge Hoses, 3"		9.00		9.90							
8 L.H., Daily Totals		\$314.60		\$466.62							
<b>Crew B-94D</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65					
1 Centr. Water Pump, 6"		232.90		256.19							
1-20' Suction Hose, 6"		25.20		27.72							
2-50' Discharge Hoses, 6"		35.80		39.38							
8 L.H., Daily Totals		\$516.30		\$688.49							
<b>Crew C-1</b>											
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P					
2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$31.94	\$52.63					
1 Carpenter Helper	27.65	221.20	46.05	368.40							
1 Laborer	27.80	222.40	45.65	365.20							
32 L.H., Daily Totals		\$1022.00		\$1684.00							

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew C-2</b>						<b>Crew C-7</b>					
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$32.26	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.68
2 Carpenters	36.15	578.40	59.40	950.40		5 Laborers	27.80	1112.00	45.65	1826.00	\$50.19
2 Carpenter Helpers	27.65	442.40	46.05	736.80		1 Cement Finisher	35.95	287.60	57.90	463.20	
1 Laborer	27.80	222.40	45.65	365.20		1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
<b>48 L.H., Daily Totals</b>		<b>\$1548.40</b>		<b>\$2553.60</b>	<b>\$32.26</b>	1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00	
<b>Crew C-2A</b>						2 Gas Engine Vibrators			53.70	59.07	
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$35.06	1 Concrete Bucket, 1 C.Y.			45.80	50.38	
3 Carpenters	36.15	867.60	59.40	1425.60		1 Hyd. Crane, 55 Ton			980.20	1078.22	15.00
1 Cement Finisher	35.95	287.60	57.90	463.20		<b>72 L.H., Daily Totals</b>		<b>\$3288.50</b>		<b>\$4801.27</b>	<b>\$45.67</b>
1 Laborer	27.80	222.40	45.65	365.20							\$66.68
<b>48 L.H., Daily Totals</b>		<b>\$1682.80</b>		<b>\$2755.20</b>	<b>\$35.06</b>	<b>Crew C-8</b>					
<b>Crew C-3</b>						1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.87
1 Rodman Foreman (outside)	\$41.50	\$332.00	\$68.30	\$546.40	\$34.93	3 Laborers	27.80	667.20	45.65	1095.60	\$51.97
3 Rodmen (reinf.)	39.50	948.00	65.00	1560.00		2 Cement Finishers	35.95	575.20	57.90	926.40	
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
3 Laborers	27.80	222.40	45.65	365.20		1 Concrete Pump (Small)			410.35	451.38	7.33
3 Stressing Equipment						<b>56 L.H., Daily Totals</b>		<b>\$2195.15</b>		<b>\$3361.78</b>	<b>\$39.20</b>
.5 Grouting Equipment											\$60.03
<b>64 L.H., Daily Totals</b>		<b>\$2414.38</b>		<b>\$3870.25</b>	<b>\$37.72</b>	<b>Crew C-8A</b>					
<b>Crew C-4</b>						1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.85
1 Rodman Foreman (outside)	\$41.50	\$332.00	\$68.30	\$546.40	\$37.08	3 Laborers	27.80	667.20	45.65	1095.60	\$50.28
2 Rodmen (reinf.)	39.50	632.00	65.00	1040.00		2 Cement Finishers	35.95	575.20	57.90	926.40	
1 Building Laborer	27.80	222.40	45.65	365.20		<b>48 L.H., Daily Totals</b>		<b>\$1480.80</b>		<b>\$2413.60</b>	<b>\$30.85</b>
3 Stressing Equipment											\$50.28
<b>32 L.H., Daily Totals</b>		<b>\$1243.10</b>		<b>\$2013.97</b>	<b>\$38.85</b>	<b>Crew C-8B</b>					
<b>Crew C-4A</b>						1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.24
2 Rodmen (reinf.)	\$39.50	\$632.00	\$65.00	\$1040.00	\$39.50	3 Laborers	27.80	667.20	45.65	1095.60	\$49.60
4 Stressing Equipment						1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
<b>16 L.H., Daily Totals</b>		<b>\$707.60</b>		<b>\$1123.16</b>	<b>\$44.23</b>	1 Vibrating Power Scree			75.10	82.61	
<b>Crew C-5</b>						1 Roller, Vibratory, 25 Ton			664.35	730.78	
1 Rodman Foreman (outside)	\$41.50	\$332.00	\$68.30	\$546.40	\$35.76	1 Dozer, 200 H.P.			1504.00	1654.40	56.09
2 Rodmen (reinf.)	39.50	632.00	65.00	1040.00		<b>40 L.H., Daily Totals</b>		<b>\$3453.05</b>		<b>\$4451.80</b>	<b>\$86.33</b>
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							\$111.29
2 Building Laborers	27.80	444.80	45.65	730.40		<b>Crew C-8C</b>					
1 Hyd. Crane, 25 Ton						1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.19
<b>48 L.H., Daily Totals</b>		<b>\$2297.25</b>		<b>\$3458.53</b>	<b>\$47.86</b>	3 Laborers	27.80	667.20	45.65	1095.60	\$50.98
<b>Crew C-6</b>						1 Cement Finisher	35.95	287.60	57.90	463.20	
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$29.49	1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80	
4 Laborers	27.80	889.60	45.65	1460.80		1 Shotcrete Rig, 12 C.Y./hr			245.40	269.94	
1 Cement Finisher	35.95	287.60	57.90	463.20		1 Air Compressor, 160 cfm			202.80	223.08	
2 Gas Engine Vibrators						4-50' Air Hoses, 1"			32.00	35.20	
<b>48 L.H., Daily Totals</b>		<b>\$1469.30</b>		<b>\$2374.67</b>	<b>\$30.61</b>	4-50' Air Hoses, 2"			115.60	127.16	12.41
<b>Crew C-6A</b>						<b>48 L.H., Daily Totals</b>		<b>\$2093.00</b>		<b>\$3102.58</b>	<b>\$43.60</b>
2 Cement Finishers	\$35.95	\$575.20	\$57.90	\$926.40	\$35.95	<b>Crew C-8D</b>					
1 Concrete Vibrator, Elec, 2 HP						1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.40
<b>16 L.H., Daily Totals</b>		<b>\$622.65</b>		<b>\$978.60</b>	<b>\$2.97</b>	1 Laborer	27.80	222.40	45.65	365.20	\$52.86
						1 Cement Finisher	35.95	287.60	57.90	463.20	
						1 Equipment Oper. (light)	36.05	288.40	58.95	471.60	
						1 Air Compressor, 250 cfm			201.50	221.65	
						2-50' Air Hoses, 1"			16.00	17.60	6.80
						<b>32 L.H., Daily Totals</b>		<b>\$1254.30</b>		<b>\$1930.85</b>	<b>\$39.20</b>
											\$60.34

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew C-8E</b>													
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.87	\$50.46							
3 Laborers	27.80	667.20	45.65	1095.60									
1 Cement Finisher	35.95	287.60	57.90	463.20									
1 Equipment Oper. (light)	36.05	288.40	58.95	471.60									
1 Shotcrete Rig, 35 C.Y./hr													
1 Air Compressor, 250 cfm													
4-50' Air Hoses, 1"													
4-50' Air Hoses, 2"													
48 L.H., Daily Totals		\$2128.70		\$3133.81	\$44.35	\$65.29							
<b>Crew C-9</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$31.90	\$52.04							
2 Laborers	27.80	444.80	45.65	730.40									
1 Equipment Oper. (light)	36.05	288.40	58.95	471.60									
1 Grout Pump, 50 G.F./hr.													
1 Air Compressor, 160 cfm													
2-50' Air Hoses, 1"													
2-50' Air Hoses, 2"													
32 L.H., Daily Totals		\$1485.85		\$2176.76	\$46.43	\$68.02							
<b>Crew C-10</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.23	\$53.82							
2 Cement Finishers	35.95	575.20	57.90	926.40									
24 L.H., Daily Totals		\$797.60		\$1291.60	\$33.23	\$53.82							
<b>Crew C-10B</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
3 Laborers	\$27.80	\$667.20	\$45.65	\$1095.60	\$31.06	\$50.55							
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Concrete Mixer, 10 C.F.													
2 Trowels, 48" Walk-Behind													
40 L.H., Daily Totals		\$1556.70		\$2367.73	\$38.92	\$59.19							
<b>Crew C-10C</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.23	\$53.82							
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Trowel, 48" Walk-Behind													
24 L.H., Daily Totals		\$884.60		\$1387.30	\$36.86	\$57.80							
<b>Crew C-10D</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.23	\$53.82							
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Vibrating Power Screed													
1 Trowel, 48" Walk-Behind													
24 L.H., Daily Totals		\$959.70		\$1469.91	\$39.99	\$61.25							
<b>Crew C-10E</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.23	\$53.82							
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Vibrating Power Screed													
1 Cement Trowel, 96" Ride-On													
24 L.H., Daily Totals		\$1041.70		\$1560.11	\$43.40	\$65.00							
<b>Crew C-10F</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$33.23	\$53.82							
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Telescoping Boom Lift, to 60'													
24 L.H., Daily Totals		\$1108.50		\$1633.59	\$46.19	\$68.07							
<b>Crew C-11</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Skilled Worker Foreman	\$38.95	\$311.60	\$64.35	\$514.80									
5 Skilled Workers	36.95	1478.00	61.05	2442.00									
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80									
1 Lattice Boom Crane, 150 Ton													
56 L.H., Daily Totals													
<b>Crew C-12</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20									
3 Carpenters	36.15	867.60	59.40	1425.60									
1 Laborer	27.80	222.40	45.65	365.20									
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80									
1 Hyd. Crane, 12 Ton													
48 L.H., Daily Totals													
<b>Crew C-13</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Struc. Steel Workers	\$40.35	\$645.60	\$68.95	\$1103.20									
1 Carpenter	36.15	289.20	59.40	475.20									
1 Welder, Gas Engine, 300 amp													
24 L.H., Daily Totals													
<b>Crew C-14</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20									
3 Carpenters	36.15	867.60	59.40	1425.60									
2 Carpenter Helpers	27.65	442.40	46.05	736.80									
4 Laborers	27.80	222.40	45.65	365.20									
2 Rodmen (reinf.)	39.50	1264.00	65.00	2080.00									
2 Rodman Helpers	27.65	442.40	46.05	736.80									
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80									
1 Hyd. Crane, 80 Ton													
136 L.H., Daily Totals													
<b>Crew C-14A</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20									
16 Carpenters	36.15	4627.20	59.40	7603.20									
4 Rodmen (reinf.)	39.50	1264.00	65.00	2080.00									
2 Laborers	27.80	444.80	45.65	730.40									
1 Cement Finisher	35.95	287.60	57.90	463.20									
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80									
1 Gas Engine Vibrator													
1 Concrete Pump (Small)													
200 L.H., Daily Totals													
<b>Crew C-14B</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20									
16 Carpenters	36.15	4627.20	59.40	7603.20									
4 Rodmen (reinf.)	39.50	1264.00	65.00	2080.00									
2 Laborers	27.80	444.80	45.65	730.40									
2 Cement Finishers	35.95	575.20	57.90	926.40									
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80									
1 Gas Engine Vibrator													
1 Concrete Pump (Small)													
208 L.H., Daily Totals													

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew C-14C</b>													
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$34.37	\$56.40	<b>Crew C-14M</b>						
6 Carpenters	36.15	1735.20	59.40	2851.20			1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$34.94	\$57.22
2 Rodmen (reinf.)	39.50	632.00	65.00	1040.00			2 Carpenters	36.15	578.40	59.40	950.40		
4 Laborers	27.80	889.60	45.65	1460.80			1 Rodman (reinf.)	39.50	316.00	65.00	520.00		
1 Cement Finisher	35.95	287.60	57.90	463.20			2 Laborers	27.80	444.80	45.65	730.40		
1 Gas Engine Vibrator		26.85		29.54	0.24	0.26	1 Cement Finisher	35.95	287.60	57.90	463.20		
112 L.H., Daily Totals		\$3876.45		\$6345.94	\$34.61	\$56.66	1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
<b>Crew C-14D</b>							1 Gas Engine Vibrator						
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$35.90	\$58.93	1 Concrete Pump (Small)						
18 Carpenters	36.15	5205.60	59.40	8553.60			64 L.H., Daily Totals		\$2673.20		\$4142.92	\$41.77	\$64.73
2 Rodmen (reinf.)	39.50	632.00	65.00	1040.00									
2 Laborers	27.80	444.80	45.65	730.40			<b>Crew C-15</b>						
1 Cement Finisher	35.95	287.60	57.90	463.20			1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$33.92	\$55.47
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80			2 Carpenters	36.15	578.40	59.40	950.40		
1 Gas Engine Vibrator		26.85		29.54			3 Laborers	27.80	667.20	45.65	1095.60		
1 Concrete Pump (Small)		410.35		451.38	2.19	2.40	2 Cement Finishers	35.95	575.20	57.90	926.40		
200 L.H., Daily Totals		\$7616.40		\$12266.12	\$38.08	\$61.33	1 Rodman (reinf.)	39.50	316.00	65.00	520.00		
<b>Crew C-14E</b>							72 L.H., Daily Totals		\$2442.00		\$3993.60	\$33.92	\$55.47
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$35.25	\$57.85							
2 Carpenters	36.15	578.40	59.40	950.40			<b>Crew C-16</b>						
4 Rodmen (reinf.)	39.50	1264.00	65.00	2080.00			1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$31.87	\$51.97
3 Laborers	27.80	667.20	45.65	1095.60			3 Laborers	27.80	667.20	45.65	1095.60		
1 Cement Finisher	35.95	287.60	57.90	463.20			2 Cement Finishers	35.95	575.20	57.90	926.40		
1 Gas Engine Vibrator		26.85		29.54	0.31	0.34	1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
88 L.H., Daily Totals		\$3129.25		\$5119.94	\$35.56	\$58.18	1 Urnite Pump Rig						
<b>Crew C-14F</b>							2-50' Air Hoses, 3/4"						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$33.46	\$54.18	2-50' Air Hoses, 15.50						
2 Laborers	27.80	444.80	45.65	730.40			2-50' Air Hoses, 17.05						
6 Cement Finishers	35.95	1725.60	57.90	2779.20			1 Telescoping Boom Lift, to 60'						
1 Gas Engine Vibrator		26.85		29.54	0.37	0.41	56 L.H., Daily Totals		\$2176.00		\$3340.72	\$38.86	\$59.66
72 L.H., Daily Totals		\$2435.65		\$3930.74	\$33.83	\$54.59							
<b>Crew C-14G</b>							<b>Crew C-16A</b>						
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$32.74	\$53.12	1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$34.42	\$55.89
2 Laborers	27.80	444.80	45.65	730.40			2 Cement Finishers	35.95	575.20	57.90	926.40		
4 Cement Finishers	35.95	1150.40	57.90	1852.80			1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Gas Engine Vibrator		26.85		29.54	0.48	0.53	1 Urnite Pump Rig						
56 L.H., Daily Totals		\$1860.45		\$3004.34	\$33.22	\$53.65	2-50' Air Hoses, 15.50						
<b>Crew C-14H</b>							2-50' Air Hoses, 17.05						
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$35.62	\$58.33	1 Telescoping Boom Lift, to 60'						
2 Carpenters	36.15	578.40	59.40	950.40			32 L.H., Daily Totals		\$1803.70		\$2560.71	\$56.37	\$80.02
1 Rodman (reinf.)	39.50	316.00	65.00	520.00									
1 Laborer	27.80	222.40	45.65	365.20			<b>Crew C-17</b>						
1 Cement Finisher	35.95	287.60	57.90	463.20			2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.35	\$61.71
1 Gas Engine Vibrator		26.85		29.54	0.56	0.62	8 Skilled Workers	36.95	2364.80	61.05	3907.20		
48 L.H., Daily Totals		\$1736.45		\$2829.53	\$36.18	\$58.95	80 L.H., Daily Totals		\$2988.00		\$4936.80	\$37.35	\$61.71
<b>Crew C-14L</b>													
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$33.52	\$54.96	<b>Crew C-17A</b>						
6 Carpenters	36.15	1735.20	59.40	2851.20			2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.36	\$61.72
4 Laborers	27.80	889.60	45.65	1460.80			8 Skilled Workers	36.95	2364.80	61.05	3907.20		
1 Cement Finisher	35.95	287.60	57.90	463.20			.125 Equip. Oper. (crane)	38.45	38.45	62.85	125.70		
1 Gas Engine Vibrator		26.85		29.54	0.28	0.31	.125 Hyd. Crane, 80 Ton						
96 L.H., Daily Totals		\$3244.45		\$5305.94	\$33.80	\$55.27	81 L.H., Daily Totals		\$3212.20		\$5203.98	\$39.66	\$64.25

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew C-17C</b>											
2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.39	\$61.75					
8 Skilled Workers	36.95	2364.80	61.05	3907.20							
.375 Equip. Oper. (crane)	38.45	115.35	62.85	188.55							
.375 Hyd. Crane, 80 Ton		557.25		612.98	6.71	7.39					
83 L.H., Daily Totals		\$3660.60		\$5738.32	\$44.10	\$69.14					
<b>Crew C-17D</b>											
2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.40	\$61.76					
8 Skilled Workers	36.95	2364.80	61.05	3907.20							
.5 Equip. Oper. (crane)	38.45	153.80	62.85	251.40							
.5 Hyd. Crane, 80 Ton		743.00		817.30	8.85	9.73					
84 L.H., Daily Totals		\$3884.80		\$6005.50	\$46.25	\$71.49					
<b>Crew C-17E</b>											
2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.35	\$61.71					
8 Skilled Workers	36.95	2364.80	61.05	3907.20							
1 Hyd. Jack with Rods		35.90		39.49	0.45	0.49					
80 L.H., Daily Totals		\$3023.90		\$4976.29	\$37.80	\$62.20					
<b>Crew C-18</b>											
.125 Labor Foreman (outside)	\$29.80	\$29.80	\$48.95	\$48.95	\$28.02	\$46.02					
1 Laborer	27.80	222.40	45.65	365.20							
1 Concrete Cart, 10 C.F.		127.85		140.63	14.21	15.63					
9 L.H., Daily Totals		\$380.05		\$554.78	\$42.23	\$61.64					
<b>Crew C-19</b>											
.125 Labor Foreman (outside)	\$29.80	\$29.80	\$48.95	\$48.95	\$28.02	\$46.02					
1 Laborer	27.80	222.40	45.65	365.20							
1 Concrete Cart, 18 C.F.		153.45		168.79	17.05	18.75					
9 L.H., Daily Totals		\$405.65		\$582.95	\$45.07	\$64.77					
<b>Crew C-20</b>											
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.34	\$49.65					
5 Laborers	27.80	1112.00	45.65	1826.00							
1 Cement Finisher	35.95	287.60	57.90	463.20							
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80							
2 Gas Engine Vibrators		53.70		59.07							
1 Concrete Pump (Small)		410.35		451.38	7.25	7.98					
64 L.H., Daily Totals		\$2406.05		\$3688.05	\$37.59	\$57.63					
<b>Crew C-21</b>											
1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$30.34	\$49.65					
5 Laborers	27.80	1112.00	45.65	1826.00							
1 Cement Finisher	35.95	287.60	57.90	463.20							
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80							
2 Gas Engine Vibrators		53.70		59.07							
1 Concrete Conveyer		204.15		224.57	4.03	4.43					
64 L.H., Daily Totals		\$2199.85		\$3461.24	\$34.37	\$54.08					
<b>Crew C-22</b>											
1 Rodman Foreman (outside)	\$41.50	\$332.00	\$68.30	\$546.40	\$39.71	\$65.33					
4 Rodmen (reinf.)	39.50	1264.00	65.00	2080.00							
.125 Equip. Oper. (crane)	38.45	38.45	62.85	62.85							
.125 Equip. Oper. (oiler)	33.35	33.35	54.50	54.50							
.125 Hyd. Crane, 25 Ton		72.61		79.87	1.73	1.90					
42 L.H., Daily Totals		\$1740.41		\$2823.62	\$41.44	\$67.23					
<b>Crew C-23</b>											
2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.14	\$61.23					
6 Skilled Workers	36.95	1773.60	61.05	2930.40							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60	21.20	23.32					
80 L.H., Daily Totals		\$4667.20		\$6764.40	\$58.34	\$84.56					
<b>Crew C-24</b>											
2 Skilled Worker Foremen (out)	\$38.95	\$623.20	\$64.35	\$1029.60	\$37.14	\$61.23					
6 Skilled Workers	36.95	1773.60	61.05	2930.40							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00							
1 Lattice Boom Crane, 150 Ton		2269.00		2495.90	28.36	31.20					
80 L.H., Daily Totals		\$5240.20		\$7394.70	\$65.50	\$92.43					
<b>Crew C-25</b>											
2 Rodmen (reinf.)	\$39.50	\$632.00	\$65.00	\$1040.00	\$31.35	\$53.27					
2 Rodmen Helpers		23.20		371.20	41.55	664.80					
32 L.H., Daily Totals		\$1003.20		\$1704.80	\$31.35	\$53.27					
<b>Crew C-27</b>											
2 Cement Finishers	\$35.95	\$575.20	\$57.90	\$926.40	\$35.95	\$57.90					
1 Concrete Saw			111.50		122.65	6.97	7.67				
16 L.H., Daily Totals		\$686.70		\$1049.05	\$42.92	\$65.57					
<b>Crew C-28</b>											
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$35.95	\$57.90					
1 Portable Air Compressor, Gas			38.70		42.57	4.84	5.32				
8 L.H., Daily Totals		\$326.30		\$505.77	\$40.79	\$63.22					
<b>Crew C-29</b>											
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65					
1 Pressure Washer			96.95		106.65	12.12	13.33				
8 L.H., Daily Totals		\$319.35		\$471.85	\$39.92	\$58.98					
<b>Crew C-30</b>											
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65					
1 Concrete Mixer, 10 C.F.			140.30		154.33	17.54	19.29				
8 L.H., Daily Totals		\$362.70		\$519.53	\$45.34	\$64.94					
<b>Crew C-31</b>											
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$35.95	\$57.90					
1 Grout Pump			317.90		349.69	39.74	43.71				
8 L.H., Daily Totals		\$605.50		\$812.89	\$75.69	\$101.61					
<b>Crew C-32</b>											
1 Cement Finisher	\$35.95	\$287.60	\$57.90	\$463.20	\$31.88	\$51.77					
1 Laborer	27.80	222.40	45.65	365.20							
1 Crack Chaser Saw, Gas, 6 H.P.			73.10		80.41						
1 Vacuum Pick-Up System			74.05		81.45	9.20	10.12				
16 L.H., Daily Totals		\$657.15		\$990.26	\$41.07	\$61.89					
<b>Crew D-1</b>											
1 Bricklayer	\$35.40	\$283.20	\$58.60	\$468.80	\$32.73	\$54.17					
1 Bricklayer Helper	30.05	240.40	49.75	398.00							
16 L.H., Daily Totals		\$523.60		\$866.80	\$32.73	\$54.17					

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew D-2</b>											
3 Bricklayers	\$35.40	\$849.60	\$58.60	\$1406.40	\$33.26	\$55.06					
2 Bricklayer Helpers	30.05	480.80	49.75	796.00							
40 L.H., Daily Totals		\$1330.40		\$2202.40	\$33.26	\$55.06					
<b>Crew D-3</b>											
3 Bricklayers	\$35.40	\$849.60	\$58.60	\$1406.40	\$33.40	\$55.27					
2 Bricklayer Helpers	30.05	480.80	49.75	796.00							
.25 Carpenter	36.15	72.30	59.40	118.80							
42 L.H., Daily Totals		\$1402.70		\$2321.20	\$33.40	\$55.27					
<b>Crew D-4</b>											
1 Bricklayer	\$35.40	\$283.20	\$58.60	\$468.80	\$30.82	\$50.94					
2 Bricklayer Helpers	30.05	480.80	49.75	796.00							
1 Building Laborer	27.80	222.40	45.65	365.20							
1 Grout Pump, 50 C.F./hr.		188.45		207.29	5.89	6.48					
32 L.H., Daily Totals		\$1174.85		\$1837.30	\$36.71	\$57.42					
<b>Crew D-5</b>											
1 Block Mason Helper	30.05	240.40	49.75	398.00	30.05	49.75					
8 L.H., Daily Totals		\$240.40		\$398.00	\$30.05	\$49.75					
<b>Crew D-6</b>											
3 Bricklayers	\$35.40	\$849.60	\$58.60	\$1406.40	\$32.73	\$54.17					
2 Bricklayer Helpers	30.05	721.20	49.75	1194.00							
48 L.H., Daily Totals		\$1570.80		\$2600.40	\$32.73	\$54.17					
<b>Crew D-7</b>											
1 Tile Layer	\$35.15	\$281.20	\$56.50	\$452.00	\$30.98	\$49.77					
1 Tile Layer Helper	26.80	214.40	43.05	344.40							
16 L.H., Daily Totals		\$495.60		\$796.40	\$30.98	\$49.77					
<b>Crew D-8</b>											
3 Bricklayers	\$35.40	\$849.60	\$58.60	\$1406.40	\$33.26	\$55.06					
2 Bricklayer Helpers	30.05	480.80	49.75	796.00							
40 L.H., Daily Totals		\$1330.40		\$2202.40	\$33.26	\$55.06					
<b>Crew D-9</b>											
3 Bricklayers	\$35.40	\$849.60	\$58.60	\$1406.40	\$32.73	\$54.17					
3 Bricklayer Helpers	30.05	721.20	49.75	1194.00							
48 L.H., Daily Totals		\$1570.80		\$2600.40	\$32.73	\$54.17					
<b>Crew D-10</b>											
1 Bricklayer Foreman (outside)	\$37.40	\$299.20	\$61.95	\$495.60	\$35.33	\$58.29					
1 Bricklayer	35.40	283.20	58.60	468.80							
1 Bricklayer Helper	30.05	240.40	49.75	398.00							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 S.P. Crane, 4x4, 12 Ton		428.30		471.13	13.38	14.72					
32 L.H., Daily Totals		\$1558.70		\$2336.33	\$48.71	\$73.01					
<b>Crew D-11</b>											
2 Bricklayers	\$35.40	\$566.40	\$58.60	\$937.60	\$33.62	\$55.65					
1 Bricklayer Helper	30.05	240.40	49.75	398.00							
24 L.H., Daily Totals		\$806.80		\$1335.60	\$33.62	\$55.65					
<b>Crew D-12</b>											
2 Bricklayers	\$35.40	\$566.40	\$58.60	\$937.60	\$32.73	\$54.17					
2 Bricklayer Helpers	30.05	480.80	49.75	796.00							
32 L.H., Daily Totals		\$1047.20		\$1733.60	\$32.73	\$54.17					
<b>Crew D-13</b>											
1 Bricklayer Foreman (outside)	\$37.40	\$299.20	\$61.95	\$495.60							
2 Bricklayers	35.40	566.40	58.60	937.60							
2 Bricklayer Helpers	30.05	480.80	49.75	796.00							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 S.P. Crane, 4x4, 12 Ton		428.30		471.13	8.92	9.82					
48 L.H., Daily Totals		\$2082.30		\$3203.13	\$43.38	\$66.73					
<b>Crew D-14</b>											
3 Bricklayers	\$35.40	\$849.60	\$58.60	\$1406.40							
1 Bricklayer Helper	30.05	240.40	49.75	398.00							
32 L.H., Daily Totals		\$1090.00		\$1804.40	\$34.06	\$56.39					
<b>Crew E-1</b>											
2 Struc. Steel Workers	\$40.35	\$645.60	\$68.95	\$1103.20							
1 Welder, Gas Engine, 300 amp			147.00		161.70	9.19	10.11				
16 L.H., Daily Totals		\$792.60		\$1264.90	\$49.54	\$79.06					
<b>Crew E-2</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80							
4 Struc. Steel Workers	40.35	1291.20	68.95	2206.40							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60	35.33	38.87					
48 L.H., Daily Totals		\$3633.60		\$5153.60	\$75.70	\$107.37					
<b>Crew E-3</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80							
2 Struc. Steel Workers	40.35	645.60	68.95	1103.20							
1 Welder, Gas Engine, 300 amp			147.00		161.70	6.13	6.74				
24 L.H., Daily Totals		\$1131.40		\$1843.70	\$47.14	\$76.82					
<b>Crew E-3A</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80							
2 Struc. Steel Workers	40.35	645.60	68.95	1103.20							
1 Welder, Gas Engine, 300 amp			147.00		161.70	306.79	17.75	19.52			
24 L.H., Daily Totals		\$1410.30		\$2150.49	\$58.76	\$89.60					
<b>Crew E-4</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80							
3 Struc. Steel Workers	40.35	968.40	68.95	1654.80							
1 Welder, Gas Engine, 300 amp			147.00		161.70	4.59	5.05				
32 L.H., Daily Totals		\$1454.20		\$2395.30	\$45.44	\$74.85					
<b>Crew E-5</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80							
7 Struc. Steel Workers	40.35	2259.60	68.95	3861.20							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60							
1 Welder, Gas Engine, 300 amp			147.00		161.70	25.60	28.16				
72 L.H., Daily Totals		\$4749.00		\$6970.10	\$65.96	\$96.81					

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew E-6</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.07	\$68.10					
12 Struc. Steel Workers	40.35	3873.60	68.95	6619.20							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60							
1 Welder, Gas Engine, 300 amp		147.00		161.70							
1 Air Compressor, 160 cfm		202.80		223.08							
2 Impact Wrenches		104.60		115.06		17.92	19.71				
120 L.H., Daily Totals		\$6958.80		\$10537.84		\$57.99	\$87.82				
<b>Crew E-7</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.36	\$68.65					
7 Struc. Steel Workers	40.35	2259.60	68.95	3861.20							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60							
2 Welder, Gas Engine, 300 amp		294.00		323.40		27.64	30.40				
72 L.H., Daily Totals		\$4896.00		\$7131.80		\$68.00	\$99.05				
<b>Crew E-8</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.36	\$68.70					
9 Struc. Steel Workers	40.35	2905.20	68.95	4964.40							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60							
4 Welder, Gas Engine, 300 amp		588.00		646.80		25.95	28.55				
88 L.H., Daily Totals		\$5835.60		\$8558.40		\$66.31	\$97.25				
<b>Crew E-9</b>											
2 Struc. Steel Foremen (outside)	\$42.35	\$677.60	\$72.35	\$1157.60	\$39.84	\$67.58					
5 Struc. Steel Workers	40.35	1614.00	68.95	2758.00							
1 Welder Foreman (outside)	42.20	337.60	72.10	576.80							
5 Welders	40.20	1608.00	68.70	2748.00							
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80							
1 Equip. Oper. (oilier)	33.35	266.80	54.50	436.00							
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Lattice Boom Crane, 90 Ton		1696.00		1865.60							
5 Welder, Gas Engine, 300 amp		735.00		808.50		18.99	20.89				
128 L.H., Daily Totals		\$7531.00		\$11324.90		\$58.84	\$88.48				
<b>Crew E-10</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$41.02	\$70.08					
2 Struc. Steel Workers	40.35	645.60	68.95	1103.20							
1 Welder, Gas Engine, 300 amp		147.00		161.70							
1 Flatbed Truck, Gas, 3 Ton		820.40		902.44		40.31	44.34				
24 L.H., Daily Totals		\$1951.80		\$2746.14		\$81.33	\$114.42				
<b>Crew E-11</b>											
2 Painters, Struc. Steel	\$30.70	\$491.20	\$54.15	\$866.40	\$31.31	\$53.23					
1 Building Laborer	27.80	222.40	45.65	365.20							
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Air Compressor, 250 cfm		201.50		221.65							
1 Sandblaster, Portable, 3 C.F.		83.80		92.18							
1 Set Sand Blasting Accessories		15.35		16.89		9.40	10.33				
32 L.H., Daily Totals		\$1302.65		\$2033.92		\$40.71	\$63.56				

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily	
<b>Crew E-11A</b>											
2 Painters, Struc. Steel	\$30.70	\$491.20	\$54.15	\$866.40	\$31.31	\$53.23					
1 Building Laborer	27.80	222.40	45.65	365.20							
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Air Compressor, 250 cfm		201.50		221.65							
1 Sandblaster, Portable, 3 C.F.		83.80		92.18							
1 Set Sand Blasting Accessories		15.35		16.89							
1 Telescoping Boom Lift, to 60'		310.90		341.99		19.11	21.02				
32 L.H., Daily Totals		\$1613.55		\$2375.91		\$50.42	\$74.25				
<b>Crew E-11B</b>											
2 Painters, Struc. Steel	\$30.70	\$491.20	\$54.15	\$866.40	\$29.73	\$51.32					
1 Building Laborer	27.80	222.40	45.65	365.20							
2 Paint Sprayer, 8 C.F.M.		87.50		96.25							
1 Telescoping Boom Lift, to 60'		310.90		341.99		16.60	18.26				
24 L.H., Daily Totals		\$1112.00		\$1669.84		\$46.33	\$69.58				
<b>Crew E-12</b>											
1 Welder Foreman (outside)	\$42.20	\$337.60	\$72.10	\$576.80	\$39.13	\$65.53					
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Welder, Gas Engine, 300 amp		147.00		161.70		9.19	10.11				
16 L.H., Daily Totals		\$773.00		\$1210.10		\$48.31	\$75.63				
<b>Crew E-13</b>											
1 Welder Foreman (outside)	\$42.20	\$337.60	\$72.10	\$576.80	\$40.15	\$67.72					
.5 Equip. Oper. (light)	36.05	144.20	58.95	235.80							
1 Welder, Gas Engine, 300 amp		147.00		161.70		12.25	13.48				
12 L.H., Daily Totals		\$628.80		\$974.30		\$52.40	\$81.19				
<b>Crew E-14</b>											
1 Struc. Steel Worker	\$40.35	\$322.80	\$68.95	\$551.60	\$40.35	\$68.95					
1 Welder, Gas Engine, 300 amp		147.00		161.70		18.38	20.21				
8 L.H., Daily Totals		\$469.80		\$713.30		\$58.73	\$89.16				
<b>Crew E-16</b>											
1 Welder Foreman (outside)	\$42.20	\$337.60	\$72.10	\$576.80	\$41.20	\$70.40					
1 Welder	40.20	321.60	68.70	549.60							
1 Welder, Gas Engine, 300 amp		147.00		161.70		9.19	10.11				
16 L.H., Daily Totals		\$806.20		\$1288.10		\$50.39	\$80.51				
<b>Crew E-17</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$41.35	\$70.65					
1 Structural Steel Worker	40.35	322.80	68.95	551.60							
16 L.H., Daily Totals		\$661.60		\$1130.40		\$41.35	\$70.65				
<b>Crew E-18</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.28	\$68.26					
3 Structural Steel Workers	40.35	968.40	68.95	1654.80							
1 Equipment Operator (med.)	38.00	304.00	62.10	496.80							
1 Lattice Boom Crane, 20 Ton		1488.00		1636.80		37.20	40.92				
40 L.H., Daily Totals		\$3099.20		\$4367.20		\$77.48	\$109.18				
<b>Crew E-19</b>											
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$39.58	\$66.75					
1 Structural Steel Worker	40.35	322.80	68.95	551.60							
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60							
1 Lattice Boom Crane, 20 Ton		1488.00		1636.80		62.00	68.20				
24 L.H., Daily Totals		\$2438.00		\$3238.80		\$101.58	\$134.95				

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew E-20</b>							<b>Crew F-6</b>						
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$39.49	\$66.81	2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$33.27	\$54.59
5 Structural Steel Workers	40.35	1614.00	68.95	2758.00			2 Building Laborers	27.80	444.80	45.65	730.40		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Equip. Oper. (oiler)	33.35	266.80	54.50	436.00			1 Hyd. Crane, 12 Ton	471.00			518.10	11.78	12.95
1 Lattice Boom Crane, 40 Ton		2028.00		2230.80	31.69	34.86	<b>40 L.H., Daily Totals</b>		\$1801.80		\$2701.70	\$45.05	\$67.54
<b>64 L.H., Daily Totals</b>		\$4555.20		\$6506.40	\$71.17	\$101.66							
<b>Crew E-22</b>							<b>Crew F-7</b>						
1 Skilled Worker Foreman (out)	\$38.95	\$311.60	\$64.35	\$514.80	\$37.52	\$62.15	2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$31.98	\$52.52
2 Skilled Workers	36.95	591.20	61.05	976.80			2 Building Laborers	27.80	444.80	45.65	730.40		
<b>24 L.H., Daily Totals</b>		\$902.80		\$1491.60	\$37.52	\$62.15	<b>32 L.H., Daily Totals</b>	-	\$1023.20		\$1680.80	\$31.98	\$52.52
<b>Crew E-24</b>													
3 Structural Steel Workers	\$40.35	\$968.40	\$68.95	\$1654.80	\$39.76	\$67.24	<b>Crew G-1</b>						
1 Equipment Operator (med.)	38.00	304.00	62.10	496.80			1 Roofer Foreman (outside)	\$32.95	\$263.60	\$59.00	\$472.00	\$29.02	\$51.96
1 Hyd. Crane, 25 Ton		580.85		638.93	18.15	19.97	4 Roofers Composition	30.95	990.40	55.40	1772.80		
<b>32 L.H., Daily Totals</b>		\$1853.25		\$2790.53	\$57.91	\$87.20	2 Roofer Helpers	23.20	371.20	41.55	664.80		
<b>Crew E-25</b>							1 Application Equipment		192.85		212.13		
1 Welder	\$40.20	\$321.60	\$68.70	\$549.60	\$40.20	\$68.70	1 Tar Kettle/Pot		207.85		228.63		
1 Cutting Torch		12.80		14.08	1.60	1.76	1 Crew Truck		166.25		182.88	10.12	11.14
<b>8 L.H., Daily Totals</b>		\$334.40		\$563.68	\$41.80	\$70.46	<b>56 L.H., Daily Totals</b>		\$2192.15		\$3533.24	\$39.15	\$63.09
<b>Crew E-26</b>													
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.99	\$69.60	<b>Crew G-2</b>						
1 Struc. Steel Worker	40.35	322.80	68.95	551.60			1 Plasterer	\$35.00	\$280.00	\$57.15	\$457.20	\$31.12	\$50.88
1 Welder	40.20	321.60	68.70	549.60			1 Plasterer Helper	30.55	244.40	49.85	398.80		
.25 Electrician	41.70	83.40	67.95	135.90			1 Building Laborer	27.80	222.40	45.65	365.20		
.25 Plumber	40.60	81.20	66.45	132.90			1 Grout Pump, 50 C.F./hr.		188.45		207.29	7.85	8.64
1 Welder, Gas Engine, 300 amp		147.00		161.70	5.25	5.78	<b>24 L.H., Daily Totals</b>		\$935.25		\$1428.49	\$38.97	\$59.52
<b>28 L.H., Daily Totals</b>		\$1294.80		\$2110.50	\$46.24	\$75.38							
<b>Crew E-27</b>							<b>Crew G-2A</b>						
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.36	\$68.61	1 Roofer Composition	\$30.95	\$247.60	\$55.40	\$443.20	\$27.32	\$47.53
6 Struc. Steel Workers	40.35	1936.80	68.95	3309.60			1 Roofer Helper	23.20	185.60	41.55	332.40		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Building Laborer	27.80	222.40	45.65	365.20		
1 Hyd. Crane, 12 Ton		471.00		518.10			1 Foam Spray Rig, Trailer-Mtd.		523.85		576.24		
1 Hyd. Crane, 80 Ton		1486.00		1634.60	30.58	33.64	1 Pickup Truck, 3/4 Ton		110.85		121.94	26.45	29.09
<b>64 L.H., Daily Totals</b>		\$4540.20		\$6543.90	\$70.94	\$102.25	<b>24 L.H., Daily Totals</b>		\$1290.30		\$1838.97	\$53.76	\$76.62
<b>Crew F-3</b>													
2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$33.21	\$54.75	<b>Crew G-3</b>						
2 Carpenter Helpers	27.65	442.40	46.05	736.80			2 Sheet Metal Workers	\$39.25	\$628.00	\$65.05	\$1040.80	\$33.52	\$55.35
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			2 Building Laborers	27.80	444.80	45.65	730.40		
1 Hyd. Crane, 12 Ton		471.00		518.10			<b>32 L.H., Daily Totals</b>		\$1072.80		\$1771.20	\$33.52	\$55.35
<b>40 L.H., Daily Totals</b>		\$1799.40		\$2708.10	\$44.98	\$67.70							
<b>Crew F-4</b>							<b>Crew G-4</b>						
2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$33.21	\$54.75	1 Labor Foreman (outside)	\$29.80	\$238.40	\$48.95	\$391.60	\$28.47	\$46.75
2 Carpenter Helpers	27.65	442.40	46.05	736.80			2 Building Laborers	27.80	444.80	45.65	730.40		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Flatbed Truck, Gas, 1.5 Ton		196.15		215.76		
1 Hyd. Crane, 12 Ton		471.00		518.10	11.78	12.95	1 Air Compressor, 160 cfm		202.80		223.08	16.62	18.29
<b>40 L.H., Daily Totals</b>		\$2308.60		\$3268.22	\$57.72	\$81.71	<b>24 L.H., Daily Totals</b>		\$1082.15		\$1560.85	\$45.09	\$65.04
<b>Crew F-5</b>													
2 Carpenters	\$36.15	\$578.40	\$59.40	\$950.40	\$31.90	\$52.73	<b>Crew G-5</b>						
2 Carpenter Helpers	27.65	442.40	46.05	736.80			1 Roofer Foreman (outside)	\$32.95	\$263.60	\$59.00	\$472.00	\$28.25	\$50.58
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			2 Roofers Composition	30.95	495.20	55.40	886.40		
1 Hyd. Crane, 55 Ton		980.20		1078.22	24.50	26.96	2 Roofer Helpers	23.20	371.20	41.55	664.80		
<b>40 L.H., Daily Totals</b>		\$1020.80		\$1687.20	\$31.90	\$52.73	1 Application Equipment		192.85		212.13	4.82	5.30
<b>Crew F-6</b>							<b>40 L.H., Daily Totals</b>		\$1322.85		\$2235.34	\$33.07	\$55.88
2 Roofers Composition	\$30.95	\$495.20	\$55.40	\$886.40									
1 Small Compressor, Electric							<b>Crew G-6A</b>						
2 Pneumatic Nailers							2 Roofers Composition	\$30.95	\$495.20	\$55.40	\$886.40	\$30.95	\$55.40
<b>16 L.H., Daily Totals</b>		\$583.80					1 Small Compressor, Electric		33.80		37.18		
							2 Pneumatic Nailers		54.80		60.28	5.54	6.09
							<b>16 L.H., Daily Totals</b>		\$583.80		\$983.86	\$36.49	\$61.49

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew G-7						
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$36.15	\$59.40
1 Small Compressor, Electric		33.80		37.18		
1 Pneumatic Nailer		27.40		30.14	7.65	8.41
8 L.H., Daily Totals		\$350.40		\$542.52	\$43.80	\$67.81
Crew H-1						
2 Glaziers	\$35.20	\$563.20	\$57.65	\$922.40	\$37.77	\$63.30
2 Struc. Steel Workers	40.35	645.60	68.95	1103.20		
32 L.H., Daily Totals		\$1208.80		\$2025.60	\$37.77	\$63.30
Crew H-2						
2 Glaziers	\$35.20	\$563.20	\$57.65	\$922.40	\$32.73	\$53.65
1 Building Laborer	27.80	222.40	45.65	365.20		
24 L.H., Daily Totals		\$785.60		\$1287.60	\$32.73	\$53.65
Crew H-3						
1 Glazier	\$35.20	\$281.60	\$57.65	\$461.20	\$31.43	\$51.85
1 Helper	27.65	221.20	46.05	368.40		
16 L.H., Daily Totals		\$502.80		\$829.60	\$31.43	\$51.85
Crew H-4						
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$33.86	\$55.77
1 Carpenter Helper	27.65	221.20	46.05	368.40		
.5 Electrician	41.70	166.80	67.95	271.80		
20 L.H., Daily Totals		\$677.20		\$1115.40	\$33.86	\$55.77
Crew J-1						
3 Plasterers	\$35.00	\$840.00	\$57.15	\$1371.60	\$33.22	\$54.23
2 Plasterer Helpers	30.55	488.80	49.85	797.60		
1 Mixing Machine, 6 C.F.		117.35		129.09	2.93	3.23
40 L.H., Daily Totals		\$1446.15		\$2298.28	\$36.15	\$57.46
Crew J-2						
3 Plasterers	\$35.00	\$840.00	\$57.15	\$1371.60	\$33.67	\$54.82
2 Plasterer Helpers	30.55	488.80	49.85	797.60		
1 Lather	35.95	287.60	57.75	462.00		
1 Mixing Machine, 6 C.F.		117.35		129.09	2.44	2.69
48 L.H., Daily Totals		\$1733.75		\$2760.28	\$36.12	\$57.51
Crew J-3						
1 Terrazzo Worker	\$34.55	\$276.40	\$55.55	\$444.40	\$32.05	\$51.52
1 Terrazzo Helper	29.55	236.40	47.50	380.00		
1 Floor Grinder, 22" Path		104.60		115.06		
1 Terrazzo Mixer		161.15		177.26	16.61	18.27
16 L.H., Daily Totals		\$778.55		\$1116.72	\$48.66	\$69.80
Crew J-4						
2 Cement Finishers	\$35.95	\$575.20	\$57.90	\$926.40	\$33.23	\$53.82
1 Laborer	27.80	222.40	45.65	365.20		
1 Floor Grinder, 22" Path		104.60		115.06		
1 Floor Edger, 7" Path		43.95		48.34		
1 Vacuum Pick-Up System		74.05		81.45	9.28	10.20
24 L.H., Daily Totals		\$1020.20		\$1536.46	\$42.51	\$64.02

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew J-4A						
2 Cement Finishers	\$35.95	\$575.20	\$57.90	\$926.40	\$31.88	\$51.77
2 Laborers	27.80	444.80	45.65	730.40		
1 Floor Grinder, 22" Path					104.60	115.06
1 Floor Edger, 7" Path					43.95	48.34
1 Vacuum Pick-Up System					74.05	81.45
1 Floor Auto Scrubber					178.40	196.24
32 L.H., Daily Totals					\$1421.00	\$2097.90
Crew J-4B						
1 Laborer	\$27.80	\$222.40	\$45.65	\$365.20	\$27.80	\$45.65
1 Floor Auto Scrubber					178.40	196.24
8 L.H., Daily Totals					\$400.80	\$561.44
Crew J-6						
2 Painters	\$30.20	\$483.20	\$49.15	\$786.40	\$31.06	\$50.73
1 Building Laborer	27.80	222.40	45.65	365.20		
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 Air Compressor, 250 cfm					201.50	221.65
1 Sandblaster, Portable, 3 C.F.					83.80	92.18
1 Set Sand Blasting Accessories					15.35	16.89
32 L.H., Daily Totals					\$1294.65	\$1953.92
Crew J-7						
2 Painters	\$30.20	\$483.20	\$49.15	\$786.40	\$30.20	\$49.15
1 Floor Belt Sander					50.15	55.16
1 Floor Sanding Edger					25.15	27.66
16 L.H., Daily Totals					\$558.50	\$869.23
Crew K-1						
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$34.63	\$56.83
1 Truck Driver (light)	33.10	264.80	54.25	434.00		
1 Flatbed Truck, Gas, 3 Ton					820.40	902.44
16 L.H., Daily Totals					\$1374.40	\$1811.64
Crew K-2						
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$38.60	\$65.18
1 Struc. Steel Worker	40.35	322.80	68.95	551.60		
1 Truck Driver (light)	33.10	264.80	54.25	434.00		
1 Flatbed Truck, Gas, 3 Ton					820.40	902.44
24 L.H., Daily Totals					\$1746.80	\$2466.84
Crew L-1						
.25 Electrician	\$41.70	\$83.40	\$67.95	\$135.90	\$40.82	\$66.75
1 Plumber	40.60	324.80	66.45	531.60		
10 L.H., Daily Totals					\$408.20	\$667.50
Crew L-2						
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$31.90	\$52.73
1 Carpenter Helper	27.65	221.20	46.05	368.40		
16 L.H., Daily Totals					\$510.40	\$843.60
Crew L-3						
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$37.26	\$61.11
.25 Electrician	41.70	83.40	67.95	135.90		
10 L.H., Daily Totals					\$372.60	\$611.10
Crew L-3A						
1 Carpenter Foreman (outside)	\$38.15	\$305.20	\$62.65	\$501.20	\$38.52	\$63.45
.5 Sheet Metal Worker	39.25	157.00	65.05	260.20		
12 L.H., Daily Totals					\$462.20	\$761.40

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		
	Hr.	Daily	Hr.	Daily			Bare Costs	Incl. O&P	Hr.	Daily			
<b>Crew L-4</b>						<b>Crew L-11</b>							
1 Skilled Worker	\$36.95	\$295.60	\$61.05	\$488.40	\$32.30	\$53.55	2 Wreckers	\$28.20	\$451.20	\$47.35	\$757.60	\$32.73	\$54.13
1 Helper	27.65	221.20	46.05	368.40			1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
16 L.H., Daily Totals		\$516.80		\$856.80	\$32.30	\$53.55	1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
<b>Crew L-5</b>						<b>Crew M-1</b>							
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.36	\$68.56	3 Elevator Constructors	\$55.60	\$1334.40	\$90.30	\$2167.20	\$52.83	\$85.80
5 Struc. Steel Workers	40.35	645.60	68.95	1103.20			1 Elevator Apprentice	44.50	356.00	72.30	578.40		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			5 Hand Tools		50.00		55.00	1.56	1.72
1 Hyd. Crane, 25 Ton		580.85		638.93	10.37	11.41	32 L.H., Daily Totals		\$1740.40		\$2800.60	\$54.39	\$87.52
56 L.H., Daily Totals		\$2841.25		\$4478.53	\$50.74	\$79.97	<b>Crew M-3</b>						
<b>Crew L-5A</b>						<b>Crew M-3</b>							
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.38	\$68.28	1 Electrician Foreman (outside)	\$43.70	\$349.60	\$71.20	\$569.60	\$42.61	\$69.41
2 Structural Steel Workers	40.35	645.60	68.95	1103.20			1 Common Laborer	27.80	222.40	45.65	365.20		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			.25 Equipment Operator (med.)	38.00	76.00	62.10	124.20		
1 S.P. Crane, 4x4, 25 Ton		1144.00		1258.40	35.75	39.33	1 Elevator Constructor	55.60	444.80	90.30	722.40		
32 L.H., Daily Totals		\$2436.00		\$3443.20	\$76.13	\$107.60	1 Elevator Apprentice	44.50	356.00	72.30	578.40		
<b>Crew L-5B</b>							.25 S.P. Crane, 4x4, 20 Ton		145.55		160.10	4.28	4.71
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$39.62	\$65.77	34 L.H., Daily Totals		\$1594.35		\$2519.91	\$46.89	\$74.11
2 Structural Steel Workers	40.35	645.60	68.95	1103.20			<b>Crew M-4</b>						
2 Electricians	41.70	667.20	67.95	1087.20			1 Electrician Foreman (outside)	\$43.70	\$349.60	\$71.20	\$569.60	\$42.12	\$68.62
2 Steamfitters/Pipefitters	41.95	671.20	68.65	1098.40			1 Common Laborer	27.80	222.40	45.65	365.20		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			.25 Equipment Operator, Crane	38.45	76.90	62.85	125.70		
1 Common Laborer	27.80	222.40	45.65	365.20			.25 Equip. Oper. (oilier)	33.35	66.70	54.50	109.00		
1 Hyd. Crane, 80 Ton		1486.00		1634.60	20.64	22.70	1 Elevator Constructor	55.60	444.80	90.30	722.40		
72 L.H., Daily Totals		\$4338.80		\$6370.20	\$60.26	\$88.47	1 Elevator Apprentice	44.50	356.00	72.30	578.40		
<b>Crew L-6</b>							.25 S.P. Crane, 4x4, 40 Ton		188.55		207.41	5.24	5.76
1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$40.97	\$66.95	36 L.H., Daily Totals		\$1704.95		\$2677.70	\$47.36	\$74.38
.5 Electrician	41.70	166.80	67.95	271.80			<b>Crew Q-1</b>						
12 L.H., Daily Totals		\$491.60		\$803.40	\$40.97	\$66.95	1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$36.55	\$59.83
<b>Crew L-7</b>							1 Plumber Apprentice	32.50	260.00	53.20	425.60		
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$31.35	\$51.84	16 L.H., Daily Totals		\$584.80		\$957.20	\$36.55	\$59.83
2 Carpenter Helpers	27.65	442.40	46.05	736.80			<b>Crew Q-1A</b>						
.25 Electrician	41.70	83.40	67.95	135.90			.25 Plumber Foreman (outside)	\$42.60	\$85.20	\$69.70	\$139.40	\$41.00	\$67.10
26 L.H., Daily Totals		\$815.00		\$1347.90	\$31.35	\$51.84	1 Plumber	40.60	324.80	66.45	531.60		
<b>Crew L-8</b>							10 L.H., Daily Totals		\$410.00		\$671.00	\$41.00	\$67.10
1 Carpenter	\$36.15	\$289.20	\$59.40	\$475.20	\$33.64	\$55.47	<b>Crew Q-1C</b>						
1 Carpenter Helper	27.65	221.20	46.05	368.40			1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$37.03	\$60.58
.5 Plumber	40.60	162.40	66.45	265.80			1 Plumber Apprentice	32.50	260.00	53.20	425.60		
20 L.H., Daily Totals		\$672.80		\$1109.40	\$33.64	\$55.47	1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
<b>Crew L-9</b>							1 Trencher, Chain Type, 8' D		1872.00		2059.20	78.00	85.80
1 Skilled Worker Foreman	\$38.95	\$311.60	\$64.35	\$514.80	\$33.79	\$55.88	24 L.H., Daily Totals		\$2760.80		\$3513.20	\$115.03	\$146.38
1 Skilled Worker	36.95	295.60	61.05	488.40			<b>Crew Q-2</b>						
2 Helpers	27.65	442.40	46.05	736.80			1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$35.20	\$57.62
.5 Electrician	41.70	166.80	67.95	271.80			2 Plumber Apprentices	32.50	520.00	53.20	851.20		
36 L.H., Daily Totals		\$1216.40		\$2011.80	\$33.79	\$55.88	24 L.H., Daily Totals		\$844.80		\$1382.80	\$35.20	\$57.62
<b>Crew L-10</b>							<b>Crew Q-3</b>						
1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$40.38	\$68.05	2 Plumbers	\$40.60	\$649.60	\$66.45	\$1063.20	\$36.55	\$59.83
1 Structural Steel Worker	40.35	322.80	68.95	551.60			2 Plumber Apprentices	32.50	520.00	53.20	851.20		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			32 L.H., Daily Totals		\$1169.60		\$1914.40	\$36.55	\$59.83
1 Hyd. Crane, 12 Ton		471.00		518.10	19.63	21.59							
24 L.H., Daily Totals		\$1440.20		\$2151.30	\$60.01	\$89.64							

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
<b>Crew Q-4</b>													
2 Plumbers	\$40.60	\$649.60	\$66.45	\$1063.20	\$38.58	\$63.14							
1 Welder (plumber)	40.60	324.80	66.45	531.60									
1 Plumber Apprentice	32.50	260.00	53.20	425.60									
1 Welder, Electric, 300 amp		106.40		117.04	3.33	3.66							
32 L.H., Daily Totals		\$1340.80		\$2137.44	\$41.90	\$66.80							
<b>Crew Q-5</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Steamfitter	\$41.95	\$335.60	\$68.65	\$549.20	\$37.75	\$61.77							
1 Steamfitter Apprentice	33.55	268.40	54.90	439.20									
16 L.H., Daily Totals		\$604.00		\$988.40	\$37.75	\$61.77							
<b>Crew Q-6</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Steamfitter	\$41.95	\$335.60	\$68.65	\$549.20	\$36.35	\$59.48							
2 Steamfitter Apprentices	33.55	536.80	54.90	878.40									
24 L.H., Daily Totals		\$872.40		\$1427.60	\$36.35	\$59.48							
<b>Crew Q-7</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Steamfitters	\$41.95	\$671.20	\$68.65	\$1098.40	\$37.75	\$61.77							
2 Steamfitter Apprentices	33.55	536.80	54.90	878.40									
32 L.H., Daily Totals		\$1208.00		\$1976.80	\$37.75	\$61.77							
<b>Crew Q-8</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Steamfitters	\$41.95	\$671.20	\$68.65	\$1098.40	\$39.85	\$65.21							
1 Welder (steamfitter)	41.95	335.60	68.65	549.20									
1 Steamfitter Apprentice	33.55	268.40	54.90	439.20									
1 Welder, Electric, 300 amp		106.40		117.04	3.33	3.66							
32 L.H., Daily Totals		\$1381.60		\$2203.84	\$43.17	\$68.87							
<b>Crew Q-9</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Sheet Metal Worker	\$39.25	\$314.00	\$65.05	\$520.40	\$35.33	\$58.55							
1 Sheet Metal Apprentice	31.40	251.20	52.05	416.40									
16 L.H., Daily Totals		\$565.20		\$936.80	\$35.33	\$58.55							
<b>Crew Q-10</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Sheet Metal Workers	\$39.25	\$628.00	\$65.05	\$1040.80	\$36.63	\$60.72							
1 Sheet Metal Apprentice	31.40	251.20	52.05	416.40									
24 L.H., Daily Totals		\$879.20		\$1457.20	\$36.63	\$60.72							
<b>Crew Q-11</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Sheet Metal Workers	\$39.25	\$628.00	\$65.05	\$1040.80	\$35.33	\$58.55							
2 Sheet Metal Apprentices	31.40	502.40	52.05	832.80									
32 L.H., Daily Totals		\$1130.40		\$1873.60	\$35.33	\$58.55							
<b>Crew Q-12</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Sprinkler Installer	\$40.45	\$323.60	\$66.30	\$530.40	\$36.40	\$59.65							
1 Sprinkler Apprentice	32.35	258.80	53.00	424.00									
16 L.H., Daily Totals		\$582.40		\$954.40	\$36.40	\$59.65							
<b>Crew Q-13</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Sprinkler Installers	\$40.45	\$647.20	\$66.30	\$1060.80	\$36.40	\$59.65							
2 Sprinkler Apprentices	32.35	517.60	53.00	848.00									
32 L.H., Daily Totals		\$1164.80		\$1908.80	\$36.40	\$59.65							
<b>Crew Q-14</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Asbestos Worker	\$36.95	\$295.60	\$61.90	\$495.20	\$33.25	\$55.70							
1 Asbestos Apprentice	29.55	236.40	49.50	396.00									
16 L.H., Daily Totals		\$532.00		\$891.20	\$33.25	\$55.70							
<b>Crew Q-15</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$36.55	\$59.83							
1 Plumber Apprentice	32.50	260.00	53.20	425.60									
1 Welder, Electric, 300 amp		106.40		117.04	6.65	7.32							
16 L.H., Daily Totals		\$691.20		\$1074.24	\$43.20	\$67.14							
<b>Crew Q-16</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Plumbers	\$40.60	\$649.60	\$66.45	\$1063.20	\$37.90	\$62.03							
1 Plumber Apprentice	32.50	260.00	53.20	425.60									
1 Welder, Electric, 300 amp		106.40		117.04	4.43	4.88							
24 L.H., Daily Totals		\$1016.00		\$1605.84	\$42.33	\$66.91							
<b>Crew Q-17</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Steamfitter	\$41.95	\$335.60	\$68.65	\$549.20	\$37.75	\$61.77							
1 Steamfitter Apprentice	33.55	268.40	54.90	439.20									
1 Welder, Electric, 300 amp		106.40		117.04	6.65	7.32							
16 L.H., Daily Totals		\$710.40		\$1105.44	\$44.40	\$69.09							
<b>Crew Q-17A</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Steamfitter	\$41.95	\$335.60	\$68.65	\$549.20	\$37.98	\$62.13							
1 Steamfitter Apprentice	33.55	268.40	54.90	439.20									
1 Equip. Oper. (crane)		38.45		62.85	502.80								
1 Hyd. Crane, 12 Ton			471.00		518.10								
1 Welder, Electric, 300 amp		106.40		117.04		24.06							
24 L.H., Daily Totals		\$1489.00		\$2126.34		\$62.04							
<b>Crew Q-18</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Steamfitters	\$41.95	\$671.20	\$68.65	\$1098.40	\$39.15	\$64.07							
1 Steamfitter Apprentice	33.55	268.40	54.90	439.20									
1 Welder, Electric, 300 amp		106.40		117.04	4.43	4.88							
24 L.H., Daily Totals		\$1046.00		\$1654.64		\$43.58							
<b>Crew Q-19</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Steamfitter	\$41.95	\$335.60	\$68.65	\$549.20	\$39.07	\$63.83							
1 Steamfitter Apprentice	33.55	268.40	54.90	439.20									
1 Electrician		41.70		67.95	543.60								
24 L.H., Daily Totals		\$937.60		\$1532.00		\$39.07							
<b>Crew Q-20</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Sheet Metal Worker	\$39.25	\$314.00	\$65.05	\$520.40	\$36.60	\$60.43							
1 Sheet Metal Apprentice	31.40	251.20	52.05	416.40									
.5 Electrician		41.70		67.95	271.80								
20 L.H., Daily Totals		\$732.00		\$1208.60		\$36.60							
<b>Crew Q-21</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
2 Sprinkler Installers	\$41.95	\$647.20	\$68.65	\$1098.40	\$39.79	\$65.04							
1 Sprinkler Apprentice	33.55	268.40	54.90	439.20									
1 Electrician		41.70		67.95	543.60								
32 L.H., Daily Totals		\$1273.20		\$2081.20		\$39.79							
<b>Crew Q-22</b>													
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P							
1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$36.55	\$59.83							
1 Plumber Apprentice	32.50	260.00	53.20	425.60									
1 Hyd. Crane, 12 Ton		471.00		518.10	29.44	32.38							
16 L.H., Daily Totals		\$1055.80		\$1475.30		\$65.99							

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour		Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Hr.	Daily	Bare Costs	Incl. O&P	Hr.	Daily
<b>Crew Q-22A</b>							<b>Crew R-4</b>						
1 Plumber	\$40.60	\$324.80	\$66.45	\$531.60	\$34.84	\$57.04	1 Struc. Steel Foreman (outside)	\$42.35	\$338.80	\$72.35	\$578.80	\$41.02	\$69.43
1 Plumber Apprentice	32.50	260.00	53.20	425.60			3 Struc. Steel Workers	40.35	968.40	68.95	1654.80		
1 Laborer	27.80	222.40	45.65	365.20			1 Electrician	41.70	333.60	67.95	543.60		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Welder, Gas Engine, 300 amp		147.00		161.70	3.67	4.04
1 Hyd. Crane, 12 Ton		471.00		518.10	14.72	16.19	<b>40 L.H., Daily Totals</b>			\$1787.80	\$2938.90	\$44.70	\$73.47
<b>32 L.H., Daily Totals</b>		\$1585.80		\$2343.30	\$49.56	\$73.23							
<b>Crew Q-23</b>							<b>Crew R-5</b>						
1 Plumber Foreman (outside)	\$42.60	\$340.80	\$69.70	\$557.60	\$40.40	\$66.08	1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$36.64	\$60.06
1 Plumber	40.60	324.80	66.45	531.60			4 Electrician Linemen	41.70	1334.40	67.95	2174.40		
1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80			2 Electrician Operators	41.70	667.20	67.95	1087.20		
1 Lattice Boom Crane, 20 Ton		1488.00		1636.80	62.00	68.20	4 Electrician Groundmen	27.65	884.80	46.05	1473.60		
<b>24 L.H., Daily Totals</b>		\$2457.60		\$3222.80	\$102.40	\$134.28	1 Crew Truck			166.25	182.88		
<b>Crew R-1</b>							1 Flatbed Truck, 20,000 GVW			201.60	221.76		
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$39.00	\$63.55	1 Pickup Truck, 3/4 Ton			110.85	121.94		
3 Electricians	41.70	1000.80	67.95	1630.80			.2 Hyd. Crane, 55 Ton			196.04	215.64		
2 Electrician Apprentices	33.35	533.60	54.35	869.60			.2 Hyd. Crane, 12 Ton			94.20	103.62		
<b>48 L.H., Daily Totals</b>		\$1872.00		\$3050.40	\$39.00	\$63.55	.2 Earth Auger, Truck-Mtd.			40.10	44.11		
<b>Crew R-1A</b>							1 Tractor w/Winch			373.50	410.85	13.44	14.78
1 Electrician	\$41.70	\$333.60	\$67.95	\$543.60	\$37.52	\$61.15	<b>88 L.H., Daily Totals</b>			\$4406.54	\$6585.99	\$50.07	\$74.84
1 Electrician Apprentice	33.35	266.80	54.35	434.80									
<b>16 L.H., Daily Totals</b>		\$600.40		\$978.40	\$37.52	\$61.15	<b>Crew R-6</b>						
<b>Crew R-1B</b>							1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$36.64	\$60.06
1 Electrician	\$41.70	\$333.60	\$67.95	\$543.60	\$36.13	\$58.88	4 Electrician Linemen	41.70	1334.40	67.95	2174.40		
2 Electrician Apprentices	33.35	533.60	54.35	869.60			2 Electrician Operators	41.70	667.20	67.95	1087.20		
<b>24 L.H., Daily Totals</b>		\$867.20		\$1413.20	\$36.13	\$58.88	4 Electrician Groundmen	27.65	884.80	46.05	1473.60		
<b>Crew R-1C</b>							1 Crew Truck			166.25	182.88		
2 Electricians	\$41.70	\$667.20	\$67.95	\$1087.20	\$37.52	\$61.15	1 Flatbed Truck, 20,000 GVW			201.60	221.76		
2 Electrician Apprentices	33.35	533.60	54.35	869.60			1 Pickup Truck, 3/4 Ton			110.85	121.94		
1 Portable cable puller, 8000 lb.		101.60		111.76	3.17	3.49	.2 Hyd. Crane, 55 Ton			196.04	215.64		
<b>32 L.H., Daily Totals</b>		\$1302.40		\$2068.56	\$40.70	\$64.64	.2 Hyd. Crane, 12 Ton			94.20	103.62		
<b>Crew R-1D</b>							.2 Earth Auger, Truck-Mtd.			40.10	44.11		
1 Electrician	\$41.70	\$333.60	\$67.95	\$543.60	\$45.40	\$61.15	1 Tractor w/Winch			373.50	410.85		
1 Electrician Apprentice	33.35	392.80	54.34	434.72			3 Cable Trailers			192.30	211.53		
1 Aerial lift		105.00		115.50	6.56	7.22	.5 Tensioning Rig			55.20	60.72		
<b>16 L.H., Daily Totals</b>		\$831.40		\$1093.82	\$51.96	\$68.37	.5 Cable Pulling Rig			303.57	333.93	19.70	21.67
<b>Crew R-2</b>							<b>88 L.H., Daily Totals</b>			\$4957.61	\$7192.18	\$56.34	\$81.73
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$38.92	\$63.45	<b>Crew R-7</b>						
3 Electricians	41.70	1000.80	67.95	1630.80			1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$30.07	\$49.83
2 Electrician Apprentices	33.35	533.60	54.35	869.60			5 Electrician Groundmen	27.65	1106.00	46.05	1842.00		
1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80			1 Crew Truck			166.25	182.88	3.46	3.81
1 S.P. Crane, 4x4, 5 Ton		378.10		415.91	6.75	7.43	<b>48 L.H., Daily Totals</b>			\$1609.85	\$2574.88	\$33.54	\$53.64
<b>56 L.H., Daily Totals</b>		\$2557.70		\$3969.11	\$45.67	\$70.88	<b>Crew R-8</b>						
<b>Crew R-3</b>							1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$37.10	\$60.78
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$41.25	\$67.25	3 Electrician Linemen	41.70	1000.80	67.95	1630.80		
1 Electrician	41.70	333.60	67.95	543.60			2 Electrician Operators	27.65	442.40	46.05	736.80		
.5 Equip. Oper. (crane)	38.45	153.80	62.85	251.40			1 Pickup Truck, 3/4 Ton			110.85	121.94		
.5 S.P. Crane, 4x4, 5 Ton		189.05		207.96	9.45	10.40	1 Crew Truck			166.25	182.88	5.77	6.35
<b>20 L.H., Daily Totals</b>		\$1014.05		\$1552.95	\$50.70	\$77.65	<b>48 L.H., Daily Totals</b>			\$2057.90	\$3222.41	\$42.87	\$67.13
<b>Crew R-9</b>							<b>Crew R-9</b>						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$42.20	\$337.60	1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$34.74	\$57.10
1 Electrician Lineman	41.70	333.60	67.95	543.60	41.70	333.60	1 Electrician Lineman	41.70	333.60	67.95	543.60		
2 Electrician Operators	41.70	667.20	67.95	1087.20	41.70	667.20	2 Electrician Operators	41.70	667.20	67.95	1087.20		
4 Electrician Groundmen	27.65	884.80	46.05	1473.60	27.65	884.80	4 Electrician Groundmen	27.65	884.80	46.05	1473.60		
1 Pickup Truck, 3/4 Ton					110.85		1 Pickup Truck, 3/4 Ton			110.85	121.94		
1 Crew Truck					166.25		1 Crew Truck			166.25	182.88	4.33	4.76
<b>64 L.H., Daily Totals</b>							<b>64 L.H., Daily Totals</b>			\$2500.30	\$3959.21	\$39.07	\$61.86

# Crews - Residential

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew R-10						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$39.44	\$64.43
4 Electrician Linemen	41.70	1334.40	67.95	2174.40		
1 Electrician Groundman	27.65	221.20	46.05	368.40		
1 Crew Truck		166.25		182.88		
3 Tram Cars		216.15		237.76	7.97	8.76
48 L.H., Daily Totals		\$2275.60		\$3513.44	\$47.41	\$73.20
Crew R-11						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$39.32	\$64.15
4 Electricians	41.70	1334.40	67.95	2174.40		
.1 Equip. Oper. (crane)	38.45	307.60	62.85	502.80		
1 Common Laborer	27.80	222.40	45.65	365.20		
1 Crew Truck		166.25		182.88		
1 Hyd. Crane, 12 Ton		471.00		518.10	11.38	12.52
56 L.H., Daily Totals		\$2839.25		\$4293.38	\$50.70	\$76.67
Crew R-12						
1 Carpenter Foreman (inside)	\$36.65	\$293.20	\$60.20	\$481.60	\$33.71	\$55.59
4 Carpenters	36.15	1156.80	59.40	1900.80		
4 Common Laborers	27.80	889.60	45.65	1460.80		
.1 Equip. Oper. (medium)	38.00	304.00	62.10	496.80		
1 Steel Worker	40.35	322.80	68.95	551.60		
1 Dozer, 200 H.P.		1504.00		1654.40		
1 Pickup Truck, 3/4 Ton		110.85		121.94	18.35	20.19
88 L.H., Daily Totals		\$4581.25		\$6667.94	\$52.06	\$75.77
Crew R-13						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$40.05	\$65.30
3 Electricians	41.70	1000.80	67.95	1630.80		
.25 Equip. Oper. (crane)	38.45	76.90	62.85	125.70		
1 Equipment Oiler	33.35	266.80	54.50	436.00		
.25 Hydraulic Crane, 33 Ton		236.34		259.97	5.63	6.19
42 L.H., Daily Totals		\$1918.44		\$3002.47	\$45.68	\$71.49
Crew R-15						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$40.84	\$66.58
4 Electricians	41.70	1334.40	67.95	2174.40		
1 Equipment Oper. (light)	36.05	288.40	58.95	471.60		
1 Telescoping Boom Lift, to 40'		278.90		306.79	5.81	6.39
48 L.H., Daily Totals		\$2239.30		\$3502.79	\$46.65	\$72.97
Crew R-15A						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$36.21	\$59.15
2 Electricians	41.70	667.20	67.95	1087.20		
2 Common Laborers	27.80	444.80	45.65	730.40		
1 Equip. Oper. (light)	36.05	288.40	58.95	471.60		
1 Telescoping Boom Lift, to 40'		278.90		306.79	5.81	6.39
48 L.H., Daily Totals		\$2016.90		\$3145.99	\$42.02	\$65.54
Crew R-18						
.25 Electrician Foreman	\$42.20	\$84.40	\$68.75	\$137.50	\$36.60	\$59.64
1 Electrician	41.70	333.60	67.95	543.60		
2 Electrician Apprentices	33.35	533.60	54.35	869.60		
26 L.H., Daily Totals		\$951.60		\$1550.70	\$36.60	\$59.64
Crew R-19						
.5 Electrician Foreman	\$42.20	\$168.80	\$68.75	\$275.00	\$41.80	\$68.11
2 Electricians	41.70	667.20	67.95	1087.20		
20 L.H., Daily Totals		\$836.00		\$1362.20	\$41.80	\$68.11

Crew No.	Bare Costs		Incl. Subs O&P		Cost Per Labor-Hour	
	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
Crew R-21						
1 Electrician Foreman	\$42.20	\$337.60	\$68.75	\$550.00	\$41.73	\$68.00
3 Electricians	41.70	1000.80	67.95	1630.80		
.1 Equip. Oper. (medium)	38.00	30.40	62.10	49.68		
.1 S.P. Crane, 4x4, 25 Ton		114.40		125.84	3.49	3.84
32.8 L.H., Daily Totals		\$1483.20		\$2356.32	\$45.22	\$71.84
Crew R-22						
.66 Electrician Foreman	\$42.20	\$222.82	\$68.75	\$363.00	\$38.19	\$62.23
2 Electricians	41.70	667.20	67.95	1087.20		
2 Electrician Apprentices	33.35	533.60	54.35	869.60		
37.28 L.H., Daily Totals		\$1423.62		\$2319.80	\$38.19	\$62.23
Crew R-30						
.25 Electrician Foreman (outside)	\$43.70	\$87.40	\$71.20	\$142.40	\$33.30	\$54.48
1 Electrician	41.70	333.60	67.95	543.60		
2 Laborers (Semi-Skilled)	27.80	444.80	45.65	730.40		
26 L.H., Daily Totals		\$865.80		\$1416.40	\$33.30	\$54.48

## Location Factors - Residential

Costs shown in *Residential Costs with RSMeans data* are based on national averages for materials and installation. To adjust these costs to a specific location, simply multiply the base cost by the factor for

that city. The data is arranged alphabetically by state and postal zip code numbers. For a city not listed, use the factor for a nearby city with similar economic characteristics.

STATE	CITY	Residential
<b>ALABAMA</b>		
350-352	Birmingham	.96
354	Tuscaloosa	.96
355	Jasper	.95
356	Decatur	.96
357-358	Huntsville	.96
359	Gadsden	.92
360-361	Montgomery	.95
362	Anniston	.91
363	Dothan	.94
364	Evergreen	.88
365-366	Mobile	.94
367	Selma	.90
368	Phenix City	.91
369	Butler	.89
<b>ALASKA</b>		
995-996	Anchorage	1.22
997	Fairbanks	1.29
998	Juneau	1.26
999	Ketchikan	1.30
<b>ARIZONA</b>		
850,853	Phoenix	.99
851,852	Mesa/Tempe	.97
855	Globe	.96
856-857	Tucson	.96
859	Show Low	.99
860	Flagstaff	1.03
863	Prescott	1.01
864	Kingman	.98
865	Chambers	1.01
<b>ARKANSAS</b>		
716	Pine Bluff	.90
717	Camden	.90
718	Texarkana	.93
719	Hot Springs	.88
720-722	Little Rock	.96
723	West Memphis	.94
724	Jonesboro	.94
725	Batesville	.89
726	Harrison	.92
727	Fayetteville	.87
728	Russellville	.90
729	Fort Smith	.97
<b>CALIFORNIA</b>		
900-902	Los Angeles	.99
903-905	Inglewood	.97
906-908	Long Beach	.95
910-912	Pasadena	.94
913-916	Van Nuys	.99
917-918	Alhambra	1.00
919-921	San Diego	.98
922	Palm Springs	.95
923-924	San Bernardino	.97
925	Riverside	.98
926-927	Santa Ana	.99
928	Anaheim	.97
930	Oxnard	.98
931	Santa Barbara	.97
932-933	Bakersfield	.98
934	San Luis Obispo	1.00
935	Mojave	.99
936-938	Fresno	.99
939	Salinas	.99
940-941	San Francisco	1.03
942,956-958	Sacramento	.97
943	Palo Alto	.98
944	San Mateo	1.03
945	Vallejo	.96
946	Oakland	1.02
947	Berkeley	1.06
948	Richmond	1.07
949	San Rafael	1.03
950	Santa Cruz	1.05
951	San Jose	1.04
952	Stockton	1.00
953	Modesto	.99

STATE	CITY	Residential
<b>CALIFORNIA (CONT'D)</b>		
954	Santa Rosa	1.00
955	Eureka	1.06
959	Marysville	1.02
960	Redding	1.07
961	Susanville	1.07
<b>COLORADO</b>		
800-802	Denver	1.05
803	Boulder	1.04
804	Golden	1.01
805	Fort Collins	1.03
806	Greeley	1.01
807	Fort Morgan	1.05
808-809	Colorado Springs	1.00
810	Pueblo	1.00
811	Alamosa	.99
812	Salida	1.01
813	Durango	1.05
814	Montrose	.97
815	Grand Junction	1.08
816	Glenwood Springs	1.00
<b>CONNECTICUT</b>		
060	New Britain	1.01
061	Hartford	.99
062	Willimantic	1.01
063	New London	1.00
064	Meriden	1.00
065	New Haven	1.01
066	Bridgeport	1.02
067	Waterbury	1.01
068	Norwalk	1.01
069	Stamford	1.01
<b>D.C.</b>		
200-205	Washington	.99
<b>DELAWARE</b>		
197	Newark	.97
198	Wilmington	.96
199	Dover	.97
<b>FLORIDA</b>		
320,322	Jacksonville	.96
321	Daytona Beach	.96
323	Tallahassee	.97
324	Panama City	.96
325	Pensacola	.98
326,344	Gainesville	.95
327-328,347	Orlando	.97
329	Melbourne	.94
330-332,340	Miami	.96
333	Fort Lauderdale	.93
334,349	West Palm Beach	.95
335-336,346	Tampa	.95
337	St. Petersburg	.95
338	Lakeland	.91
339,341	Fort Myers	.92
342	Sarasota	.97
<b>GEORGIA</b>		
300-303,399	Atlanta	.98
304	Statesboro	.91
305	Gainesville	.98
306	Athens	.95
307	Dalton	.94
308-309	Augusta	.97
310-312	Macon	.93
313-314	Savannah	.96
315	Waycross	.90
316	Valdosta	.89
317,398	Albany	.93
318-319	Columbus	.93
<b>HAWAII</b>		
967	Hilo	1.14
968	Honolulu	1.19

# Location Factors - Residential

STATE	CITY	Residential	STATE	CITY	Residential
<b>STATES &amp; POSS.</b>			<b>KENTUCKY (CONT'D)</b>		
969	Guam	1.34	406	Frankfort	.98
<b>IDAHO</b>			407-409	Corbin	.88
832	Pocatello	.98	410	Covington	.92
833	Twin Falls	.99	411-412	Ashland	.86
834	Idaho Falls	.95	413-414	Campton	.93
835	Lewiston	1.09	415-416	Pikeville	.91
836-837	Boise	.98	417-418	Hazard	.91
838	Coeur d'Alene	1.11	420	Paducah	.93
<b>ILLINOIS</b>			421-422	Bowling Green	.92
600-603	North Suburban	.98	423	Owensboro	.93
604	Joliet	.98	424	Henderson	.94
605	South Suburban	.98	425-426	Somerset	.90
606-608	Chicago	1.00	427	Elizabethtown	.89
609	Kankakee	.94			
610-611	Rockford	.96			
612	Rock Island	.94			
613	La Salle	.99			
614	Galesburg	.94			
615-616	Peoria	.97			
617	Bloomington	.92			
618-619	Champaign	.96			
620-622	East St. Louis	.94			
623	Quincy	.96			
624	Effingham	.96			
625	Decatur	.95			
626-627	Springfield	.97			
628	Centralia	.95			
629	Carbondale	.94			
<b>INDIANA</b>					
460	Anderson	.97	<b>MAINE</b>		
461-462	Indianapolis	1.00	039	Kittery	.93
463-464	Gary	.97	040-041	Portland	.99
465-466	South Bend	.98	042	Lewiston	.99
467-468	Fort Wayne	.97	043	Augusta	.98
469	Kokomo	.99	044	Bangor	.97
470	Lawrenceburg	.93	045	Bath	.95
471	New Albany	.95	046	Machias	.97
472	Columbus	.99	047	Houlton	.98
473	Muncie	.99	048	Rockland	.97
474	Bloomington	1.01	049	Waterville	.95
475	Washington	.97			
476-477	Evansville	.96			
478	Terre Haute	.97			
479	Lafayette	.99			
<b>IOWA</b>			<b>MARYLAND</b>		
500-503,509	Des Moines	.96	206	Waldorf	.99
504	Mason City	.92	207-208	College Park	.94
505	Fort Dodge	.91	209	Silver Spring	.97
506-507	Waterloo	.96	210-212	Baltimore	1.02
508	Creston	.92	214	Annapolis	.99
510-511	Sioux City	1.00	215	Cumberland	.94
512	Sibley	.95	216	Easton	.95
513	Spencer	.98	217	Hagerstown	.95
514	Carroll	.94	218	Salisbury	1.02
515	Council Bluffs	.94	219	Elkton	.96
516	Shenandoah	.93			
520	Dubuque	.94			
521	Decorah	.97			
522-524	Cedar Rapids	1.01			
525	Ottumwa	.96			
526	Burlington	.97			
527-528	Davenport	.99			
<b>KANSAS</b>					
660-662	Kansas City	.98	<b>MASSACHUSETTS</b>		
664-666	Topeka	1.00	010-011	Springfield	.99
667	Fort Scott	1.00	012	Pittsfield	.99
668	Emporia	.94	013	Greenfield	.96
669	Belleview	.98	014	Fitchburg	.96
670-672	Wichita	.98	015-016	Worcester	.99
673	Independence	1.03	017	Framingham	.98
674	Salina	.95	018	Lowell	.99
675	Hutchinson	.93	019	Lawrence	1.00
676	Hays	.97	020-022, 024	Boston	1.02
677	Colby	1.00	023	Brockton	.98
678	Dodge City	.96	025	Buzzards Bay	.95
679	Liberal	.94	026	Hyannis	.93
			027	New Bedford	.98
<b>KENTUCKY</b>					
400-402	Louisville	.94	<b>MICHIGAN</b>		
403-405	Lexington	.94	480,483	Royal Oak	.93
			481	Ann Arbor	.96
			482	Detroit	.99
			484-485	Flint	.97
			486	Saginaw	.94
			487	Bay City	.95
			488-489	Lansing	.96
			490	Battle Creek	.93
			491	Kalamazoo	.93
			492	Jackson	.92
			493,495	Grand Rapids	.96
			494	Muskegon	.91
			496	Traverse City	.88
			497	Gaylord	.93
			498-499	Iron Mountain	.90
			<b>MINNESOTA</b>		
			550-551	Saint Paul	.98
			553-555	Minneapolis	1.00
			556-558	Duluth	.97

# Location Factors - Residential

STATE	CITY	Residential	STATE	CITY	Residential
<b>MINNESOTA (CONT'D)</b>	Rochester	.99	<b>NEW JERSEY</b>	Newark	.99
559	Mankato	.97	070-071	Elizabeth	1.01
560	Windom	.94	072	Jersey City	.95
561	Willmar	.93	073	Paterson	.97
562	St. Cloud	.93	074-075	Hackensack	.96
563	Brainerd	.93	076	Long Branch	.96
564	Detroit Lakes	.92	077	Dover	.96
565	Bemidji	.93	078	Summit	.97
566	Thief River Falls	.93	079	Vineland	.98
567			080,083	Camden	.99
			081	Atlantic City	1.05
<b>MISSISSIPPI</b>	Clarksdale	.92	082,084	Trenton	.99
386	Greenville	.94	085-086	Point Pleasant	.99
387	Tupelo	.93	087	New Brunswick	1.03
388	Greenwood	.98			
389	Jackson	.98	<b>NEW MEXICO</b>	Albuquerque	1.00
390-392	Meridian	.91	870-872	Gallup	.99
393	Laurel	.93	873	Farmington	.99
394	Biloxi	.98	874	Santa Fe	1.00
395	McComb	.92	875	Las Vegas	.99
396	Columbus	.93	877	Socorro	.99
397			878	Truth/Consequences	.97
<b>MISSOURI</b>	St. Louis	1.00	879	Las Cruces	.96
630-631	Bowling Green	.99	880	Clovis	.97
633	Hannibal	.98	881	Roswell	.98
634	Kirksville	.94	882	Carizzo	.97
635	Flat River	1.02	883	Tucumcari	.99
636	Cape Girardeau	.96	884		
637	Sikeston	.93	<b>NEW YORK</b>	New York	1.01
638	Poplar Bluff	.92	100-102	Staten Island	.95
640-641	Kansas City	1.00	103	Bronx	.97
644-645	St. Joseph	1.01	104	Mount Vernon	.94
646	Chillicothe	.96	105	White Plains	.99
647	Harrisonville	.95	106	Yonkers	1.01
648	Joplin	1.00	107	New Rochelle	1.01
650-651	Jefferson City	.98	108	Suffern	.98
652	Columbia	.93	109	Queens	.96
653	Sedalia	.92	110	Long Island City	1.02
654-655	Rolla	.94	111	Brooklyn	1.04
656-658	Springfield	.95	112	Flushing	1.00
			113	Jamaica	.99
<b>MONTANA</b>	Billings	1.01	114	Hicksville	.95
590-591	Wolf Point	.99	115,117,118	Far Rockaway	.98
592	Miles City	1.01	116	Riverhead	.98
593	Great Falls	1.03	119	Albany	.96
594	Havre	.94	120-122	Schenectady	.98
595	Helena	1.01	123	Kingston	.96
596	Butte	.97	124	Poughkeepsie	.95
597	Missoula	.97	125-126	Monticello	.97
598	Kalispell	.97	127	Glens Falls	.91
599			128	Plattsburgh	.99
			129	Syracuse	.99
<b>NEBRASKA</b>	Omaha	.99	130-132	Utica	.97
680-681	Lincoln	1.00	133-135	Watertown	.92
683-685	Columbus	.98	136	Binghamton	1.00
686	Norfolk	.98	137-139	Buffalo	1.01
687	Grand Island	.97	140-142	Niagara Falls	.95
688	Hastings	.98	143	Rochester	1.01
689	McCook	.97	144-146	Jamestown	.94
690	North Platte	.96	147	Elmira	.94
691	Valentine	.96	148-149		
692	Alliance	.97	<b>NORTH CAROLINA</b>	Greensboro	.96
693			270,272-274	Winston-Salem	.96
			271	Raleigh	.96
<b>NEVADA</b>	Las Vegas	1.00	275-276	Durham	.97
889-891	Ely	1.04	277	Rocky Mount	.92
893	Reno	.99	278	Elizabeth City	.91
894-895	Carson City	1.00	279	Gastonia	.99
897	Elko	1.07	280	Charlotte	.97
898			281-282	Fayetteville	.96
<b>NEW HAMPSHIRE</b>	Nashua	.98	283	Wilmington	.95
030	Manchester	.97	284	Kinston	.92
031	Concord	.98	285	Hickory	.93
032-033	Keene	.95	286	Asheville	.95
034	Littleton	1.00	287-288	Murphy	.97
035	Charleston	.93	289		
036	Claremont	.94	<b>NORTH DAKOTA</b>	Fargo	.99
037	Portsmouth	.93	580-581	Grand Forks	.98
038			582	Devils Lake	1.03
			583	Jamestown	1.00
			584	Bismarck	1.02

# Location Factors - Residential

STATE	CITY	Residential
<b>NORTH DAKOTA (CONT'D)</b>		
586	Dickinson	.99
587	Minot	.96
588	Williston	.99
<b>OHIO</b>		
430-432	Columbus	.99
433	Marion	.96
434-436	Toledo	.99
437-438	Zanesville	.94
439	Steubenville	.97
440	Lorain	1.01
441	Cleveland	1.00
442-443	Akron	1.02
444-445	Youngstown	1.01
446-447	Canton	1.02
448-449	Mansfield	.96
450	Hamilton	1.00
451-452	Cincinnati	.99
453-454	Dayton	1.00
455	Springfield	1.00
456	Chillicothe	.99
457	Athens	.95
458	Lima	.95
<b>OKLAHOMA</b>		
730-731	Oklahoma City	.97
734	Ardmore	.96
735	Lawton	.98
736	Clinton	.96
737	Enid	.97
738	Woodward	.95
739	Guymon	.97
740-741	Tulsa	.98
743	Miami	.96
744	Muskogee	.97
745	McAlester	.91
746	Ponca City	.94
747	Durant	.92
748	Shawnee	.92
749	Poteau	.93
<b>OREGON</b>		
970-972	Portland	1.01
973	Salem	1.00
974	Eugene	1.01
975	Medford	.99
976	Klamath Falls	1.01
977	Bend	1.03
978	Pendleton	.99
979	Vale	1.01
<b>PENNSYLVANIA</b>		
150-152	Pittsburgh	1.00
153	Washington	.93
154	Uniontown	.91
155	Bedford	.93
156	Greensburg	.95
157	Indiana	.93
158	Dubois	.93
159	Johnstown	.93
160	Butler	.89
161	New Castle	.89
162	Kittanning	.89
163	Oil City	.89
164-165	Erie	.95
166	Altoona	.89
167	Bradford	.92
168	State College	.92
169	Wellsboro	.93
170-171	Harrisburg	1.00
172	Chambersburg	.93
173-174	York	.91
175-176	Lancaster	.94
177	Williamsport	.91
178	Sunbury	.92
179	Pottsville	.90
180	Lehigh Valley	.94
181	Allentown	.97
182	Hazleton	.90
183	Stroudsburg	.92
184-185	Scranton	.98
186-187	Wilkes-Barre	.92
188	Montrose	.90
189	Doylestown	.89

STATE	CITY	Residential
<b>PENNSYLVANIA (CONT'D)</b>		
190-191	Philadelphia	.99
193	Westchester	.92
194	Norristown	.90
195-196	Reading	.96
<b>PUERTO RICO</b>		
009	San Juan	.68
<b>RHODE ISLAND</b>		
028	Newport	.97
029	Providence	.99
<b>SOUTH CAROLINA</b>		
290-292	Columbia	.96
293	Spartanburg	.95
294	Charleston	.97
295	Florence	.89
296	Greenville	.93
297	Rock Hill	.94
298	Aiken	.94
299	Beaufort	.96
<b>SOUTH DAKOTA</b>		
570-571	Sioux Falls	.99
572	Watertown	.96
573	Mitchell	.99
574	Aberdeen	1.00
575	Pierre	1.03
576	Mobridge	.96
577	Rapid City	1.01
<b>TENNESSEE</b>		
370-372	Nashville	.99
373-374	Chattanooga	1.01
375, 380-381	Memphis	.99
376	Johnson City	.92
377-379	Knoxville	.95
382	McKenzie	.92
383	Jackson	.95
384	Columbia	.89
385	Cookeville	.89
<b>TEXAS</b>		
750	McKinney	.94
751	Waxahachie	.94
752-753	Dallas	.98
754	Greenville	.94
755	Texarkana	.96
756	Longview	.93
757	Tyler	.95
758	Palestine	.90
759	Lufkin	.94
760-761	Fort Worth	.98
762	Denton	1.01
763	Wichita Falls	1.00
764	Eastland	.98
765	Temple	.98
766-767	Waco	.99
768	Brownwood	.95
769	San Angelo	.95
770-772	Houston	.99
773	Huntsville	.96
774	Wharton	.96
775	Galveston	.97
776-777	Beaumont	1.03
778	Bryan	.91
779	Victoria	.99
780	Laredo	.95
781-782	San Antonio	.98
783-784	Corpus Christi	1.02
785	McAllen	1.04
786-787	Austin	.95
788	Del Rio	.97
789	Giddings	.96
790-791	Amarillo	.99
792	Childress	.96
793-794	Lubbock	.97
795-796	Abilene	.98
797	Midland	1.01
798-799, 885	El Paso	.95
<b>UTAH</b>		
840-841	Salt Lake City	.98
842, 844	Ogden	.95
843	Logan	.95

# Location Factors - Residential

STATE	CITY	Residential
<b>UTAH (CONT'D)</b>		
845	Price	.98
846-847	Provo	.97
<b>VERMONT</b>		
050	White River Jct.	.98
051	Bellows Falls	.99
052	Bennington	.98
053	Brattleboro	.99
054	Burlington	1.01
056	Montpelier	1.00
057	Rutland	.98
058	St. Johnsbury	.99
059	Guildhall	.99
<b>VIRGINIA</b>		
220-221	Fairfax	.94
222	Arlington	.96
223	Alexandria	.98
224-225	Fredericksburg	.95
226	Winchester	.94
227	Culpeper	.94
228	Harrisonburg	.93
229	Charlottesville	.94
230-232	Richmond	.97
233-235	Norfolk	1.00
236	Newport News	.98
237	Portsmouth	.94
238	Petersburg	.96
239	Farmville	.98
240-241	Roanoke	.99
242	Bristol	.93
243	Pulaski	.93
244	Staunton	.95
245	Lynchburg	.94
246	Grundy	.95
<b>WASHINGTON</b>		
980-981,987	Seattle	1.04
982	Everett	1.07
983-984	Tacoma	1.02
985	Olympia	1.00
986	Vancouver	1.01
988	Wenatchee	1.04
989	Yakima	1.03
990-992	Spokane	1.06
993	Richland	1.03
994	Clarkston	1.06
<b>WEST VIRGINIA</b>		
247-248	Bluefield	.93
249	Lewisburg	.92
250-253	Charleston	.96
254	Martinsburg	.93
255-257	Huntington	.97
258-259	Beckley	.92
260	Wheeling	.94
261	Parkersburg	.93
262	Buckhannon	.93
263-264	Clarksburg	.93
265	Morgantown	.94
266	Gassaway	.93
267	Romney	.93
268	Petersburg	.94
<b>WISCONSIN</b>		
530,532	Milwaukee	1.00
531	Kenosha	1.02
534	Racine	.99
535	Beloit	.99
537	Madison	1.00
538	Lancaster	.99
539	Portage	.94
540	New Richmond	.96
541-543	Green Bay	1.05
544	Wausau	.95
545	Rhineland	.95
546	La Crosse	.93
547	Eau Claire	.98
548	Superior	.96
549	Oshkosh	.95
<b>WYOMING</b>		
820	Cheyenne	1.00
821	Yellowstone Nat. Pk.	.97
822	Wheatland	.97

STATE	CITY	Residential
<b>WYOMING (CONT'D)</b>		
823	Rawlins	.98
824	Worland	.97
825	Riverton	.97
826	Casper	1.00
827	Newcastle	.97
828	Sheridan	1.02
829-831	Rock Springs	1.06
<b>CANADIAN FACTORS (reflect Canadian currency)</b>		
<b>ALBERTA</b>		
	Calgary	1.18
	Edmonton	1.19
	Fort McMurray	1.23
	Lethbridge	1.19
	Lloydminster	1.16
	Medicine Hat	1.18
	Red Deer	1.18
<b>BRITISH COLUMBIA</b>		
	Kamloops	1.11
	Prince George	1.12
	Vancouver	1.15
	Victoria	1.12
<b>MANITOBA</b>		
	Brandon	1.33
	Portage la Prairie	1.19
	Winnipeg	1.19
<b>NEW BRUNSWICK</b>		
	Bathurst	1.11
	Dalhousie	1.12
	Fredericton	1.18
	Moncton	1.11
	Newcastle	1.11
	Saint John	1.20
<b>NEWFOUNDLAND</b>		
	Corner Brook	1.28
	St. John's	1.19
<b>NORTHWEST TERRITORIES</b>		
	Yellowknife	1.35
<b>NOVA SCOTIA</b>		
	Bridgewater	1.10
	Dartmouth	1.23
	Halifax	1.14
	New Glasgow	1.22
	Sydney	1.21
	Truro	1.10
	Yarmouth	1.22
<b>ONTARIO</b>		
	Barrie	1.26
	Brantford	1.20
	Cornwall	1.22
	Hamilton	1.16
	Kingston	1.22
	Kitchener	1.12
	London	1.19
	North Bay	1.35
	Oshawa	1.17
	Ottawa	1.16
	Owen Sound	1.26
	Peterborough	1.20
	Sarnia	1.20
	Sault Ste. Marie	1.13
	St. Catharines	1.11
	Sudbury	1.10
	Thunder Bay	1.16
	Timmins	1.20
	Toronto	1.16
	Windsor	1.15
<b>PRINCE EDWARD ISLAND</b>		
	Charlottetown	1.17
	Summerside	1.23
<b>QUEBEC</b>		
	Cap-de-la-Madeleine	1.24
	Charlesbourg	1.24
	Chicoutimi	1.23
	Gatineau	1.23
	Granby	1.23

## Location Factors - Residential

STATE	CITY	Residential
QUEBEC (CONT'D)	Hull	1.23
	Joliette	1.24
	Laval	1.23
	Montreal	1.17
	Quebec City	1.19
	Rimouski	1.24
	Rouyn-Noranda	1.23
	Saint-Hyacinthe	1.23
	Sherbrooke	1.23
	Sorel	1.24
	Saint-Jerome	1.23
	Trois-Rivieres	1.41
SASKATCHEWAN	Moose Jaw	1.12
	Prince Albert	1.11
	Regina	1.21
	Saskatoon	1.12
YUKON	Whitehorse	1.34

**R011105-05 Tips for Accurate Estimating**

1. Use pre-printed or columnar forms for orderly sequence of dimensions and locations and for recording telephone quotations.
2. Use only the front side of each paper or form except for certain pre-printed summary forms.
3. Be consistent in listing dimensions: For example, length x width x height. This helps in rechecking to ensure that, the total length of partitions is appropriate for the building area.
4. Use printed (rather than measured) dimensions where given.
5. Add up multiple printed dimensions for a single entry where possible.
6. Measure all other dimensions carefully.
7. Use each set of dimensions to calculate multiple related quantities.
8. Convert foot and inch measurements to decimal feet when listing. Memorize decimal equivalents to .01 parts of a foot (1/8" equals approximately .01').
9. Do not "round off" quantities until the final summary.
10. Mark drawings with different colors as items are taken off.
11. Keep similar items together, different items separate.
12. Identify location and drawing numbers to aid in future checking for completeness.
13. Measure or list everything on the drawings or mentioned in the specifications.
14. It may be necessary to list items not called for to make the job complete.
15. Be alert for: Notes on plans such as N.T.S. (not to scale); changes in scale throughout the drawings; reduced size drawings; discrepancies between the specifications and the drawings.
16. Develop a consistent pattern of performing an estimate.  
For example:
  - a. Start the quantity takeoff at the lower floor and move to the next higher floor.
  - b. Proceed from the main section of the building to the wings.
  - c. Proceed from south to north or vice versa, clockwise or counterclockwise.
  - d. Take off floor plan quantities first, elevations next, then detail drawings.
17. List all gross dimensions that can be either used again for different quantities, or used as a rough check of other quantities for verification (exterior perimeter, gross floor area, individual floor areas, etc.).
18. Utilize design symmetry or repetition (repetitive floors, repetitive wings, symmetrical design around a center line, similar room layouts, etc.).  
Note: Extreme caution is needed here so as not to omit or duplicate an area.
19. Do not convert units until the final total is obtained. For instance, when estimating concrete work, keep all units to the nearest cubic foot, then summarize and convert to cubic yards.
20. When figuring alternatives, it is best to total all items involved in the basic system, then total all items involved in the alternates. Therefore you work with positive numbers in all cases. When adds and deducts are used, it is often confusing whether to add or subtract a portion of an item; especially on a complicated or involved alternate.

## R01105-50 Metric Conversion Factors

**Description:** This table is primarily for converting customary U.S. units in the left hand column to SI metric units in the right hand column. In addition,

conversion factors for some commonly encountered Canadian and non-SI metric units are included.

If You Know		Multiply By		To Find
Length	Inches	X	25.4 <sup>a</sup>	= Millimeters
	Feet	X	0.3048 <sup>a</sup>	= Meters
	Yards	X	0.9144 <sup>a</sup>	= Meters
	Miles (statute)	X	1.609	= Kilometers
Area	Square inches	X	645.2	= Square millimeters
	Square feet	X	0.0929	= Square meters
	Square yards	X	0.8361	= Square meters
Volume (Capacity)	Cubic inches	X	16,387	= Cubic millimeters
	Cubic feet	X	0.02832	= Cubic meters
	Cubic yards	X	0.7646	= Cubic meters
	Gallons (U.S. liquids) <sup>b</sup>	X	0.003785	= Cubic meters <sup>c</sup>
	Gallons (Canadian liquid) <sup>b</sup>	X	0.004546	= Cubic meters <sup>c</sup>
	Ounces (U.S. liquid) <sup>b</sup>	X	29.57	= Milliliters <sup>c, d</sup>
	Quarts (U.S. liquid) <sup>b</sup>	X	0.9464	= Liters <sup>c, d</sup>
	Gallons (U.S. liquid) <sup>b</sup>	X	3.785	= Liters <sup>c, d</sup>
Force	Kilograms force <sup>d</sup>	X	9.807	= Newtons
	Pounds force	X	4.448	= Newtons
	Pounds force	X	0.4536	= Kilograms force <sup>d</sup>
	Kips	X	4448	= Newtons
	Kips	X	453.6	= Kilograms force <sup>d</sup>
Pressure, Stress, Strength (Force per unit area)	Kilograms force per square centimeter <sup>d</sup>	X	0.09807	= Megapascals
	Pounds force per square inch (psi)	X	0.006895	= Megapascals
	Kips per square inch	X	6.895	= Megapascals
	Pounds force per square inch (psi)	X	0.07031	= Kilograms force per square centimeter <sup>d</sup>
	Pounds force per square foot	X	47.88	= Pascals
	Pounds force per square foot	X	4.882	= Kilograms force per square meter <sup>d</sup>
Flow	Cubic feet per minute	X	0.4719	= Liters per second
	Gallons per minute	X	0.0631	= Liters per second
	Gallons per hour	X	1.05	= Milliliters per second
Bending Moment Or Torque	Inch-pounds force	X	0.01152	= Meter-kilograms force <sup>d</sup>
	Inch-pounds force	X	0.1130	= Newton-meters
	Foot-pounds force	X	0.1383	= Meter-kilograms force <sup>d</sup>
	Foot-pounds force	X	1.356	= Newton-meters
	Meter-kilograms force <sup>d</sup>	X	9.807	= Newton-meters
Mass	Ounces (avoirdupois)	X	28.35	= Grams
	Pounds (avoirdupois)	X	0.4536	= Kilograms
	Tons (metric)	X	1000	= Kilograms
	Tons, short (2000 pounds)	X	907.2	= Kilograms
	Tons, short (2000 pounds)	X	0.9072	= Megagrams <sup>e</sup>
Mass per Unit Volume	Pounds mass per cubic foot	X	16.02	= Kilograms per cubic meter
	Pounds mass per cubic yard	X	0.5933	= Kilograms per cubic meter
	Pounds mass per gallon (U.S. liquid) <sup>b</sup>	X	119.8	= Kilograms per cubic meter
	Pounds mass per gallon (Canadian liquid) <sup>b</sup>	X	99.78	= Kilograms per cubic meter
Temperature	Degrees Fahrenheit	(F-32)/1.8	=	Degrees Celsius
	Degrees Fahrenheit	(F+459.67)/1.8	=	Degrees Kelvin
	Degrees Celsius	C+273.15	=	Degrees Kelvin

<sup>a</sup>The factor given is exact

<sup>b</sup>One U.S. gallon = 0.8327 Canadian gallon

<sup>c</sup>1 liter = 1000 milliliters = 1000 cubic centimeters

<sup>d</sup>1 cubic decimeter = 0.001 cubic meter

<sup>d</sup>Metric but not SI unit

<sup>e</sup>Called "tonne" in England and "metric ton" in other metric countries

**R011105-60 Weights and Measures****Measures of Length**

- 1 Mile = 1760 Yards = 5280 Feet  
 1 Yard = 3 Feet = 36 inches  
 1 Foot = 12 Inches  
 1 Mil = 0.001 Inch  
 1 Fathom = 2 Yards = 6 Feet  
 1 Rod = 5.5 Yards = 16.5 Feet  
 1 Hand = 4 Inches  
 1 Span = 9 Inches  
 1 Micro-inch = One Millionth Inch or 0.000001 Inch  
 1 Micron = One Millionth Meter + 0.00003937 Inch

**Surveyor's Measure**

- 1 Mile = 8 Furlongs = 80 Chains  
 1 Furlong = 10 Chains = 220 Yards  
 1 Chain = 4 Rods = 22 Yards = 66 Feet = 100 Links  
 1 Link = 7.92 Inches

**Square Measure**

- 1 Square Mile = 640 Acres = 6400 Square Chains  
 1 Acre = 10 Square Chains = 4840 Square Yards = 43,560 Sq. Ft.  
 1 Square Chain = 16 Square Rods = 484 Square Yards = 4356 Sq. Ft.  
 1 Square Rod = 30.25 Square Yards = 272.25 Square Feet = 625 Square Lines  
 1 Square Yard = 9 Square Feet  
 1 Square Foot = 144 Square Inches  
 An Acre equals a Square 208.7 Feet per Side

**Cubic Measure**

- 1 Cubic Yard = 27 Cubic Feet  
 1 Cubic Foot = 1728 Cubic Inches  
 1 Cord of Wood = 4 x 4 x 8 Feet = 128 Cubic Feet  
 1 Perch of Masonry = 16½ x 1½ x 1 Foot = 24.75 Cubic Feet

**Avoirdupois or Commercial Weight**

- 1 Gross or Long Ton = 2240 Pounds  
 1 Net or Short Ton = 2000 Pounds  
 1 Pound = 16 Ounces = 7000 Grains  
 1 Ounce = 16 Drachms = 437.5 Grains  
 1 Stone = 14 Pounds

**Power**

- 1 British Thermal Unit per Hour = 0.2931 Watts  
 1 Ton (Refrigeration) = 3.517 Kilowatts  
 1 Horsepower (Boiler) = 9.81 Kilowatts  
 1 Horsepower (550 ft-lb/s) = 0.746 Kilowatts

**Shipping Measure**

For Measuring Internal Capacity of a Vessel:  
 1 Register Ton = 100 Cubic Feet

For Measurement of Cargo:

Approximately 40 Cubic Feet of Merchandise is considered a Shipping Ton, unless that bulk would weigh more than 2000 Pounds, in which case Freight Charge may be based upon weight.

40 Cubic Feet = 32.143 U.S. Bushels = 31.16 Imp. Bushels

**Liquid Measure**

- 1 Imperial Gallon = 1.2009 U.S. Gallon = 277.42 Cu. In.  
 1 Cubic Foot = 7.48 U.S. Gallons

**R011110-10 Architectural Fees**

Tabulated below are typical percentage fees by project size, for good professional architectural service. Fees may vary from those listed depending upon degree of design difficulty and economic conditions in any particular area.

Rates can be interpolated horizontally and vertically. Various portions of the same project requiring different rates should be adjusted proportionately. For alterations, add 50% to the fee for the first \$500,000 of project cost and add 25% to the fee for project cost over \$500,000.

Architectural fees tabulated below include Structural, Mechanical and Electrical Engineering Fees. They do not include the fees for special consultants such as kitchen planning, security, acoustical, interior design, etc. Civil Engineering fees are included in the Architectural fee for project sites requiring minimal design such as city sites. However, separate Civil Engineering fees must be added when utility connections require design, drainage calculations are needed, stepped foundations are required, or provisions are required to protect adjacent wetlands.

Building Types	Total Project Size in Thousands of Dollars						
	100	250	500	1,000	5,000	10,000	50,000
Factories, garages, warehouses, repetitive housing	9.0%	8.0%	7.0%	6.2%	5.3%	4.9%	4.5%
Apartments, banks, schools, libraries, offices, municipal buildings	12.2	12.3	9.2	8.0	7.0	6.6	6.2
Churches, hospitals, homes, laboratories, museums, research	15.0	13.6	12.7	11.9	9.5	8.8	8.0
Memorials, monumental work, decorative furnishings	—	16.0	14.5	13.1	10.0	9.0	8.3

**R012909-80 Sales Tax by State**

State sales tax on materials is tabulated below (5 states have no sales tax). Many states allow local jurisdictions, such as a county or city, to levy additional sales tax.

Some projects may be sales tax exempt, particularly those constructed with public funds.

State	Tax (%)	State	Tax (%)	State	Tax (%)	State	Tax (%)
Alabama .....	4	Illinois .....	6.25	Montana .....	0	Rhode Island .....	7
Alaska .....	0	Indiana .....	7	Nebraska .....	5.5	South Carolina .....	6
Arizona .....	5.6	Iowa .....	6	Nevada .....	6.85	South Dakota .....	4.5
Arkansas .....	6.5	Kansas .....	6.5	New Hampshire .....	0	Tennessee .....	7
California .....	7.25	Kentucky .....	6	New Jersey .....	6.625	Texas .....	6.25
Colorado .....	2.9	Louisiana .....	4.45	New Mexico .....	5.125	Utah .....	4.85
Connecticut .....	6.35	Maine .....	5.5	New York .....	4	Vermont .....	6
Delaware .....	0	Maryland .....	6	North Carolina .....	4.75	Virginia .....	4.3
District of Columbia .....	6	Massachusetts .....	6.25	North Dakota .....	5	Washington .....	6.5
Florida .....	6	Michigan .....	6	Ohio .....	5.75	West Virginia .....	6
Georgia .....	4	Minnesota .....	6.875	Oklahoma .....	4.5	Wisconsin .....	5
Hawaii .....	4	Mississippi .....	7	Oregon .....	0	Wyoming .....	4
Idaho .....	6	Missouri .....	4.225	Pennsylvania .....	6	Average .....	5.06 %

**Sales Tax by Province (Canada)**

GST - a value-added tax, which the government imposes on most goods and services provided in or imported into Canada. PST - a retail sales tax, which five of the provinces impose on the prices of most goods and some

services. QST - a value-added tax, similar to the federal GST, which Quebec imposes. HST - Three provinces have combined their retail sales taxes with the federal GST into one harmonized tax.

Province	PST (%)	QST(%)	GST(%)	HST (%)
Alberta .....	0	0	5	0
British Columbia .....	7	0	5	0
Manitoba .....	7	0	5	0
New Brunswick .....	0	0	0	15
Newfoundland .....	0	0	0	15
Northwest Territories .....	0	0	5	0
Nova Scotia .....	0	0	0	15
Ontario .....	0	0	0	13
Prince Edward Island .....	0	0	0	15
Quebec .....	9.975	0	5	14.975
Saskatchewan .....	6	0	5	0
Yukon .....	0	0	5	0

**R012909-80 Unemployment Taxes and Social Security Taxes**

State unemployment tax rates vary not only from state to state, but also with the experience rating of the contractor. The federal unemployment tax rate is 6.0% of the first \$7,000 of wages. This is reduced by a credit of up to 5.4% for timely payment to the state. The minimum federal unemployment tax is 0.6% after all credits.

Social security (FICA) for 2020 is estimated at time of publication to be 7.65% of wages up to \$137,100.

**General Requirements****R0129 Payment Procedures****R012909-86 Unemployment Tax by State**

Information is from the U.S. Department of Labor, state unemployment tax rates.

State	Tax (%)	State	Tax (%)	State	Tax (%)	State	Tax (%)
Alabama	6.80	Illinois	6.93	Montana	6.30	Rhode Island	9.49
Alaska	5.4	Indiana	7.4	Nebraska	5.4	South Carolina	5.46
Arizona	12.76	Iowa	7.5	Nevada	5.4	South Dakota	9.35
Arkansas	14.3	Kansas	7.6	New Hampshire	7.5	Tennessee	10.0
California	6.2	Kentucky	9.3	New Jersey	5.8	Texas	6.5
Colorado	8.15	Louisiana	6.2	New Mexico	5.4	Utah	7.1
Connecticut	6.8	Maine	5.46	New York	9.1	Vermont	7.7
Delaware	8.20	Maryland	7.50	North Carolina	5.76	Virginia	6.21
District of Columbia	7	Massachusetts	12.65	North Dakota	10.74	Washington	7.73
Florida	5.4	Michigan	10.3	Ohio	9	West Virginia	8.5
Georgia	5.4	Minnesota	9.1	Oklahoma	5.5	Wisconsin	12.0
Hawaii	5.6	Mississippi	5.6	Oregon	5.4	Wyoming	8.8
Idaho	5.4	Missouri	8.37	Pennsylvania	11.03	Median	7.40%

**General Requirements****R0131 Project Management & Coordination****R013113-40 Builder's Risk Insurance**

Builder's risk insurance is insurance on a building during construction. Premiums are paid by the owner or the contractor. Blasting, collapse and underground insurance would raise total insurance costs.

**R013113-50 General Contractor's Overhead**

There are two distinct types of overhead on a construction project: Project overhead and main office overhead. Project overhead includes those costs at a construction site not directly associated with the installation of construction materials. Examples of project overhead costs include the following:

1. Superintendent
2. Construction office and storage trailers
3. Temporary sanitary facilities
4. Temporary utilities
5. Security fencing
6. Photographs
7. Cleanup
8. Performance and payment bonds

The above project overhead items are also referred to as general requirements and therefore are estimated in Division 1. Division 1 is the first division listed in the CSI MasterFormat but it is usually the last division estimated. The sum of the costs in Divisions 1 through 49 is referred to as the sum of the direct costs.

All construction projects also include indirect costs. The primary components of indirect costs are the contractor's main office overhead and profit. The amount of the main office overhead expense varies depending on the following:

1. Owner's compensation
2. Project managers' and estimators' wages
3. Clerical support wages
4. Office rent and utilities
5. Corporate legal and accounting costs
6. Advertising
7. Automobile expenses
8. Association dues
9. Travel and entertainment expenses

These costs are usually calculated as a percentage of annual sales volume. This percentage can range from 35% for a small contractor doing less than \$500,000 to 5% for a large contractor with sales in excess of \$100 million.

**R013113-55 Installing Contractor's Overhead**

Installing contractors (subcontractors) also incur costs for general requirements and main office overhead.

Included within the total incl. overhead and profit costs is a percent mark-up for overhead that includes:

1. Compensation and benefits for office staff and project managers
2. Office rent, utilities, business equipment, and maintenance
3. Corporate legal and accounting costs
4. Advertising
5. Vehicle expenses (for office staff and project managers)
6. Association dues
7. Travel, entertainment
8. Insurance
9. Small tools and equipment

## R013113-60 Workers' Compensation Insurance Rates by Trade

The table below tabulates the national averages for workers' compensation insurance rates by trade and type of building. The average "Insurance Rate" is multiplied by the "% of Building Cost" for each trade. This produces

the "Workers' Compensation" cost by % of total labor cost, to be added for each trade by building type to determine the weighted average workers' compensation rate for the building types analyzed.

Trade	Insurance Rate (% Labor Cost)		% of Building Cost			Workers' Compensation		
	Range	Average	Office Bldgs.	Schools & Apts.	Mfg.	Office Bldgs.	Schools & Apts.	Mfg.
Excavation, Grading, etc.	2.3 % to 16.9%	9.6%	4.8%	4.9%	4.5%	0.46%	0.47%	0.43%
Piles & Foundations	3.3 to 28.0	15.7	7.1	5.2	8.7	1.11	0.82	1.37
Concrete	3.1 to 25.8	14.4	5.0	14.8	3.7	0.72	2.13	0.53
Masonry	3.3 to 52.1	27.7	6.9	7.5	1.9	1.91	2.08	0.53
Structural Steel	4.4 to 31.8	18.1	10.7	3.9	17.6	1.94	0.71	3.19
Miscellaneous & Ornamental Metals	2.9 to 21.4	12.2	2.8	4.0	3.6	0.34	0.49	0.44
Carpentry & Millwork	3.4 to 29.1	16.2	3.7	4.0	0.5	0.60	0.65	0.08
Metal or Composition Siding	4.8 to 124.6	64.7	2.3	0.3	4.3	1.49	0.19	2.78
Roofing	4.8 to 110.4	57.6	2.3	2.6	3.1	1.32	1.50	1.79
Doors & Hardware	3.1 to 29.1	16.1	0.9	1.4	0.4	0.14	0.23	0.06
Sash & Glazing	3.9 to 21.6	12.8	3.5	4.0	1.0	0.45	0.51	0.13
Lath & Plaster	2.7 to 30.1	16.4	3.3	6.9	0.8	0.54	1.13	0.13
Tile, Marble & Floors	2.0 to 19.0	10.5	2.6	3.0	0.5	0.27	0.32	0.05
Acoustical Ceilings	1.7 to 29.7	15.7	2.4	0.2	0.3	0.38	0.03	0.05
Painting	3.3 to 37.4	20.3	1.5	1.6	1.6	0.30	0.32	0.32
Interior Partitions	3.4 to 29.1	16.2	3.9	4.3	4.4	0.63	0.70	0.71
Miscellaneous Items	1.9 to 97.7	10.3	5.2	3.7	9.7	0.54	0.38	1.00
Elevators	1.3 to 9.0	5.1	2.1	1.1	2.2	0.11	0.06	0.11
Sprinklers	1.8 to 14.6	8.2	0.5	—	2.0	0.04	—	0.16
Plumbing	1.4 to 13.3	7.4	4.9	7.2	5.2	0.36	0.53	0.38
Heat., Vent., Air Conditioning	2.8 to 15.8	9.3	13.5	11.0	12.9	1.26	1.02	1.20
Electrical	1.7 to 10.7	6.2	10.1	8.4	11.1	0.63	0.52	0.69
Total	1.3 % to 124.6%	—	100.0%	100.0%	100.0%	15.54%	14.79%	16.13%
		Overall Weighted Average 15.49%						

## Workers' Compensation Insurance Rates by States

The table below lists the weighted average Workers' Compensation base rate for each state with a factor comparing this with the national average of 9.9%.

State	Weighted Average	Factor	State	Weighted Average	Factor	State	Weighted Average	Factor
Alabama	12.4%	126	Kentucky	10.5%	108	North Dakota	6.4%	65
Alaska	8.6	88	Louisiana	17.5	178	Ohio	5.5	56
Arizona	7.7	79	Maine	8.0	81	Oklahoma	7.4	76
Arkansas	5.1	52	Maryland	9.7	99	Oregon	7.5	76
California	19.6	200	Massachusetts	8.8	90	Pennsylvania	17.2	175
Colorado	6.2	63	Michigan	6.3	64	Rhode Island	10.0	102
Connecticut	12.4	126	Minnesota	13.4	137	South Carolina	16.2	165
Delaware	11.8	120	Mississippi	9.2	94	South Dakota	7.6	77
District of Columbia	7.7	78	Missouri	12.0	122	Tennessee	6.0	61
Florida	8.4	86	Montana	7.1	73	Texas	4.9	50
Georgia	30.0	307	Nebraska	11.7	120	Utah	5.7	58
Hawaii	8.4	86	Nevada	7.6	77	Vermont	8.9	91
Idaho	7.8	79	New Hampshire	8.8	90	Virginia	6.7	69
Illinois	17.5	179	New Jersey	14.2	145	Washington	7.3	75
Indiana	3.1	32	New Mexico	13.0	132	West Virginia	4.2	42
Iowa	9.9	101	New York	15.6	159	Wisconsin	11.2	115
Kansas	5.6	57	North Carolina	11.6	119	Wyoming	4.8	49
Weighted Average for U.S. is 9.9% of payroll = 100%								

The weighted average skilled worker rate for 35 trades is 9.8%. For bidding purposes, apply the full value of Workers' Compensation directly to total labor costs, or if labor is 38%, materials 42% and overhead and profit 20% of total cost, carry  $38/80 \times 9.8\% = 4.66\%$  of cost (before overhead and profit)

into overhead. Rates vary not only from state to state but also with the experience rating of the contractor.

Rates are the most current available at the time of publication.

## R015423-10 Steel Tubular Scaffolding

On new construction, tubular scaffolding is efficient up to 60' high or five stories. Above this it is usually better to use a hung scaffolding if construction permits. Swing scaffolding operations may interfere with tenants. In this case, the tubular is more practical at all heights.

In repairing or cleaning the front of an existing building the cost of tubular scaffolding per S.F. of building front increases as the height increases above the first tier. The first tier cost is relatively high due to leveling and alignment.

The minimum efficient crew for erecting and dismantling is three workers. They can set up and remove 18 frame sections per day up to 5 stories high. For 6 to 12 stories high, a crew of four is most efficient. Use two or more on top and two on the bottom for handing up or hoisting. They can

also set up and remove 18 frame sections per day. At 7' horizontal spacing, this will run about 800 S.F. per day of erecting and dismantling. Time for placing and removing planks must be added to the above. A crew of three can place and remove 72 planks per day up to 5 stories. For over 5 stories, a crew of four can place and remove 80 planks per day.

The table below shows the number of pieces required to erect tubular steel scaffolding for 1000 S.F. of building frontage. This area is made up of a scaffolding system that is 12 frames (11 bays) long by 2 frames high.

For jobs under twenty-five frames, add 50% to rental cost. Rental rates will be lower for jobs over three months duration. Large quantities for long periods can reduce rental rates by 20%.

Description of Component	Number of Pieces for	
	1000 S.F. of Building Front	Unit
5' Wide Standard Frame, 6'-4" High	24	Ea.
Leveling Jack & Plate	24	
Cross Brace	44	
Side Arm Bracket, 21"	12	
Guardrail Post	12	
Guardrail, 7' section	22	
Stairway Section	2	
Stairway Starter Bar	1	
Stairway Inside Handrail	2	
Stairway Outside Handrail	2	
Walk-Thru Frame Guardrail	2	

Scaffolding is often used as falsework over 15' high during construction of cast-in-place concrete beams and slabs. Two foot wide scaffolding is generally used for heavy beam construction. The span between frames depends upon the load to be carried with a maximum span of 5'.

Heavy duty shoring frames with a capacity of 10,000#/leg can be spaced up to 10' O.C. depending upon form support design and loading.

Scaffolding used as horizontal shoring requires less than half the material required with conventional shoring.

On new construction, erection is done by carpenters.

Rolling towers supporting horizontal shores can reduce labor and speed the job. For maintenance work, catwalks with spans up to 70' can be supported by the rolling towers.

## R015423-20 Pump Staging

Pump staging is generally not available for rent. The table below shows the number of pieces required to erect pump staging for 2400 S.F. of building

frontage. This area is made up of a pump jack system that is 3 poles (2 bays) wide by 2 poles high.

Item	Number of Pieces for	
	2400 S.F. of Building Front	Unit
Aluminum pole section, 24' long	6	Ea.
Aluminum splice joint, 6' long	3	
Aluminum foldable brace	3	
Aluminum pump jack	3	
Aluminum support for workbench/back safety rail	3	
Aluminum scaffold plank/workbench, 14" wide x 24' long	4	
Safety net, 22' long	2	
Aluminum plank end safety rail	2	

The cost in place for this 2400 S.F. will depend on how many uses are realized during the life of the equipment.

**R015436-50 Mobilization**

Costs to move rented construction equipment to a job site from an equipment dealer's or contractor's yard (mobilization) or off the job site (demobilization) are not included in the rental or operating rates, nor in the equipment cost on a unit price line or in a crew listing. These costs can be found consolidated in the Mobilization section of the data and elsewhere in particular site work sections. If a piece of equipment is already on the

job site, it is not appropriate to include mob/demob costs in a new estimate that requires use of that equipment. The following table identifies approximate sizes of rented construction equipment that would be hauled on a towed trailer. Because this listing is not all-encompassing, the user can infer as to what size trailer might be required for a piece of equipment not listed.

3-ton Trailer	20-ton Trailer	40-ton Trailer	50-ton Trailer
20 H.P. Excavator	110 H.P. Excavator	200 H.P. Excavator	270 H.P. Excavator
50 H.P. Skid Steer	165 H.P. Dozer	300 H.P. Dozer	Small Crawler Crane
35 H.P. Roller	150 H.P. Roller	400 H.P. Scraper	500 H.P. Scraper
40 H.P. Trencher	Backhoe	450 H.P. Art. Dump Truck	500 H.P. Art. Dump Truck

## R024119-10 Demolition Defined

**Whole Building Demolition** - Demolition of the whole building with no concern for any particular building element, component, or material type being demolished. This type of demolition is accomplished with large pieces of construction equipment that break up the structure, load it into trucks and haul it to a disposal site, but disposal or dump fees are not included. Demolition of below-grade foundation elements, such as footings, foundation walls, grade beams, slabs on grade, etc., is not included. Certain mechanical equipment containing flammable liquids or ozone-depleting refrigerants, electric lighting elements, communication equipment components, and other building elements may contain hazardous waste, and must be removed, either selectively or carefully, as hazardous waste before the building can be demolished.

**Foundation Demolition** - Demolition of below-grade foundation footings, foundation walls, grade beams, and slabs on grade. This type of demolition is accomplished by hand or pneumatic hand tools, and does not include saw cutting, or handling, loading, hauling, or disposal of the debris.

**Gutting** - Removal of building interior finishes and electrical/mechanical systems down to the load-bearing and sub-floor elements of the rough building frame, with no concern for any particular building element, component, or material type being demolished. This type of demolition is accomplished by hand or pneumatic hand tools, and includes loading into trucks, but not hauling, disposal or dump fees, scaffolding, or shoring. Certain mechanical equipment containing flammable liquids or ozone-depleting refrigerants, electric lighting elements, communication equipment components, and other building elements may contain hazardous waste, and must be removed, either selectively or carefully, as hazardous waste, before the building is gutted.

**Selective Demolition** - Demolition of a selected building element, component, or finish, with some concern for surrounding or adjacent elements, components, or finishes (see the first Subdivision (s) at the beginning of appropriate Divisions). This type of demolition is accomplished by hand or pneumatic hand tools, and does not include handling, loading,

storing, hauling, or disposal of the debris, scaffolding, or shoring. "Gutting" methods may be used in order to save time, but damage that is caused to surrounding or adjacent elements, components, or finishes may have to be repaired at a later time.

**Careful Removal** - Removal of a piece of service equipment, building element or component, or material type, with great concern for both the removed item and surrounding or adjacent elements, components or finishes. The purpose of careful removal may be to protect the removed item for later re-use, preserve a higher salvage value of the removed item, or replace an item while taking care to protect surrounding or adjacent elements, components, connections, or finishes from cosmetic and/or structural damage. An approximation of the time required to perform this type of removal is 1/3 to 1/2 the time it would take to install a new item of like kind. This type of removal is accomplished by hand or pneumatic hand tools, and does not include loading, hauling, or storing the removed item, scaffolding, shoring, or lifting equipment.

**Cutout Demolition** - Demolition of a small quantity of floor, wall, roof, or other assembly, with concern for the appearance and structural integrity of the surrounding materials. This type of demolition is accomplished by hand or pneumatic hand tools, and does not include saw cutting, handling, loading, hauling, or disposal of debris, scaffolding, or shoring.

**Rubbish Handling** - Work activities that involve handling, loading or hauling of debris. Generally, the cost of rubbish handling must be added to the cost of all types of demolition, with the exception of whole building demolition.

**Minor Site Demolition** - Demolition of site elements outside the footprint of a building. This type of demolition is accomplished by hand or pneumatic hand tools, or with larger pieces of construction equipment, and may include loading a removed item onto a truck (check the Crew for equipment used). It does not include saw cutting, hauling or disposal of debris, and, sometimes, handling or loading.

## R024119-20 Dumpsters

Dumpster rental costs on construction sites are presented in two ways.

The cost per week rental includes the delivery of the dumpster; its pulling or emptying once per week, and its final removal. The assumption is made that the dumpster contractor could choose to empty a dumpster by simply bringing in an empty unit and removing the full one. These costs also include the disposal of the materials in the dumpster.

The Alternate Pricing can be used when actual planned conditions are not approximated by the weekly numbers. For example, these lines can be used when a dumpster is needed for 4 weeks and will need to be emptied 2 or 3 times per week. Conversely the Alternate Pricing lines can be used when a dumpster will be rented for several weeks or months but needs to be emptied only a few times over this period.

**R040130-10 Cleaning Face Brick**

On smooth brick a person can clean 70 S.F. an hour; on rough brick 50 S.F. per hour. Use one gallon muriatic acid to 20 gallons of water for 1000

S.F. Do not use acid solution until wall is at least seven days old, but a mild soap solution may be used after two days.

Time has been allowed for clean-up in brick prices.

**R040513-10 Cement Mortar (material only)**

Type N - 1:1:6 mix by volume. Use everywhere above grade except as noted below. - 1:3 mix using conventional masonry cement which saves handling two separate bagged materials.

Type M - 1:1/4:3 mix by volume, or 1 part cement, 1/4 (10% by wt.) lime, 3 parts sand. Use for heavy loads and where earthquakes or hurricanes may occur. Also for reinforced brick, sewers, manholes and everywhere below grade.

Mix Proportions by Volume and Compressive Strength of Mortar

Where Used	Mortar Type	Allowable Proportions by Volume				Compressive Strength @ 28 days
		Portland Cement	Masonry Cement	Hydrated Lime	Masonry Sand	
Plain Masonry	M	1	1	—	6	2500 psi
		1	—	1/4	3	
	S	1/2	1	—	4	1800 psi
		1	—	1/4 to 1/2	4	
	N	—	1	—	3	750 psi
		1	—	1/2 to 1-1/4	6	
Reinforced Masonry	O	—	1	—	3	350 psi
	K	1	—	1-1/4 to 2-1/2	9	
Reinforced Masonry	PM	1	1	—	12	75 psi
	PL	1	—	2-1/2 to 4	6	
				1/4 to 1/2	4	2500 psi
						2500 psi

Note: The total aggregate should be between 2.25 to 3 times the sum of the cement and lime used.

The labor cost to mix the mortar is included in the productivity and labor cost of unit price lines in unit cost sections for brickwork, blockwork and stonework.

The material cost of mixed mortar is included in the material cost of those same unit price lines and includes the cost of renting and operating a 10 C.F. mixer at the rate of 200 C.F. per day.

There are two types of mortar color used. One type is the inert additive type with about 100 lbs. per M brick as the typical quantity required. These colors are also available in smaller-batch-sized bags (1 lb. to 15 lb.) which can be placed directly into the mixer without measuring. The other type is premixed and replaces the masonry cement. Dark green color has the highest cost.

**R040519-50 Masonry Reinforcing**

Horizontal joint reinforcing helps prevent wall cracks where wall movement may occur and in many locations is required by code. Horizontal joint reinforcing is generally not considered to be structural reinforcing and an unreinforced wall may still contain joint reinforcing.

Reinforcing strips come in 10' and 12' lengths and in truss and ladder shapes, with and without drips. Field labor runs between 2.7 to 5.3 hours per 1000 L.F. for wall thicknesses up to 12".

The wire meets ASTM A82 for cold drawn steel wire and the typical size is 9 ga. sides and ties with 3/16" diameter also available. Typical finish is mill galvanized with zinc coating at .10 oz. per S.F. Class I (.40 oz. per S.F.) and Class III (.80 oz. per S.F.) are also available, as is hot dipped galvanizing at 1.50 oz. per S.F.

## R042110-10 Economy in Bricklaying

Have adequate supervision. Be sure bricklayers are always supplied with materials so there is no waiting. Place experienced bricklayers at corners and openings.

Use only screened sand for mortar. Otherwise, labor time will be wasted picking out pebbles. Use seamless metal tubs for mortar as they do not leak or catch the trowel. Locate stack and mortar for easy wheeling.

Have brick delivered for stacking. This makes for faster handling, reduces chipping and breakage, and requires less storage space. Many dealers will deliver select common in 2' x 3' x 4' pallets or face brick packaged. This affords quick handling with a crane or forklift and easy tonging in units of ten, which reduces waste.

Use wider bricks for one wythe wall construction. Keep scaffolding away from the wall to allow mortar to fall clear and not stain the wall.

On large jobs develop specialized crews for each type of masonry unit.

Consider designing for prefabricated panel construction on high rise projects. Avoid excessive corners or openings. Each opening adds about 50% to the labor cost for area of opening.

Bolting stone panels and using window frames as stops reduce labor costs and speed up erection.

## R042110-20 Common and Face Brick

Common building brick manufactured according to ASTM C62 and facing brick manufactured according to ASTM C216 are the two standard bricks available for general building use.

Building brick is made in three grades: SW, where high resistance to damage caused by cyclic freezing is required; MW, where moderate resistance to cyclic freezing is needed; and NW, where little resistance to cyclic freezing is needed. Facing brick is made in only the two grades SW and MW. Additionally, facing brick is available in three types: FBS, for general use; FBX, for general use where a higher degree of precision and lower permissible variation in size than FBS are needed; and FBA, for general use to produce characteristic architectural effects resulting from non-uniformity in size and texture of the units.

In figuring the material cost of brickwork, an allowance of 25% mortar waste and 3% brick breakage was included. If bricks are delivered palletized

with 280 to 300 per pallet, or packaged, allow only 1-1/2% for breakage. Packaged or palletized delivery is practical when a job is big enough to have a crane or other equipment available to handle a package of brick. This is so on all industrial work but not always true on small commercial buildings.

The use of buff and gray face is increasing, and there is a continuing trend to the Norman, Roman, Jumbo and SCR brick.

Common red clay brick for backup is not used that often. Concrete block is the most usual backup material with occasional use of sand lime or cement brick. Building brick is commonly used in solid walls for strength and as a fire stop.

Brick panels built on the ground and then crane erected to the upper floors have proven to be economical. This allows the work to be done under cover and without scaffolding.

## R042110-50 Brick, Block & Mortar Quantities

Running Bond					For Other Bonds Standard Size Add to S.F. Quantities in Table to Left			
Type Brick	Number of Brick per S.F. of Wall - Single Wythe with 3/8" Joints			C.F. of Mortar per M Bricks, Waste Included		Bond Type	Description	Factor
	Nominal Size (incl. mortar) L H W	Modular Coursing	Number of Brick per S.F.	3/8" Joint	1/2" Joint			
Standard	8 x 2-2/3 x 4	3C=8"	6.75	10.3	12.9	Common	full header every fifth course	+20%
Economy	8 x 4 x 4	1C=4"	4.50	11.4	14.6		full header every sixth course	+16.7%
Engineer	8 x 3-1/5 x 4	5C=16"	5.63	10.6	13.6	English	full header every second course	+50%
Fire	9 x 2-1/2 x 4-1/2	2C=5"	6.40	550 # Fireclay	—	Flemish	alternate headers every course every sixth course	+33.3% +5.6%
Jumbo	12 x 4 x 6 or 8	1C=4"	3.00	23.8	30.8			
Norman	12 x 2-2/3 x 4	3C=8"	4.50	14.0	17.9	Header = W x H exposed		+100%
Norwegian	12 x 3-1/5 x 4	5C=16"	3.75	14.6	18.6	Rowlock = H x W exposed		+100%
Roman	12 x 2 x 4	2C=4"	6.00	13.4	17.0	Rowlock stretcher = L x W exposed		+33.3%
SCR	12 x 2-2/3 x 6	3C=8"	4.50	21.8	28.0	Soldier = H x L exposed		—
Utility	12 x 4 x 4	1C=4"	3.00	15.4	19.6	Sailor = W x L exposed		-33.3%

Concrete Blocks Nominal Size	Approximate Weight per S.F.			Blocks per 100 S.F.	Mortar per M block, waste included	
	Standard	Lightweight	Partitions		Back up	
2" x 8" x 16"	20 PSF	15 PSF		113	27 C.F.	36 C.F.
4"	30	20			41	51
6"	42	30			56	66
8"	55	38			72	82
10"	70	47			87	97
12"	85	55			102	112

### Brick & Mortar Quantities

©Brick Industry Association. 2009 Feb. Technical Notes on  
Brick Construction 10:

Dimensioning and Estimating Brick Masonry. Reston (VA): BIA. Table 1  
Modular Brick Sizes and Table 4 Quantity Estimates for Brick Masonry.

**R042210-20 Concrete Block**

The material cost of special block such as corner, jamb and head block can be figured at the same price as ordinary block of equal size. Labor on specials is about the same as equal-sized regular block.

Bond beams and 16" high lintel blocks are more expensive than regular units of equal size. Lintel blocks are 8" long and either 8" or 16" high.

Use of a motorized mortar spreader box will speed construction of continuous walls.

Hollow non-load-bearing units are made according to ASTM C129 and hollow load-bearing units according to ASTM C90.

**Metals****R0531 Steel Decking****R053100-10 Decking Descriptions****General - All Deck Products**

A steel deck is made by cold forming structural grade sheet steel into a repeating pattern of parallel ribs. The strength and stiffness of the panels are the result of the ribs and the material properties of the steel. Deck lengths can be varied to suit job conditions, but because of shipping considerations, are usually less than 40 feet. Standard deck width varies with the product used but full sheets are usually 12", 18", 24", 30", or 36". The deck is typically furnished in a standard width with the ends cut square. Any cutting for width, such as at openings or for angular fit, is done at the job site.

The deck is typically attached to the building frame with arc puddle welds, self-drilling screws, or powder or pneumatically driven pins. Sheet to sheet fastening is done with screws, button punching (crimping), or welds.

**Composite Floor Deck**

After installation and adequate fastening, a floor deck serves several purposes. It (a) acts as a working platform, (b) stabilizes the frame, (c) serves as a concrete form for the slab, and (d) reinforces the slab to carry the design loads applied during the life of the building. Composite decks are distinguished by the presence of shear connector devices as part of the deck. These devices are designed to mechanically lock the concrete and deck together so that the concrete and the deck work together to carry subsequent floor loads. These shear connector devices can be rolled-in embossments, lugs, holes, or wires welded to the panels. The deck profile can also be used to interlock concrete and steel.

Composite deck finishes are either galvanized (zinc coated) or phosphatized/painted. Galvanized deck has a zinc coating on both the top and bottom surfaces. The phosphatized/painted deck has a bare (phosphatized) top surface that will come into contact with the concrete. This bare top surface can be expected to develop rust before the concrete is placed. The bottom side of the deck has a primer coat of paint.

A composite floor deck is normally installed so the panel ends do not overlap on the supporting beams. Shear lugs or panel profile shapes often prevent a tight metal to metal fit if the panel ends overlap; the air gap caused by overlapping will prevent proper fusion with the structural steel supports when the panel end laps are shear stud welded.

Adequate end bearing of the deck must be obtained as shown on the drawings. If bearing is actually less in the field than shown on the drawings, further investigation is required.

**Roof Deck**

A roof deck is not designed to act compositely with other materials. A roof deck acts alone in transferring horizontal and vertical loads into the building frame. Roof deck rib openings are usually narrower than floor deck rib openings. This provides adequate support of the rigid thermal insulation board.

A roof deck is typically installed to endlap approximately 2" over supports. However, it can be butted (or lapped more than 2") to solve field fit problems. Since designers frequently use the installed deck system as part of the horizontal bracing system (the deck as a diaphragm), any fastening substitution or change should be approved by the designer. Continuous perimeter support of the deck is necessary to limit edge deflection in the finished roof and may be required for diaphragm shear transfer.

Standard roof deck finishes are galvanized or primer painted. The standard factory applied paint for roof decks is a primer paint and is not intended to weather for extended periods of time. Field painting or touching up of abrasions and deterioration of the primer coat or other protective finishes is the responsibility of the contractor.

**Cellular Deck**

A cellular deck is made by attaching a bottom steel sheet to a roof deck or composite floor deck panel. A cellular deck can be used in the same manner as a floor deck. Electrical, telephone, and data wires are easily run through the chase created between the deck panel and the bottom sheet.

When used as part of the electrical distribution system, the cellular deck must be installed so that the ribs line up and create a smooth cell transition at abutting ends. The joint that occurs at butting cell ends must be taped or otherwise sealed to prevent wet concrete from seeping into the cell. Cell interiors must be free of welding burrs, or other sharp intrusions, to prevent damage to wires.

When used as a roof deck, the bottom flat plate is usually left exposed to view. Care must be maintained during erection to keep good alignment and prevent damage.

A cellular deck is sometimes used with the flat plate on the top side to provide a flat working surface. Installation of the deck for this purpose requires special methods for attachment to the frame because the flat plate, now on the top, can prevent direct access to the deck material that is bearing on the structural steel. It may be advisable to treat the flat top surface to prevent slipping.

A cellular deck is always furnished galvanized or painted over galvanized.

**Form Deck**

A form deck can be any floor or roof deck product used as a concrete form. Connections to the frame are by the same methods used to anchor floor and roof decks. Welding washers are recommended when welding a deck that is less than 20 gauge thickness.

A form deck is furnished galvanized, prime painted, or uncoated. A galvanized deck must be used for those roof deck systems where a form deck is used to carry a lightweight insulating concrete fill.

**R061110-30 Lumber Product Material Prices**

The price of forest products fluctuates widely from location to location and from season to season depending upon economic conditions. The bare material prices in the unit cost sections of the data set show the National Average material prices in effect Jan. 1 of this data year. It must be noted that lumber prices in general may change significantly during the year.

Availability of certain items depends upon geographic location and must be checked prior to firm-price bidding.

**R061636-20 Plywood**

There are two types of plywood used in construction: interior, which is moisture-resistant but not waterproofed, and exterior, which is waterproofed.

The grade of the exterior surface of the plywood sheets is designated by the first letter: A, for smooth surface with patches allowed; B, for solid surface with patches and plugs allowed; C, which may be surface plugged or may have knot holes up to 1" wide; and D, which is used only for interior type plywood and may have knot holes up to 2-1/2" wide. "Structural Grade" is specifically designed for engineered applications such as box beams. All CC & DD grades have roof and floor spans marked on them.

Underlayment-grade plywood runs from 1/4" to 1-1/4" thick. Thicknesses 5/8" and over have optional tongue and groove joints which eliminate the need for blocking the edges. Underlayment 19/32" and over may be referred to as Sturd-i-Floor.

The price of plywood can fluctuate widely due to geographic and economic conditions.

Typical uses for various plywood grades are as follows:

AA-AD Interior — cupboards, shelving, paneling, furniture

BB Plyform — concrete form plywood

CDX — wall and roof sheathing

Structural — box beams, girders, stressed skin panels

AA-AC Exterior — fences, signs, siding, soffits, etc.

Underlayment — base for resilient floor coverings

Overlaid HDO — high density for concrete forms & highway signs

Overlaid MDO — medium density for painting, siding, soffits & signs

303 Siding — exterior siding, textured, striated, embossed, etc.

**R073126-20 Roof Slate**

16", 18" and 20" are standard lengths, and slate usually comes in random widths. For standard 3/16" thickness use 1-1/2" copper nails. Allow for 3% breakage.

**R075213-30 Modified Bitumen Roofing**

The cost of modified bitumen roofing is highly dependent on the type of installation that is planned. Installation is based on the type of modifier used in the bitumen. The two most popular modifiers are atactic polypropylene (APP) and styrene butadiene styrene (SBS). The modifiers are added to heated bitumen during the manufacturing process to change its characteristics. A polyethylene, polyester or fiberglass reinforcing sheet is then sandwiched between layers of this bitumen. When completed, the result is a pre-assembled, built-up roof that has increased elasticity and weatherability. Some manufacturers include a surfacing material such as ceramic or mineral granules, metal particles or sand.

The preferred method of adhering SBS-modified bitumen roofing to the substrate is with hot-mopped asphalt (much the same as built-up roofing). This installation method requires a tar kettle/pot to heat the asphalt, as well as the labor, tools and equipment necessary to distribute and spread the hot asphalt.

The alternative method for applying APP and SBS modified bitumen is as follows. A skilled installer uses a torch to melt a small pool of bitumen off the membrane. This pool must form across the entire roll for proper adhesion. The installer must unroll the roofing at a pace slow enough to melt the bitumen, but fast enough to prevent damage to the rest of the membrane.

Modified bitumen roofing provides the advantages of both built-up and single-ply roofing. Labor costs are reduced over those of built-up roofing because only a single ply is necessary. The elasticity of single-ply roofing is attained with the reinforcing sheet and polymer modifiers. Modifieds have some self-healing characteristics and because of their multi-layer construction, they offer the reliability and safety of built-up roofing.

**R081313-20 Steel Door Selection Guide**

Standard steel doors are classified into four levels, as recommended by the Steel Door Institute in the chart below. Each of the four levels offers a range of construction models and designs to meet architectural requirements for preference and appearance, including full flush, seamless, and stile & rail. Recommended minimum gauge requirements are also included.

For complete standard steel door construction specifications and available sizes, refer to the Steel Door Institute Technical Data Series, ANSI A250.8-98 (SDI-100), and ANSI A250.4-94 Test Procedure and Acceptance Criteria for Physical Endurance of Steel Door and Hardware Reinforcements.

Level		Model	Construction	For Full Flush or Seamless		
				Min. Gauge	Thickness (in)	Thickness (mm)
I	Standard Duty	1	Full Flush	20	0.032	0.8
		2	Seamless			
II	Heavy Duty	1	Full Flush	18	0.042	1.0
		2	Seamless			
III	Extra Heavy Duty	1	Full Flush	16	0.053	1.3
		2	Seamless			
IV	Maximum Duty	3	*Stile & Rail	14	0.067	1.6
		1	Full Flush			
		2	Seamless			

\*Stiles & rails are 16 gauge; flush panels, when specified, are 18 gauge.

**R085216-10 Window Estimates**

To ensure a complete window estimate, be sure to include the material and labor costs for each window, as well as the material and labor costs for an interior wood trim set.

**R085313-20 Replacement Windows**

Replacement windows are typically measured per United Inch.

United Inches are calculated by rounding the width and height of the window opening up to the nearest inch, then adding the two figures.

The labor cost for replacement windows includes removal of sash, existing sash balance or weights, parting bead where necessary and installation of new window.

Debris hauling and dump fees are not included.

**R087110-10 Hardware Finishes**

This table describes hardware finishes used throughout the industry. It also shows the base metal and the respective symbols in the three predominate

systems of identification. Many of these are used in pricing descriptions in Division Eight.

US"	BMHA*	CDN^	Base	Description
US P	600	CP	Steel	Primed for Painting
US 1B	601	C1B	Steel	Bright Black Japanned
US 2C	602	C2C	Steel	Zinc Plated
US 2G	603	C2G	Steel	Zinc Plated
US 3	605	C3	Brass	Bright Brass, Clear Coated
US 4	606	C4	Brass	Satin Brass, Clear Coated
US 5	609	C5	Brass	Satin Brass, Blackened, Satin Relieved, Clear Coated
US 7	610	C7	Brass	Satin Brass, Blackened, Bright Relieved, Clear Coated
US 9	611	C9	Bronze	Bright Bronze, Clear Coated
US 10	612	C10	Bronze	Satin Bronze, Clear Coated
US 10A	641	C10A	Steel	Antiqued Bronze, Oiled and Lacquered
US 10B	613	C10B	Bronze	Antiqued Bronze, Oiled
US 11	616	C11	Bronze	Satin Bronze, Blackened, Satin Relieved, Clear Coated
US 14	618	C14	Brass/Bronze	Bright Nickel Plated, Clear Coated
US 15	619	C15	Brass/Bronze	Satin Nickel, Clear Coated
US 15A	620	C15A	Brass/Bronze	Satin Nickel Plated, Blackened, Satin Relieved, Clear Coated
US 17A	621	C17A	Brass/Bronze	Nickel Plated, Blackened, Relieved, Clear Coated
US 19	622	C19	Brass/Bronze	Flat Black Coated
US 20	623	C20	Brass/Bronze	Statuary Bronze, Light
US 20A	624	C20A	Brass/Bronze	Statuary Bronze, Dark
US 26	625	C26	Brass/Bronze	Bright Chromium
US 26D	626	C26D	Brass/Bronze	Satin Chromium
US 20	627	C27	Aluminum	Satin Aluminum Clear
US 28	628	C28	Aluminum	Anodized Dull Aluminum
US 32	629	C32	Stainless Steel	Bright Stainless Steel
US 32D	630	C32D	Stainless Steel	Stainless Steel
US 3	632	C3	Steel	Bright Brass Plated, Clear Coated
US 4	633	C4	Steel	Satin Brass, Clear Coated
US 7	636	C7	Steel	Satin Brass Plated, Blackened, Bright Relieved, Clear Coated
US 9	637	C9	Steel	Bright Bronze Plated, Clear Coated
US 5	638	C5	Steel	Satin Brass Plated, Blackened, Bright Relieved, Clear Coated
US 10	639	C10	Steel	Satin Bronze Plated, Clear Coated
US 10B	640	C10B	Steel	Antique Bronze, Oiled
US 10A	641	C10A	Steel	Antiqued Bronze, Oiled and Lacquered
US 11	643	C11	Steel	Satin Bronze Plated, Blackened, Bright Relieved, Clear Coated
US 14	645	C14	Steel	Bright Nickel Plated, Clear Coated
US 15	646	C15	Steel	Satin Nickel Plated, Clear Coated
US 15A	647	C15A	Steel	Nickel Plated, Blackened, Bright Relieved, Clear Coated
US 17A	648	C17A	Steel	Nickel Plated, Blackened, Relieved, Clear Coated
US 20	649	C20	Steel	Statuary Bronze, Light
US 20A	650	C20A	Steel	Statuary Bronze, Dark
US 26	651	C26	Steel	Bright Chromium Plated
US 26D	652	C26D	Steel	Satin Chromium Plated

\* - BMHA Builders Hardware Manufacturing Association

" - US Equivalent

^ - Canadian Equivalent

Japanning is imitating Asian lacquer work

**R092000-50 Lath, Plaster and Gypsum Board**

**Gypsum board lath** is available in 3/8" thick x 16" wide x 4' long sheets as a base material for multi-layer plaster applications. It is also available as a base for either multi-layer or veneer plaster applications in 1/2" and 5/8" thick-4' wide x 8', 10' or 12' long sheets. Fasteners are screws or blued ring shank nails for wood framing and screws for metal framing.

**Metal lath** is available in diamond mesh patterns with flat or self-furring profiles. Paper backing is available for applications where excessive plaster waste needs to be avoided. A slotted mesh ribbed lath should be used in areas where the span between structural supports is greater than normal. Most metal lath comes in 27" x 96" sheets. Diamond mesh weighs 1.75, 2.5 or 3.4 pounds per square yard, slotted mesh lath weighs 2.75 or 3.4 pounds per square yard. Metal lath can be nailed, screwed or tied in place.

Many **accessories** are available. Corner beads, flat reinforcing strips, casing beads, control and expansion joints, furring brackets and channels are some examples. Note that accessories are not included in plaster or stucco line items.

**Plaster** is defined as a material or combination of materials that when mixed with a suitable amount of water, forms a plastic mass or paste. When applied to a surface, the paste adheres to it and subsequently hardens, preserving in a rigid state the form or texture imposed during the period of elasticity.

**Gypsum plaster** is made from ground calcined gypsum. It is mixed with aggregates and water for use as a base coat plaster.

**Vermiculite plaster** is a fire-retardant plaster covering used on steel beams, concrete slabs and other heavy construction materials. Vermiculite is a group name for certain clay minerals, hydrous silicates or aluminum, magnesium and iron that have been expanded by heat.

**Perlite plaster** is a plaster using perlite as an aggregate instead of sand. Perlite is a volcanic glass that has been expanded by heat.

**Gauging plaster** is a mix of gypsum plaster and lime putty that when applied produces a quick drying finish coat.

**Veneer plaster** is a one or two component gypsum plaster used as a thin finish coat over special gypsum board.

**Keenes cement** is a white cementitious material manufactured from gypsum that has been burned at a high temperature and ground to a fine powder. Alum is added to accelerate the set. The resulting plaster is hard and strong and accepts and maintains a high polish, hence it is used as a finishing plaster.

**Stucco** is a Portland cement based plaster used primarily as an exterior finish.

Plaster is used on both interior and exterior surfaces. Generally it is applied in multiple-coat systems. A three-coat system uses the terms scratch, brown and finish to identify each coat. A two-coat system uses base and finish to describe each coat. Each type of plaster and application system has attributes that are chosen by the designer to best fit the intended use.

Gypsum Plaster Quantities for 100 S.Y.	2 Coat, 5/8" Thick		3 Coat, 3/4" Thick		
	Base	Finish	Scratch	Brown	Finish
	1:3 Mix	2:1 Mix	1:2 Mix	1:3 Mix	2:1 Mix
Gypsum plaster	1,300 lb.		1,350 lb.	650 lb.	
Sand	1.75 C.Y.		1.85 C.Y.	1.35 C.Y.	
Finish hydrated lime		340 lb.			340 lb.
Gauging plaster		170 lb.			170 lb.

Vermiculite or Perlite Plaster Quantities for 100 S.Y.	2 Coat, 5/8" Thick		3 Coat, 3/4" Thick		
	Base	Finish	Scratch	Brown	Finish
	1,250 lb.	7.8 bags	1,450 lb.	800 lb.	3.3 bags
Vermiculite or perlite			340 lb.		340 lb.
Finish hydrated lime			170 lb.		170 lb.
Gauging plaster					

Stucco-Three-Coat System Quantities for 100 S.Y.	On Wood Frame		On Masonry	
	Portland cement	Sand	Hydrated lime	Hydrated lime
Portland cement	29 bags			21 bags
Sand	2.6 C.Y.			2.0 C.Y.
Hydrated lime	180 lb.			120 lb.

## R092910-10 Levels of Gypsum Board Finish

In the past, contract documents often used phrases such as "industry standard" and "workmanlike finish" to specify the expected quality of gypsum board wall and ceiling installations. The vagueness of these descriptions led to unacceptable work and disputes.

In order to resolve this problem, four major trade associations concerned with the manufacture, erection, finish and decoration of gypsum board wall and ceiling systems developed an industry-wide *Recommended Levels of Gypsum Board Finish*.

The finish of gypsum board walls and ceilings for specific final decoration is dependent on a number of factors. A primary consideration is the location of the surface and the degree of decorative treatment desired. Painted and unpainted surfaces in warehouses and other areas where appearance is normally not critical may simply require the taping of wallboard joints and 'spotting' of fastener heads. Blemish-free, smooth, monolithic surfaces often intended for painted and decorated walls and ceilings in habitated structures, ranging from single-family dwellings through monumental buildings, require additional finishing prior to the application of the final decoration.

Other factors to be considered in determining the level of finish of the gypsum board surface are (1) the type of angle of surface illumination (both natural and artificial lighting), and (2) the paint and method of application or the type and finish of wallcovering specified as the final decoration. Critical lighting conditions, gloss paints, and thin wall coverings require a higher level of gypsum board finish than heavily textured surfaces which are subsequently painted or surfaces which are to be decorated with heavy grade wall coverings.

The following descriptions were developed by the Association of the Wall and Ceiling Industries-International (AWCI), Ceiling & Interior Systems Construction Association (CISCA), Gypsum Association (GA), and Painting and Decorating Contractors of America (PDCA) as a guide.

**Level 0:** Used in temporary construction or wherever the final decoration has not been determined. Unfinished. No taping, finishing or corner beads are required. Also could be used where non-predecorated panels will be used in demountable-type partitions that are to be painted as a final finish.

**Level 1:** Frequently used in plenum areas above ceilings, in attics, in areas where the assembly would generally be concealed, or in building service corridors and other areas not normally open to public view. Some degree of sound and smoke control is provided; in some geographic areas, this level is referred to as "fire-taping," although this level of finish does not typically meet fire-resistant assembly requirements. Where a fire resistance rating is required for the gypsum board assembly, details of construction should be in accordance with reports of fire tests of assemblies that have met the requirements of the fire rating acceptable.

All joints and interior angles shall have tape embedded in joint compound. Accessories are optional at specifier discretion in corridors and other areas with pedestrian traffic. Tape and fastener heads need not be covered with joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable.

**Level 2:** It may be specified for standard gypsum board surfaces in garages, warehouse storage, or other similar areas where surface appearance is not of primary importance.

All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife or trowel, leaving a thin coating of joint compound over all joints and interior angles. Fastener heads and accessories shall be covered with a coat of joint compound. Surface shall be free of excess joint compound. Tool marks and ridges are acceptable.

**Level 3:** Typically used in areas receiving heavy texture (spray or hand applied) finishes before final painting, or where commercial-grade (heavy duty) wall coverings are to be applied as the final decoration. This level of finish should not be used where smooth painted surfaces or where lighter weight wall coverings are specified. The prepared surface shall be coated with a drywall primer prior to the application of final finishes.

All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife or trowel, leaving a thin coating of joint compound over all joints and interior angles. One additional coat of joint compound shall be applied over all joints and interior angles. Fastener heads and accessories shall be covered with two separate coats of joint compound. All joint compounds shall be smooth and free of tool marks and ridges. The prepared surface shall be covered with a drywall primer prior to the application of the final decoration.

**Level 4:** This level should be used where residential grade (light duty) wall coverings, flat paints, or light textures are to be applied. The prepared surface shall be coated with a drywall primer prior to the application of final finishes. Release agents for wall coverings are specifically formulated to minimize damage if coverings are subsequently removed.

The weight, texture, and sheen level of the wall covering material selected should be taken into consideration when specifying wall coverings over this level of drywall treatment. Joints and fasteners must be sufficiently concealed if the wall covering material is lightweight, contains limited pattern, has a glossy finish, or has any combination of these features. In critical lighting areas, flat paints applied over light textures tend to reduce joint photographing. Gloss, semi-gloss, and enamel paints are not recommended over this level of finish.

All joints and interior angles shall have tape embedded in joint compound and shall be immediately wiped with a joint knife or trowel, leaving a thin coating of joint compound over all joints and interior angles. In addition, two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound. All joint compounds shall be smooth and free of tool marks and ridges. The prepared surface shall be covered with a drywall primer like Sheetrock first coat prior to the application of the final decoration.

**Level 5:** The highest quality finish is the most effective method to provide a uniform surface and minimize the possibility of joint photographing and of fasteners showing through the final decoration. This level of finish is required where gloss, semi-gloss, or enamel is specified; when flat joints are specified over an untextured surface; or where critical lighting conditions occur. The prepared surface shall be coated with a drywall primer prior to the application of the final decoration.

All joints and interior angles shall have tape embedded in joint compound and be immediately wiped with a joint knife or trowel, leaving a thin coating of joint compound over all joints and interior angles. Two separate coats of joint compound shall be applied over all flat joints and one separate coat of joint compound applied over interior angles. Fastener heads and accessories shall be covered with three separate coats of joint compound.

A thin skim coat of joint compound shall be trowel applied to the entire surface. Excess compound is immediately troweled off, leaving a film or skim coating of compound completely covering the paper. As an alternative to a skim coat, a material manufactured especially for this purpose may be applied such as Sheetrock Tuff-Hide primer surfacer. The surface must be smooth and free of tool marks and ridges. The prepared surface shall be covered with a drywall primer prior to the application of the final decoration.

**R097223-10 Wall Covering**

The table below lists the quantities required for 100 S.F. of wall covering.

Description	Medium-Priced Paper	Expensive Paper
Paper	1.6 dbl. rolls	1.6 dbl. rolls
Wall sizing	0.25 gallon	0.25 gallon
Vinyl wall paste	0.6 gallon	0.6 gallon
Apply sizing	0.3 hour	0.3 hour
Apply paper	1.2 hours	1.5 hours

Most wallpapers now come in double rolls only.  
To remove old paper, allow 1.3 hours per 100 S.F.

**R099100-10 Painting Estimating Techniques**

Proper estimating methodology is needed to obtain an accurate painting estimate. There is no known reliable shortcut or square foot method. The following steps should be followed:

- List all surfaces to be painted, with an accurate quantity (area) of each. Items having similar surface condition, finish, application method and accessibility may be grouped together.
- List all the tasks required for each surface to be painted, including surface preparation, masking, and protection of adjacent surfaces. Surface preparation may include minor repairs, washing, sanding and puttying.
- Select the proper Means line for each task. Review and consider all adjustments to labor and materials for type of paint and location of work. Apply the height adjustment carefully. For instance, when applying the adjustment for work over 8' high to a wall that is 12' high, apply the adjustment only to the area between 8' and 12' high, and not to the entire wall.

When applying more than one percent (%) adjustment, apply each to the base cost of the data, rather than applying one percentage adjustment on top of the other.

When estimating the cost of painting walls and ceilings remember to add the brushwork for all cut-ins at inside corners and around windows and doors as a LF measure. One linear foot of cut-in with a brush equals one square foot of painting.

All items for spray painting include the labor for roll-back.

Deduct for openings greater than 100 SF or openings that extend from floor to ceiling and are greater than 5' wide. Do not deduct small openings.

The cost of brushes, rollers, ladders and spray equipment are considered part of a painting contractor's overhead, and should not be added to the estimate. The cost of rented equipment such as scaffolding and swing staging should be added to the estimate.

**R099100-20 Painting**

Item	Coat	One Gallon Covers			In 8 Hours a Laborer Covers			Labor-Hours per 100 S.F.		
		Brush	Roller	Spray	Brush	Roller	Spray	Brush	Roller	Spray
Paint wood siding	prime	250 S.F.	225 S.F.	290 S.F.	1150 S.F.	1300 S.F.	2275 S.F.	.695	.615	.351
	others	270	250	290	1300	1625	2600	.615	.492	.307
Paint exterior trim	prime	400	—	—	650	—	—	1.230	—	—
	1st	475	—	—	800	—	—	1.000	—	—
	2nd	520	—	—	975	—	—	.820	—	—
Paint shingle siding	prime	270	255	300	650	975	1950	1.230	.820	.410
	others	360	340	380	800	1150	2275	1.000	.695	.351
Stain shingle siding	1st	180	170	200	750	1125	2250	1.068	.711	.355
	2nd	270	250	290	900	1325	2600	.888	.603	.307
Paint brick masonry	prime	180	135	160	750	800	1800	1.066	1.000	.444
	1st	270	225	290	815	975	2275	.981	.820	.351
	2nd	340	305	360	815	1150	2925	.981	.695	.273
Paint interior plaster or drywall	prime	400	380	495	1150	2000	3250	.695	.400	.246
	others	450	425	495	1300	2300	4000	.615	.347	.200
Paint interior doors and windows	prime	400	—	—	650	—	—	1.230	—	—
	1st	425	—	—	800	—	—	1.000	—	—
	2nd	450	—	—	975	—	—	.820	—	—

## R131113-20 Swimming Pools

Pool prices given per square foot of surface area include pool structure, filter and chlorination equipment, pumps, related piping, ladders/steps, maintenance kit, skimmer and vacuum system. Decks and electrical service to equipment are not included.

Residential in-ground pool construction can be divided into two categories: vinyl lined and gunite. Vinyl lined pool walls are constructed of different materials including wood, concrete, plastic or metal. The bottom is often graded with sand over which the vinyl liner is installed. Vermiculite or soil cement bottoms may be substituted for an added cost.

Gunite pool construction is used both in residential and municipal installations. These structures are steel reinforced for strength and finished with a white cement limestone plaster.

Municipal pools will have a higher cost because plumbing codes require more expensive materials, chlorination equipment and higher filtration rates. Municipal pools greater than 1,800 S.F. require gutter systems to control waves. This gutter may be formed into the concrete wall. Often a vinyl/stainless steel gutter or gutter/wall system is specified, which will raise the pool cost.

Competition pools usually require tile bottoms and sides with contrasting lane striping, which will also raise the pool cost.

**R22113-50 Pipe Material Considerations**

1. Malleable fittings should be used for gas service.
2. Malleable fittings are used where there are stresses/strains due to expansion and vibration.
3. Cast fittings may be broken as an aid to disassembling heating lines frozen by long use, temperature and minerals.
4. A cast iron pipe is extensively used for underground and submerged service.
5. Type M (light wall) copper tubing is available in hard temper only and is used for nonpressure and less severe applications than K and L.

**Domestic/Imported Pipe and Fittings Costs**

The prices shown in this publication for steel/cast iron pipe and steel, cast iron, and malleable iron fittings are based on domestic production sold at the normal trade discounts. The above listed items of foreign manufacture may be available at prices 1/3 to 1/2 of those shown. Some imported items after minor machining or finishing operations are being sold as domestic to further complicate the system.

6. Type L (medium wall) copper tubing, available hard or soft for interior service.
7. Type K (heavy wall) copper tubing, available in hard or soft temper for use where conditions are severe. For underground and interior service.
8. Hard drawn tubing requires fewer hangers or supports but should not be bent. Silver brazed fittings are recommended, but soft solder is normally used.
9. Type DMV (very light wall) copper tubing designed for drainage, waste and vent plus other non-critical pressure services.

**Caution:** Most pipe prices in this data set also include a coupling and pipe hangers which for the larger sizes can add significantly to the per foot cost and should be taken into account when comparing "book cost" with the quoted supplier's cost.

**Exterior Improvements****R3292 Turf & Grasses****R329219-50 Seeding**

The type of grass is determined by light, shade and moisture content of soil plus intended use. Fertilizer should be disked 4" before seeding. For steep slopes disk five tons of mulch and lay two tons of hay or straw on surface per acre after seeding. Surface mulch can be staked, lightly disked or tar emulsion sprayed. Material for mulch can be wood chips, peat moss, partially

rotted hay or straw, wood fibers and sprayed emulsions. Hemp seed blankets with fertilizer are also available. For spring seeding, watering is necessary. Late fall seeding may have to be reseeded in the spring. Hydraulic seeding, power mulching, and aerial seeding can be used on large areas.

## R331113-80 Piping Designations

There are several systems currently in use to describe pipe and fittings. The following paragraphs will help to identify and clarify classifications of piping systems used for water distribution.

Piping may be classified by schedule. Piping schedules include 5S, 10S, 10, 20, 30, Standard, 40, 60, Extra Strong, 80, 100, 120, 140, 160 and Double Extra Strong. These schedules are dependent upon the pipe wall thickness. The wall thickness of a particular schedule may vary with pipe size.

Ductile iron pipe for water distribution is classified by Pressure Classes such as Class 150, 200, 250, 300 and 350. These classes are actually the rated water working pressure of the pipe in pounds per square inch (psi). The pipe in these pressure classes is designed to withstand the rated water working pressure plus a surge allowance of 100 psi.

The American Water Works Association (AWWA) provides standards for various types of **plastic pipe**. C-900 is the specification for polyvinyl chloride (PVC) piping used for water distribution in sizes ranging from 4" through 12". C-901 is the specification for polyethylene (PE) pressure pipe, tubing and fittings used for water distribution in sizes ranging from 1/2" through 3". C-905 is the specification for PVC piping sizes 14" and greater.

**PVC pressure-rated pipe** is identified using the standard dimensional ratio (SDR) method. This method is defined by the American Society for Testing and Materials (ASTM) Standard D 2241. This pipe is available in SDR numbers 64, 41, 32.5, 26, 21, 17, and 13.5. A pipe with an SDR of 64 will have the thinnest wall while a pipe with an SDR of 13.5 will have the thickest wall. When the pressure rating (PR) of a pipe is given in psi, it is based on a line supplying water at 73 degrees F.

The National Sanitation Foundation (NSF) seal of approval is applied to products that can be used with potable water. These products have been tested to ANSI/NSF Standard 14.

**Valves and strainers** are classified by American National Standards Institute (ANSI) Classes. These Classes are 125, 150, 200, 250, 300, 400, 600, 900, 1500 and 2500. Within each class there is an operating pressure range dependent upon temperature. Design parameters should be compared to the appropriate material dependent, pressure-temperature rating chart for accurate valve selection.

# Abbreviations

A	Area Square Feet; Ampere	Brk., brk	Brick	Csc	Cosecant
AAFES	Army and Air Force Exchange Service	brkt	Bracket	C.S.F.	Hundred Square Feet
ABS	Acrylonitrile Butadiene Styrene; Asbestos Bonded Steel	Brs.	Brass	CSI	Construction Specifications Institute
A.C., AC	Alternating Current; Air-Conditioning; Asbestos Cement; Plywood Grade A & C	Brz.	Bronze	CT	Current Transformer
ACI	American Concrete Institute	Bsn.	Basin	CTS	Copper Tube Size
ACR	Air Conditioning Refrigeration	Btr.	Better	Cu	Copper, Cubic
ADA	Americans with Disabilities Act	BTU	British Thermal Unit	Cu. Ft.	Cubic Foot
AD	Plywood, Grade A & D	BTUH	BTU per Hour	cw	Continuous Wave
Addit.	Additional	Bu.	Bushels	C.W.	Cool White; Cold Water
Adh.	Adhesive	BUR	Built-up Roofing	Cwt.	100 Pounds
Adj.	Adjustable	BX	Interlocked Armored Cable	C.W.X.	Cool White Deluxe
af	Audio-frequency	°C	Degree Centigrade	C.Y.	Cubic Yard (27 cubic feet)
AFFF	Aqueous Film Forming Foam	c	Conductivity, Copper Sweat	C.Y./Hr.	Cubic Yard per Hour
AFUE	Annual Fuel Utilization Efficiency	C	Hundred; Centigrade	Cyl.	Cylinder
AGA	American Gas Association	C/C	Center to Center, Cedar on Cedar	d	Penny (nail size)
Agg.	Aggregate	C-C	Center to Center	D	Deep; Depth; Discharge
A.H., Ah	Ampere Hours	Cab	Cabinet	Dis., Disch.	Discharge
A hr.	Ampere-hour	Cair.	Air Tool Laborer	Db	Decibel
A.H.U., AHU	Air Handling Unit	Cal.	Caliper	Dbl.	Double
A.I.A.	American Institute of Architects	Calc	Calculated	DC	Direct Current
AIC	Ampere Interrupting Capacity	Cap.	Capacity	DDC	Direct Digital Control
Allow.	Allowance	Carp.	Carpenter	Demob.	Demobilization
alt., alt	Alternate	C.B.	Circuit Breaker	d.f.t.	Dry Film Thickness
Alum.	Aluminum	C.C.A.	Chromate Copper Arsenate	d.f.u.	Drainage Fixture Units
a.m.	Ante Meridiem	C.C.F.	Hundred Cubic Feet	D.H.	Double Hung
Amp.	Ampere	cd	Candela	DHW	Domestic Hot Water
Anod.	Anodized	cd/sf	Candela per Square Foot	DI	Ductile Iron
ANSI	American National Standards Institute	CD	Grade of Plywood Face & Back	Diag.	Diagonal
APA	American Plywood Association	CDX	Plywood, Grade C & D, exterior	Diam., Dia	Diameter
Approx.	Approximate	Cefi.	glue	Distrib.	Distribution
Apt.	Apartment	Cem.	Cement Finisher	Div.	Division
Asb.	Asbestos	CF	Cement	Dk.	Deck
A.S.B.C.	American Standard Building Code	C.F.	Hundred Feet	D.L.	Dead Load; Diesel
Asbe.	Asbestos Worker	CFM	Cubic Feet	DLH	Deep Long Span Bar Joist
ASCE	American Society of Civil Engineers	CFRP	Cubic Feet per Minute	dlx	Deluxe
A.S.H.R.A.E.	American Society of Heating, Refrig. & AC Engineers	c.g.	Carbon Fiber Reinforced Plastic	Do.	Ditto
ASME	American Society of Mechanical Engineers	CHW	Center of Gravity	DOP	Diocyl Phthalate Penetration Test (Air Filters)
ASTM	American Society for Testing and Materials	C.I., CI	Chilled Water;	Dp., dp	Depth
Attchmt.	Attachment	C.I.P., CIP	Commercial Hot Water	D.P.S.T.	Double Pole, Single Throw
Avg., Ave.	Average	Circ.	Cast Iron	Dr.	Drive
AWG	American Wire Gauge	C.L.	Cast in Place	DR	Dimension Ratio
AWWA	American Water Works Assoc.	CL	Circuit	Drink.	Drinking
Bbl.	Barrel	Clab.	Carload Lot	D.S.	Double Strength
B&B, BB	Grade B and Better; Balled & Burlapped	CLF	Chain Link	D.S.A.	Double Strength A Grade
B&S	Bell and Spigot	Clam	Common Laborer	D.S.B.	Double Strength B Grade
B.&W.	Black and White	CLF	Common Maintenance Laborer	Dty.	Duty
b.c.c.	Body-centered Cubic	CLP	Hundred Linear Feet	DWV	Drain Waste Vent
B.C.Y.	Bank Cubic Yards	cm	Current Limiting Fuse	DX	Deluxe White, Direct Expansion
BE	Bevel End	CMP	Cross Linked Polyethylene	dyn	Dyne
B.F.	Board Feet	CMU	Centimeter	e	Eccentricity
Bg. cem.	Bag of Cement	CN	Corr. Metal Pipe	E	Equipment Only; East; Emissivity
BHP	Boiler Horsepower;	Col.	Concrete Masonry Unit	Ea.	Each
B.I.	Brake Horsepower	CO <sub>2</sub>	Change Notice	EB	Encased Burial
bidir.	Black Iron	Comb.	Column	Econ.	Economy
Bit., Bitum.	bidirectional	comm.	Carbon Dioxide	E.C.Y	Embankment Cubic Yards
Bit., Conc.	Bituminous	Compr.	Combination	EDP	Electronic Data Processing
Bk.	Bituminous Concrete	Conc.	Commercial, Communication	EIFS	Exterior Insulation Finish System
Bkrs.	Backed	Cont., cont	Compressor	E.D.R.	Equiv. Direct Radiation
Bldg., bldg	Breakers	Corkbd.	Concrete	Eq.	Equation
Blk.	Building	Corr.	Continuous; Continued, Container	EL	Elevation
Bm.	Block	Cos	Cork Board	Elec.	Electrician; Electrical
Boil.	Beam	Cot	Corrugated	Elev.	Elevator; Elevating
bpm	Boilermaker	Cov.	Cosine	EMT	Electrical Metallic Conduit;
Blows per Minute	Blows per Minute	C/P	Cotangent	Eq.	Thin Wall Conduit
BR	Bedroom	CPA	Cover	EPDM	Engine, Engineered
Brg., brng.	Bearing	Cplg.	Cedar on Paneling	Eng.	Ethylene Propylene Diene Monomer
Brhe.	Bricklayer Helper	CPM	Control Point Adjustment	EPS	Expanded Polystyrene
Bric.	Bricklayer	CPVC	Coupling	Eqhv.	Equip. Oper., Heavy
		C.Pr.	Critical Path Method	Eqlt.	Equip. Oper., Light
		CRC	Chlorinated Polyvinyl Chloride	Eqmd.	Equip. Oper., Medium
		Creos.	Hundred Pair	Eqmm.	Equip. Oper., Master Mechanic
		Crpt.	Cold Rolled Channel	Eqol.	Equip. Oper., Oilers
		CRT	Creosote	Equip.	Equipment
		CS	Carpet & Linoleum Layer	ERW	Electric Resistance Welded
			Cathode-ray Tube		
			Carbon Steel, Constant		
			Shear Bar Joist		

# Abbreviations

E.S.	Energy Saver	H	High Henry	Lath.	Lather
Est.	Estimated	HC	High Capacity	Lav.	Lavatory
esu	Electrostatic Units	H.D., HD	Heavy Duty; High Density	lb.; #	Pound
E.W.	Each Way	H.D.O.	High Density Overlaid	L.B., LB	Load Bearing; L Conduit Body
EWT	Entering Water Temperature	HDPE	High Density Polyethylene Plastic	L. & E.	Labor & Equipment
Excav.	Excavation	Hdr.	Header	lb./hr.	Pounds per Hour
excl	Excluding	Hdwe.	Hardware	lb./L.F.	Pounds per Linear Foot
Exp., exp	Expansion, Exposure	H.I.D., HID	High Intensity Discharge	lbf/sq.in.	Pound-force per Square Inch
Ext., ext	Exterior, Extension	Help.	Helper Average	L.C.L.	Less than Carload Lot
Extru.	Extrusion	HEPA	High Efficiency Particulate Air	L.C.Y.	Loose Cubic Yard
f.	Fiber Stress		Filter	Ld.	Load
F	Fahrenheit; Female; Fill	Hg	Mercury	LE	Lead Equivalent
Fab., fab	Fabricated; Fabric	HIC	High Interrupting Capacity	LED	Light Emitting Diode
FBGS	Fiberglass	HM	Hollow Metal	L.F.	Linear Foot
FC.	Footcandles	HMWPE	High Molecular Weight	L.F. Hdr	Linear Feet of Header
f.c.c.	Face-centered Cubic		Polyethylene	L.F. Nose	Linear Foot of Stair Nosing
f'c.	Compressive Stress in Concrete;	HO	High Output	L.F. Rsr	Linear Foot of Stair Riser
	Extreme Compressive Stress	Horiz.	Horizontal	Ig.	Long; Length; Large
FE.	Front End	H.P., HP	Horsepower; High Pressure	L & H	Light and Heat
FEP	Fluorinated Ethylene Propylene (Teflon)	H.P.F.	High Power Factor	LH	Long Span Bar Joist
FG.	Flat Grain	Hr.	Hour	L.H.	Labor Hours
F.H.A.	Federal Housing Administration	Hrs./Day	Hours per Day	LL, LL	Live Load
Fig.	Figure	HSC	High Short Circuit	L.L.D.	Lamp Lumen Depreciation
Fin.	Finished	Ht.	Height	lm	Lumen
FIPS	Female Iron Pipe Size	Htg.	Heating	lm/sf	Lumen per Square Foot
Fixt.	Fixture	Htrs.	Heaters	lm/W	Lumen per Watt
FJP	Finger jointed and primed	HVAC	Heating, Ventilation & Air-Conditioning	LOA	Length Over All
Fl. Oz.	Fluid Ounces	Hvy.	Heavy	log	Logarithm
Flr.	Floor	HW	Hot Water	L-O-L	Lateralolet
Flrs.	Floors	Hyd.; Hydr.	Hydraulic	long.	Longitude
FM	Frequency Modulation;	Hz	Hertz (cycles)	L.P., LP	Liquefied Petroleum; Low Pressure
	Factory Mutual	I.	Moment of Inertia	L.P.F.	Low Power Factor
Fmg.	Framing	IBC	International Building Code	LR	Long Radius
FM/UL	Factory Mutual/Underwriters Labs	I.C.	Interrupting Capacity	L.S.	Lump Sum
Fdn.	Foundation	ID	Inside Diameter	Lt.	Light
FNPT	Female National Pipe Thread	ID.	Inside Dimension; Identification	Lt. Ga.	Light Gauge
Fori.	Foreman, Inside	I.F.	Inside Frosted	L.T.L.	Less than Truckload Lot
Foro.	Foreman, Outside	I.M.C.	Intermediate Metal Conduit	Lt. Wt.	Lightweight
Fount.	Fountain	In.	Inch	L.V.	Low Voltage
fpm	Feet per Minute	Incan.	Incandescent	M	Thousand; Material; Male;
FPT	Female Pipe Thread	Incl.	Included; Including	M <sup>2</sup> CA	Light Wall Copper Tubing
Fr	Frame	Int.	Interior	m/hr., M.H.	Meters Squared Contact Area
FR.	Fire Rating	Inst.	Installation	Man-hour	
FRK	Foil Reinforced Kraft	Insul., insul.	Insulation/Insulated	mA	Millampere
FSK	Foil/Scrim/Kraft	I.P.	Iron Pipe	Mach.	Machine
FRP	Fiberglass Reinforced Plastic	I.P.S., IPS	Iron Pipe Size	Mag. Str.	Magnetic Starter
FS	Forged Steel	IPT	Iron Pipe Threaded	Maint.	Maintenance
FSC	Cast Body; Cast Switch Box	I.W.	Indirect Waste	Marb.	Marble Setter
Ft., ft	Foot; Feet	J	Joule	Mat.; Mat'l.	Material
Fng.	Fitting	J.I.C.	Joint Industrial Council	Max.	Maximum
Ftg.	Footing	K	Thousand; Thousand Pounds;	MBF	Thousand Board Feet
Ft lb.	Foot Pound	K.A.H.	Heavy Wall Copper Tubing, Kelvin	MBH	Thousand BTU's per hr.
Furn.	Furniture	kcmil	Thousand Amp. Hours	MC	Metal Clad Cable
FVNR	Full Voltage Non-Reversing	KD	Thousand Circular Mils	MCC	Motor Control Center
FVR	Full Voltage Reversing	K.D.A.T.	Knock Down	M.C.F.	Thousand Cubic Feet
FXM	Female by Male	kg	Kiln Dried After Treatment	MCFM	Thousand Cubic Feet per Minute
Fy.	Minimum Yield Stress of Steel	kG	Kilogram	M.C.M.	Thousand Circular Mils
g	Gram	kgf	Kilogauss	MCP	Motor Circuit Protector
G	Gauss	kHz	Kilogram Force	MD	Medium Duty
Ga.	Gauge	Kip	Kilohertz	MDF	Medium-density fibreboard
Gal., gal.	Gallon	KJ	1000 Pounds	M.D.O.	Medium Density Overlaid
Galv., galv.	Galvanized	K.L.	Kilojoule	Med.	Medium
GC/MS	Gas Chromatograph/Mass Spectrometer	K.L.F.	Effective Length Factor	MF	Thousands Feet
Gen.	General	Km	Kips per Linear Foot	M.F.B.M.	Thousands Feet Board Measure
GFI	Ground Fault Interrupter	KO	Kilometer	Mfg.	Manufacturing
GFRC	Glass Fiber Reinforced Concrete	K.S.F.	Knock Out	Mfrs.	Manufacturers
Glaz.	Glazier	K.S.I.	Kips per Square Foot	mg	Milligram
GPD	Gallons per Day	kV	Kips per Square Inch	MGD	Million Gallons per Day
gpf	Gallon per Flush	kVA	Kilovolt	MGPB	Million Gallons per Hour
GPH	Gallons per Hour	kVAR	Kilovolt Ampere	MH, M.H.	Manhole; Metal Halide; Man-Hour
gpm, GPM	Gallons per Minute	KW	Kilovar (Reactance)	MHz	Megahertz
GR	Grade	KWh	Kilowatt	Mi.	Mile
Gran.	Granular	L	Kilowatt-hour	MI	Malleable Iron; Mineral Insulated
Grnd.	Ground	Lab.	Labor Only; Length; Long;	MIPS	Male Iron Pipe Size
GWW	Gross Vehicle Weight	lat	Medium Wall Copper Tubing	mj	Mechanical Joint
GWB	Gypsum Wall Board		Labor	m	Meter
			Latitude	mm	Millimeter
				Mill.	Millwright
				Min., min.	Minimum, Minute

# Abbreviations

Misc.	Miscellaneous	PCM	Phase Contrast Microscopy	SBS	Styrene Butadiene Styrene
ml	Milliliter, Mainline	PDCA	Painting and Decorating	SC	Screw Cover
M.L.F.	Thousand Linear Feet		Contractors of America	SCFM	Standard Cubic Feet per Minute
Mo.	Month	PE., PE	Professional Engineer;	Scaf.	Scaffold
Mobil.	Mobilization		Porcelain Enamel;	Sch., Sched.	Schedule
Mog.	Mogul Base		Polyethylene; Plain End	S.C.R.	Modular Brick
MPH	Miles per Hour	PE.C.I.	Porcelain Enamel on Cast Iron	S.D.	Sound Deadening
MPT	Male Pipe Thread	Perf.	Perforated	SDR	Standard Dimension Ratio
MRGWB	Moisture Resistant Gypsum	PEX	Cross Linked Polyethylene	S.E.	Surfaced Edge
	Wallboard	Ph.	Phase	Sel.	Select
MRT	Mile Round Trip	PI.	Pressure Injected	SER, SEU	Service Entrance Cable
ms	Millisecond	Pile.	Pile Driver	S.F.	Square Foot
M.S.F.	Thousand Square Feet	Pkg.	Package	S.F.C.A.	Square Foot Contact Area
Mstz.	Mosaic & Terrazzo Worker	Pl.	Plate	S.F. Flr.	Square Foot of Floor
M.S.Y.	Thousand Square Yards	Plah.	Plasterer Helper	S.F. Hor.	Square Foot of Ground
Mtd., mtd., mtd.	Mounted	Plas.	Plasterer	SFR	Square Feet of Radiation
Mthe.	Mosaic & Terrazzo Helper	plf	Pounds Per Linear Foot	S.P. Shlf.	Square Foot of Shelf
Mtng.	Mounting	Pluh.	Plumber Helper	S4S	Surface 4 Sides
Mult.	Multi; Multiply	Plum.	Plumber	Shee.	Sheet Metal Worker
MUTCD	Manual on Uniform Traffic Control Devices	Ply.	Plywood	Sin.	Sine
M.V.A.	Million Volt Amperes	p.m.	Post Meridiem	Skwk.	Skilled Worker
M.V.A.R.	Million Volt Amperes Reactance	Pntd.	Painted	SL	Saran Lined
MV	Megavolt	Pord.	Painter, Ordinary	S.L.	Slimline
MW	Megawatt	pp	Pages	Sldr.	Solder
MXM	Male by Male	PP, PPL	Polypropylene	SLH	Super Long Span Bar Joist
MYD	Thousand Yards	PPM.	Parts per Million	S.N.	Solid Neutral
N	Natural; North	Pr.	Pair	SO	Stranded with oil resistant inside insulation
nA	Nanoampere	PE.S.B.	Pre-engineered Steel Building	S-O-L	Socketolet
NA	Not Available; Not Applicable	Prefab.	Prefabricated	sp	Standpipe
N.B.C.	National Building Code	Prefin.	Prefinished	S.P.	Static Pressure; Single Pole; Self-Propelled
NC	Normally Closed	Prop.	Propelled	SPF	Sprinkler Installer
NEMA	National Electrical Manufacturers Assoc.	PSF, psf	Pounds per Square Foot	Spri.	Static Pressure Water Gauge
NEHB	Bolted Circuit Breaker to 600V.	PSI, psi	Pounds per Square Inch	spwg	Single Pole, Double Throw
NFPA	National Fire Protection Association	PSIG	Pounds per Square Inch Gauge	S.P.D.T.	Spruce Pine Fir, Sprayed
NLB	Non-Load-Bearing	PSP	Plastic Sewer Pipe	SPF	Polyurethane Foam
NM	Non-Metallic Cable	Pspr.	Painter, Spray	S.P.S.T.	Single Pole, Single Throw
nm	Nanometer	Psst.	Painter, Structural Steel	SPT	Standard Pipe Thread
No.	Number	PT.	Potential Transformer	Sq.	Square; 100 Square Feet
NO.	Normally Open	P. & T.	Pressure & Temperature	Sq. Hd.	Square Head
N.O.C.	Not Otherwise Classified	Ptd.	Painted	Sq. In.	Square Inch
Nose.	Nosing	Ptns.	Partitions	S.S.	Single Strength; Stainless Steel
NPT	National Pipe Thread	Pu	Ultimate Load	S.S.B.	Single Strength B Grade
NQOD	Combination Plug-on/Bolt on Circuit Breaker to 240V.	PVC	Polyvinyl Chloride	sst, ss	Stainless Steel
N.R.C., NRC	Noise Reduction Coefficient/ Nuclear Regulator Commission	Pvmt.	Pavement	Sswk.	Structural Steel Worker
N.R.S.	Non Rising Stem	PRV	Pressure Relief Valve	Sswl.	Structural Steel Welder
ns	Nanosecond	Pwr.	Power	St.	Steel
NTP	Notice to Proceed	Q	Quantity Heat Flow	STC	Sound Transmission Coefficient
nW	Nanowatt	Qt.	Quart	SPT	Standard
OB	Opposing Blade	Quan., Qty.	Quantity	Std.	Staging
OC	On Center	Q.C.	Quick Coupling	STK	Select Tight Knot
OD	Outside Diameter	r	Radius of Gyration	STP	Standard Temperature & Pressure
O.D.	Outside Dimension	R	Resistance	Stpi.	Steamfitter, Pipefitter
ODS	Overhead Distribution System	R.C.P.	Reinforced Concrete Pipe	Str.	Strength; Starter, Straight
O.G.	Ogee	Rect.	Rectangle	Strd.	Stranded
O.H.	Overhead	recept.	Receptacle	Struct.	Structural
O&P	Overhead and Profit	Reg.	Regular	Sty.	Story
Oper.	Operator	Reinf.	Reinforced	Subj.	Subject
Opng.	Opening	Req'd.	Required	Subs.	Subcontractors
Orna.	Ornamental	Res.	Resistant	Surf.	Surface
OSB	Oriented Strand Board	Resi.	Residential	Sw.	Switch
OS&Y	Outside Screw and Yoke	RF	Radio Frequency	Swbd.	Switchboard
OSHA	Occupational Safety and Health Act	RFID	Radio-frequency Identification	S.Y.	Square Yard
Ovhd.	Overhead	Rgh.	Rough	Syn.	Synthetic
OWG	Oil, Water or Gas	RGS	Rigid Galvanized Steel	S.Y.P.	Southern Yellow Pine
Oz.	Ounce	RHW	Rubber, Heat & Water Resistant;	Sys.	System
P.	Pole; Applied Load; Projection	rms	Residential Hot Water	t.	Thickness
p.	Page	Rnd.	Root Mean Square	T	Temperature; Ton
Pape.	Paperhanger	Rodm.	Round	Tan	Tangent
P.A.P.R.	Powered Air Purifying Respirator	Rofc.	Rodman	T.C.	Terra Cotta
PAR	Parabolic Reflector	Rofp.	Roofer, Composition	T & C	Threaded and Coupled
PB., PB	Push Button	Rohe.	Roofer, Precast	T.D.	Temperature Difference
Pc., Pcs.	Piece, Pieces	Rots.	Roofer Helpers (Composition)	TDD	Telecommunications Device for the Deaf
PC.	Portland Cement; Power Connector	R.O.W.	Roofer, Tile & Slate	T.E.M.	Transmission Electron Microscopy
PC.F.	Pounds per Cubic Foot	RPM	Right of Way	temp	Temperature, Tempered, Temporary
		R.S.	Revolutions per Minute	TFFN	Nylon Jacketed Wire
		Rsr	Rapid Start		
		RT	Riser		
		S.	Round Trip		
			Suction; Single Entrance; South		

## Abbreviations

TFE	Tetrafluoroethylene (Teflon)	U.L., UL	Underwriters Laboratory	w/	With
T. & G.	Tongue & Groove;	Uld.	Unloading	W.C., WC	Water Column; Water Closet
	Tar & Gravel	Unfin.	Unfinished	W.F.	Wide Flange
Th. Thk.	Thick	UPS	Uninterruptible Power Supply	W.G.	Water Gauge
Thn.	Thin	URD	Underground Residential	Wldg.	Welding
Thrded	Threaded		Distribution	W. Mile	Wire Mile
Tilf.	Tile Layer, Floor	US	United States	W-O-L	Weldolet
Tilh.	Tile Layer, Helper	USGBC	U.S. Green Building Council	W.R.	Water Resistant
THHN	Nylon Jacketed Wire	USP	United States Primed	Wrck.	Wrecker
THW	Insulated Strand Wire	UTMCD	Uniform Traffic Manual For Control	WSFU	Water Supply Fixture Unit
THWN	Nylon Jacketed Wire		Devices	W.S.P.	Water, Steam, Petroleum
T.L., TL	Truckload	UTP	Unshielded Twisted Pair	WT., Wt.	Weight
T.M.	Track Mounted	V	Volt	WWF	Welded Wire Fabric
Tot.	Total	VA	Volt Amperes	XFER	Transfer
T-O-L	Threadolet	VAT	Vinyl Asbestos Tile	XFMR	Transformer
tmpd	Tempered	V.C.T.	Vinyl Composition Tile	XHD	Extra Heavy Duty
TPO	Thermoplastic Polyolefin	VAV	Variable Air Volume	XHHW	Cross-Linked Polyethylene Wire
T.S.	Trigger Start	VC	Veneer Core	XLPE	Insulation
Tr.	Trade	VDC	Volts Direct Current	XLP	Cross-linked Polyethylene
Transf.	Transformer	Vent.	Ventilation	Xport	Transport
Trhv.	Truck Driver, Heavy	Vert.	Vertical	Y	Wye
Trlr	Trailer	VF	Vinyl Faced	yd	Yard
Trit.	Truck Driver, Light	V.G.	Vertical Grain	yr	Year
TTY	Teletypewriter	VHF	Very High Frequency	Δ	Delta
TV	Television	VHO	Very High Output	%	Percent
T.W.	Thermoplastic Water Resistant	Vib.	Vibrating	~	Approximately
	Wire	VLF	Vertical Linear Foot	Ø	Phase; diameter
UCI	Uniform Construction Index	VOC	Volatile Organic Compound	@	At
UF	Underground Feeder	Vol.	Volume	#	Pound; Number
UGND	Underground Feeder	VRP	Vinyl Reinforced Polyester	<	Less Than
UHF	Ultra High Frequency	W	Wire; Watt; Wide; West	>	Greater Than
U.I.	United Inch			Z	Zone

RESIDENTIAL  
COST ESTIMATE

OWNER'S NAME:

APPRASIER:

RESIDENCE ADDRESS:

PROJECT:

CITY, STATE, ZIP CODE:

DATE:

## CLASS OF CONSTRUCTION

- ECONOMY
- AVERAGE
- CUSTOM
- LUXURY
- 1 STORY
- 1-1/2 STORY
- 2 STORY
- 2-1/2 STORY
- 3 STORY
- BI-LEVEL
- TRI-LEVEL

## RESIDENCE TYPE

- DETACHED
- TOWN/ROW HOUSE
- SEMI-DETACHED

## CONFIGURATION

- ONE STORY
- TWO FAMILY
- THREE FAMILY
- OTHER \_\_\_\_\_

## EXTERIOR WALL SYSTEM

- WOOD SIDING—WOOD FRAME
- BRICK VENEER—WOOD FRAME
- STUCCO ON WOOD FRAME
- PAINTED CONCRETE BLOCK
- SOLID MASONRY (AVERAGE & CUSTOM)
- STONE VENEER—WOOD FRAME
- SOLID BRICK (LUXURY)
- SOLID STONE (LUXURY)

## \*LIVING AREA (Main Building)

First Level	_____	S.F.
Second Level	_____	S.F.
Third Level	_____	S.F.
Total	_____	S.F.

## \*LIVING AREA (Wing or Ell) ( )

First Level	_____	S.F.
Second Level	_____	S.F.
Third Level	_____	S.F.
Total	_____	S.F.

## \*LIVING AREA (Wing or Ell) ( )

First Level	_____	S.F.
Second Level	_____	S.F.
Third Level	_____	S.F.
Total	_____	S.F.

\*Basement Area is not part of living area.

MAIN BUILDING		COSTS PER S.F. LIVING AREA	
Cost per Square Foot of Living Area, from Page	_____	\$	
Basement Addition:	% Finished, % Unfinished	+	
Roof Cover Adjustment:	Type, Page (Add or Deduct)	( )	
Central Air Conditioning:	<input type="checkbox"/> Separate Ducts <input type="checkbox"/> Heating Ducts, Page	+	
Heating System Adjustment:	Type, Page (Add or Deduct)	( )	
Main Building: Adjusted Cost per S.F. of Living Area		\$	

MAIN BUILDING TOTAL COST	\$ /S.F.	x	S.F.	x	Town/Row House Multiplier (Use 1 for Detached)	=	\$	TOTAL COST
Cost per S.F. Living Area			Living Area					

WING OR ELL ( ) STORY		COSTS PER S.F. LIVING AREA	
Cost per Square Foot of Living Area, from Page	_____	\$	
Basement Addition:	% Finished, % Unfinished	+	
Roof Cover Adjustment:	Type, Page (Add or Deduct)	( )	
Central Air Conditioning:	<input type="checkbox"/> Separate Ducts <input type="checkbox"/> Heating Ducts, Page	+	
Heating System Adjustment:	Type, Page (Add or Deduct)	( )	
Wing or Ell ( ): Adjusted Cost per S.F. of Living Area		\$	

WING OR ELL ( ) TOTAL COST	\$ /S.F.	x	S.F.	=	\$	TOTAL COST
Cost per S.F. Living Area			Living Area			

WING OR ELL ( ) STORY		COSTS PER S.F. LIVING AREA	
Cost per Square Foot of Living Area, from Page	_____	\$	
Basement Addition:	% Finished, % Unfinished	+	
Roof Cover Adjustment:	Type, Page (Add or Deduct)	( )	
Central Air Conditioning:	<input type="checkbox"/> Separate Ducts <input type="checkbox"/> Heating Ducts, Page	+	
Heating System Adjustment:	Type, Page (Add or Deduct)	( )	
Wing or Ell ( ): Adjusted Cost per S.F. of Living Area		\$	

WING OR ELL ( ) TOTAL COST	\$ /S.F.	x	S.F.	=	\$	TOTAL COST
Cost per S.F. Living Area			Living Area			
TOTAL THIS PAGE						

Page 1 of 2

RESIDENTIAL  
COST ESTIMATE

Total Page 1	QUANTITY	UNIT COST	\$
Additional Bathrooms: _____ Full, _____ Half			
Finished Attic: _____ Ft. x _____ Ft.	S.F.	+	
Breezeway: <input type="checkbox"/> Open <input type="checkbox"/> Enclosed _____ Ft. x _____ Ft.	S.F.	+	
Covered Porch: <input type="checkbox"/> Open <input type="checkbox"/> Enclosed _____ Ft. x _____ Ft.	S.F.	+	
Fireplace: <input type="checkbox"/> Interior Chimney <input type="checkbox"/> Exterior Chimney <input type="checkbox"/> No. of Flues <input type="checkbox"/> Additional Fireplaces			+
Appliances:			+
Kitchen Cabinets Adjustment:	(+/-)		
<input type="checkbox"/> Garage <input type="checkbox"/> Carport: _____ Car(s) Description _____	(+/-)		
Miscellaneous:			+

ADJUSTED TOTAL BUILDING COST \$

REPLACEMENT COST	
ADJUSTED TOTAL BUILDING COST	\$ _____
Site Improvements	
(A) Paving & Sidewalks	\$ _____
(B) Landscaping	\$ _____
(C) Fences	\$ _____
(D) Swimming Pool	\$ _____
(E) Miscellaneous	\$ _____
TOTAL	\$ _____
Location Factor	x _____
Location Replacement Cost	\$ _____
Depreciation	-\$ _____
LOCAL DEPRECIATED COST	\$ _____

INSURANCE COST	
ADJUSTED TOTAL BUILDING COST	\$ _____
Insurance Exclusions	
(A) Footings, Site Work, Underground Piping	-\$ _____
(B) Architects' Fees	-\$ _____
Total Building Cost Less Exclusion	\$ _____
Location Factor	x _____
LOCAL INSURABLE REPLACEMENT COST	\$ _____

## SKETCH AND ADDITIONAL CALCULATIONS

**A**

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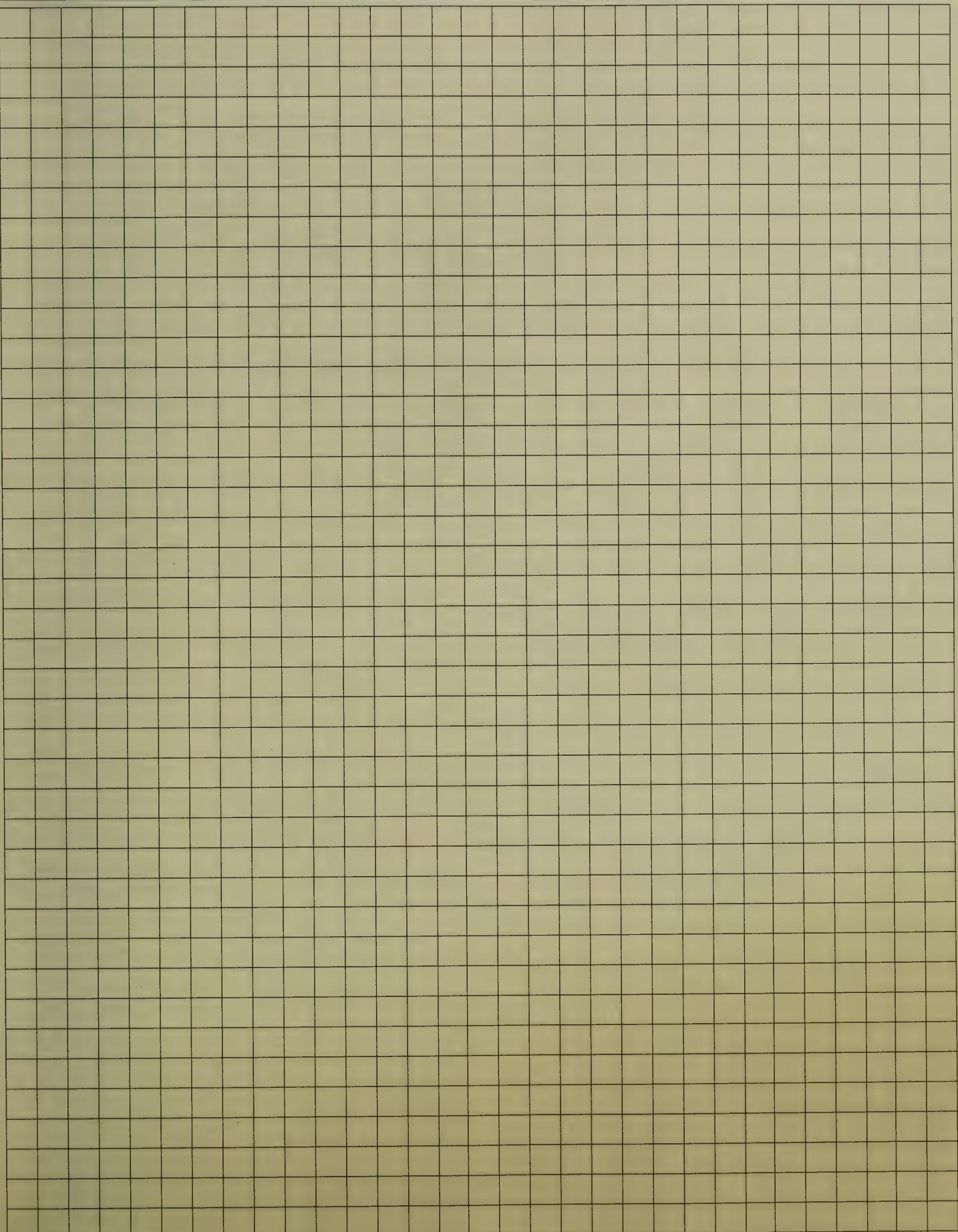
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retaining	653	Weather barrier	425	picture	464	door frame interior	410
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pressure reducing valve	562	estimates	737	fan	610	stair	406
pressure relief valve	562	fiberglass	472	power	614	stair baluster	406
pressure valve	562	fiberglass bay	472	residential	606, 610	stair newel	407
pump	586, 660, 678	fiberglass single hung	472	Wood & composite I-joist	389	stair part	406
reducer concrete	318	fiberglass slider	472	awning window	462	stair railing	407
repellent	523	frame	465	base	393	stair riser	407
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supply meter	572	impact resistant aluminum	461	canopy	380	threshold	404
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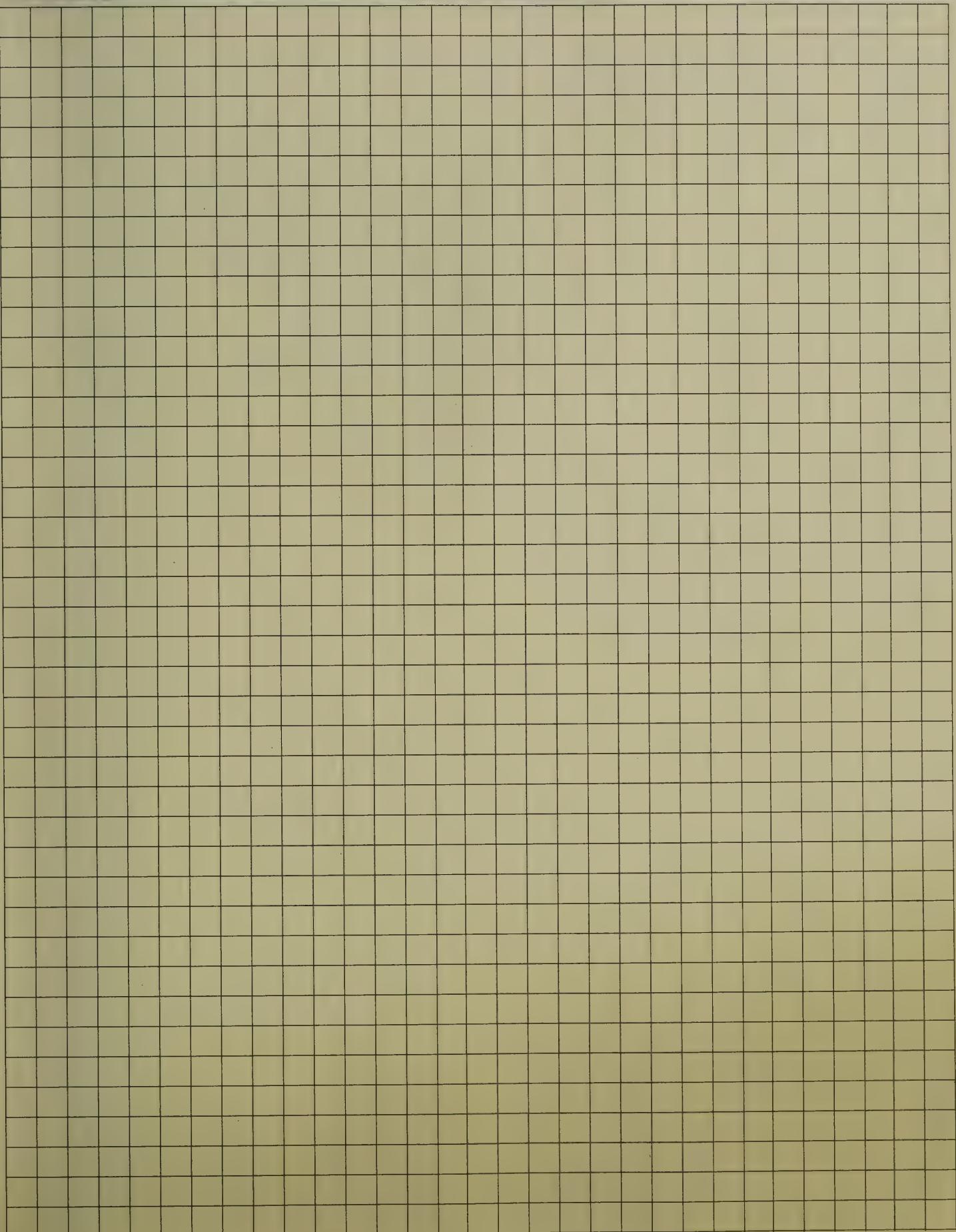
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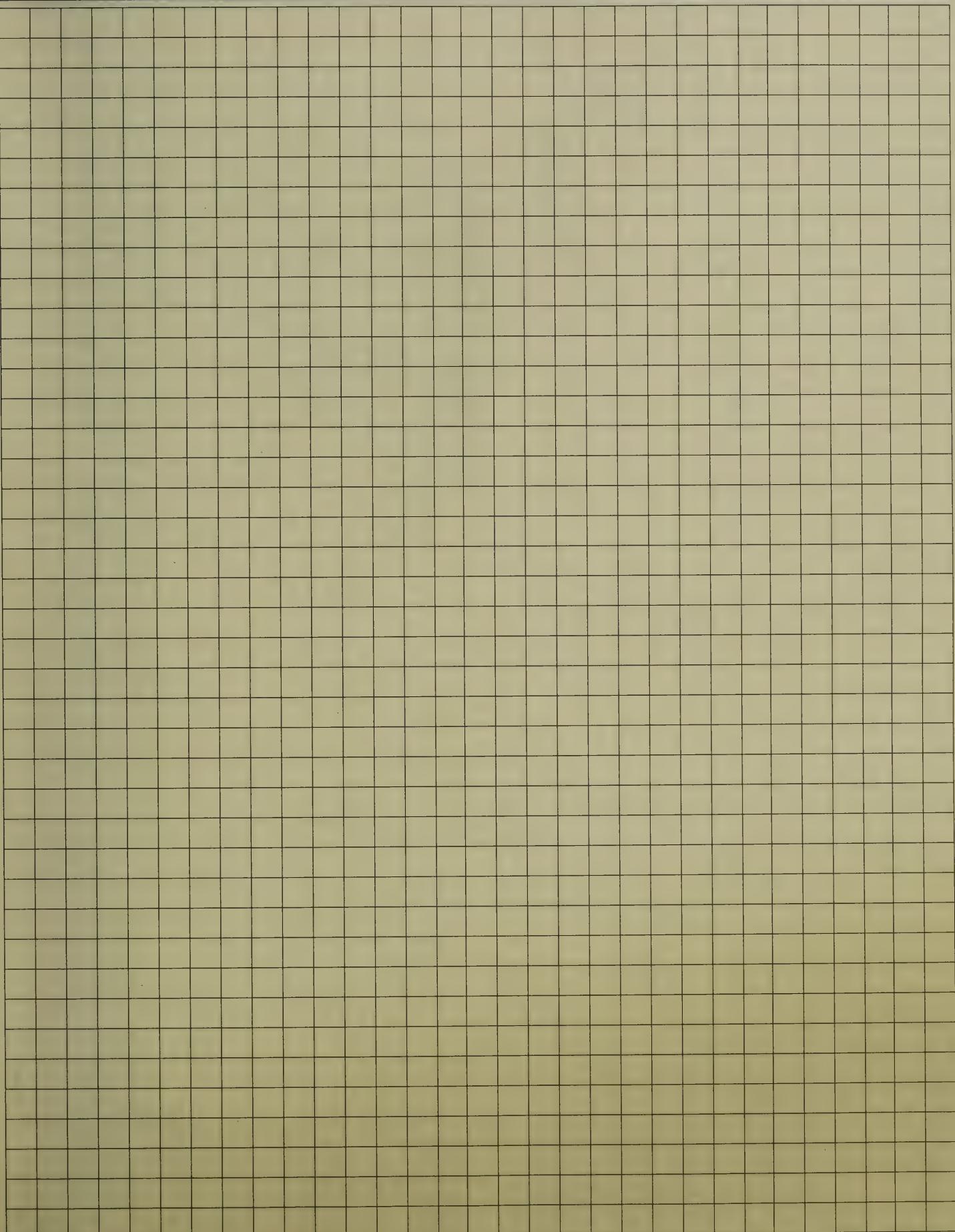


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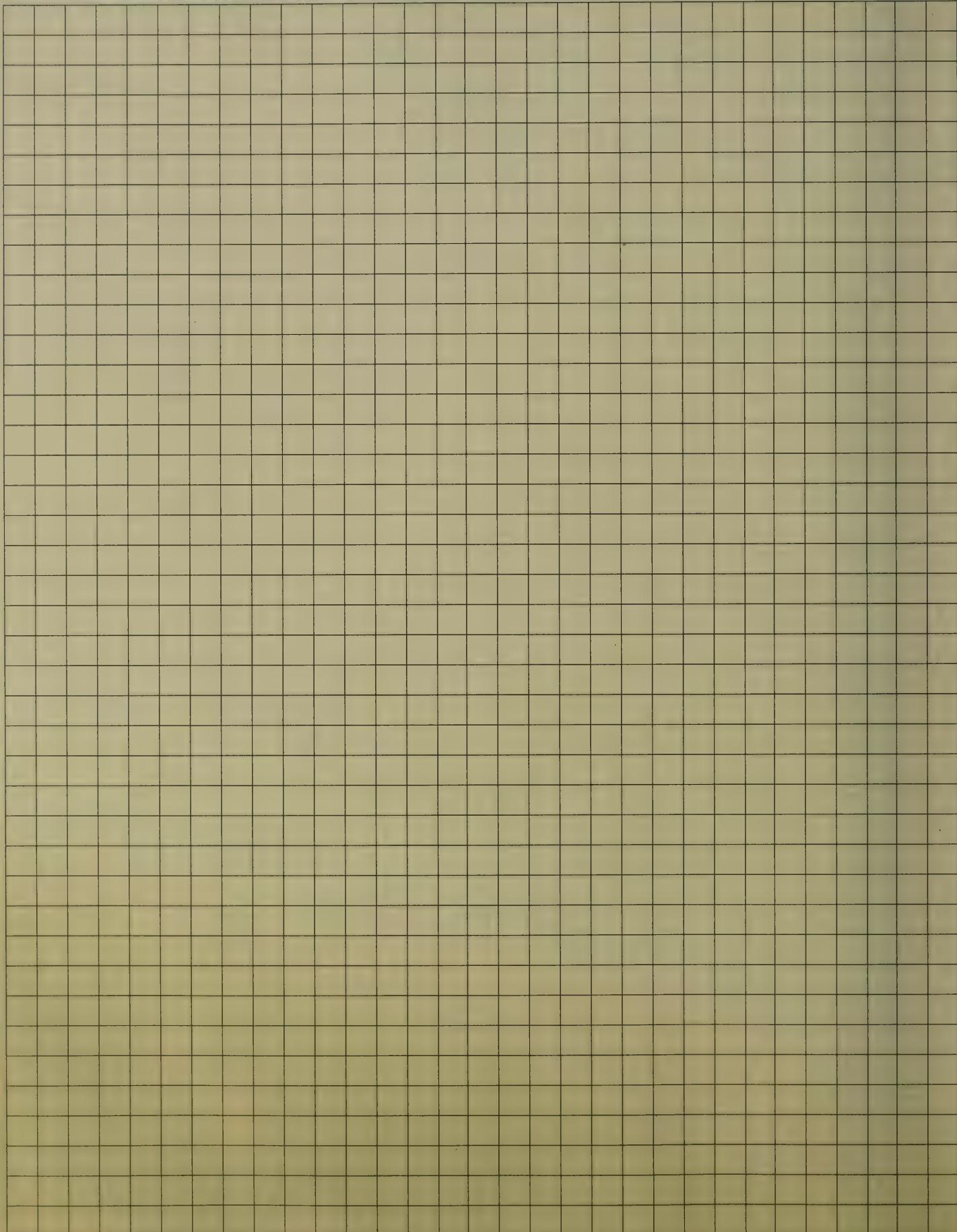




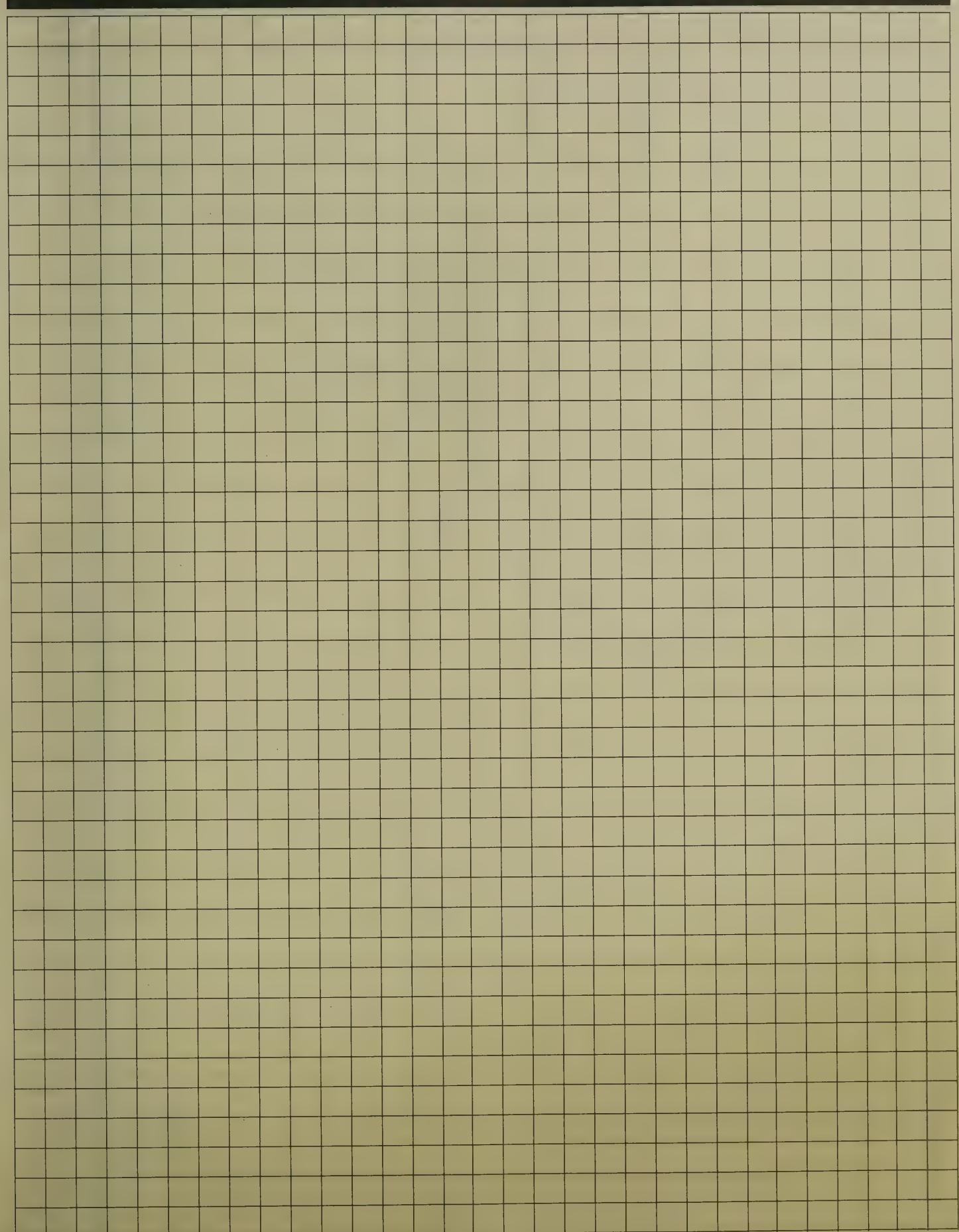
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tradition of excellence in construction cost information  
d services since 1942

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more information visit our website at [RSMeans.com](http://RSMeans.com)

Unit prices according to the latest MasterFormat®

## Cost Data Selection Guide

The following table provides definitive information on the content of each cost data publication. The number of lines of data provided in each unit price or assemblies division, as well as the number of crews, is listed for each data set. The presence of other elements such as reference tables, square foot models, equipment rental costs, historical cost indexes, and city cost indexes, is also indicated. You can use the table to help select the RSMeans data set that has quantity and type of information you most need in your work.

it Cost Divisions	Building Construction	Mechanical	Electrical	Commercial Renovation	Square Foot	Site Work Landsc.	Green Building	Interior	Concrete Masonry	Open Shop	Heavy Construction	Light Commercial	Facilities Construction	Plumbing	Residential
1	609	444	465	564	0	533	198	365	495	608	550	310	1078	450	217
2	754	278	87	710	0	970	181	397	219	753	737	479	1197	285	274
3	1745	341	232	1265	0	1537	1043	355	2274	1745	1930	538	2028	317	445
4	960	22	0	920	0	724	180	613	1158	928	614	532	1175	0	446
5	1890	158	155	1094	0	853	1788	1107	729	1890	1026	980	1907	204	746
6	2462	18	18	2121	0	110	589	1544	281	2458	123	2151	2135	22	2671
7	1593	215	128	1633	0	580	761	532	523	1590	26	1326	1693	227	1046
8	2140	80	3	2733	0	255	1138	1813	105	2142	0	2328	2966	0	1552
9	2125	86	45	1943	0	313	464	2216	424	2062	15	1779	2379	54	1544
10	1088	17	10	684	0	232	32	898	136	1088	34	588	1179	237	224
11	1096	199	166	540	0	135	56	924	29	1063	0	230	1116	162	108
12	539	0	2	297	0	219	147	1546	14	506	0	272	1565	23	216
13	740	149	157	252	0	365	124	250	77	716	266	109	756	115	103
14	273	36	0	223	0	0	0	257	0	273	0	12	293	16	6
21	127	0	41	37	0	0	0	293	0	127	0	121	665	685	259
22	1165	7543	160	1226	0	2010	1061	849	20	1154	2109	875	7505	9400	719
23	1170	6906	546	940	0	157	865	775	38	1153	98	887	5143	1919	486
25	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0
26	1513	491	10465	1293	0	860	646	1159	55	1439	649	1361	10246	399	636
27	95	0	448	102	0	0	0	71	0	95	39	67	389	0	56
28	143	79	223	124	0	0	28	97	0	127	0	70	209	57	41
31	1511	733	610	807	0	3263	286	7	1216	1456	3280	607	1568	660	616
32	896	49	8	937	0	4523	408	417	361	867	1941	486	1800	140	533
33	1255	1088	565	260	0	3078	33	0	241	532	3213	135	1726	2101	161
34	107	0	47	4	0	190	0	0	31	62	221	0	136	0	0
35	18	0	0	0	0	327	0	0	0	18	442	0	84	0	0
41	63	0	0	34	0	8	0	22	0	62	31	0	69	14	0
44	75	79	0	0	0	0	0	0	0	0	0	0	75	75	0
46	23	16	0	0	0	274	261	0	0	23	264	0	33	33	0
48	8	0	36	2	0	0	21	0	0	8	15	8	21	0	8
Totals	26183	19027	14631	20759	0	21516	10310	16507	8426	24945	17623	16251	51136	17595	13113

sem Div	Building Construction	Mechanical	Electrical	Commercial Renovation	Square Foot	Site Work Landscape	Assemblies	Green Building	Interior	Concrete Masonry	Heavy Construction	Light Commercial	Facilities Construction	Plumbing	Asm Div	Residential
A		15	0	188	164	577	598	0	0	536	571	154	24	0	1	378
B		0	0	848	2554	0	5661	56	329	1976	368	2094	174	0	2	211
C		0	0	647	954	0	1334	0	1641	146	0	844	251	0	3	591
D		1057	941	712	1858	72	2538	330	824	0	0	1345	1104	1088	4	851
E		0	0	85	261	0	301	0	5	0	0	258	5	0	5	391
F		0	0	0	114	0	143	0	0	0	0	114	0	0	6	357
G		527	447	318	312	3378	792	0	0	535	1349	205	293	677	7	307
														8	760	
														9	80	
Totals		1599	1388	2798	6217	4027	11367	386	2799	3193	2288	5014	1851	1765		3926

ference Section	Building Construction Costs	Mechanical	Electrical	Commercial Renovation	Square Foot	Site Work Landscape	Assem.	Green Building	Interior	Concrete Masonry	Open Shop	Heavy Construction	Light Commercial	Facilities Construction	Plumbing	Resi.
ference Models	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Equipment Costs	582	582	582	561		582		582	582	560	582	560	561	582	560	
Historical Cost Indexes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	
City Cost Indexes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	

# 2020 Seminar Schedule

877.620.6245

Note: call for exact dates, locations, and details as some cities are subject to change.

Location	Dates	Location	Dates
Seattle, WA	January and August	San Francisco, CA	June
Dallas/Ft. Worth, TX	January	Bethesda, MD	June
Austin, TX	February	Dallas, TX	September
Jacksonville, FL	February	Raleigh, NC	October
Anchorage, AK	March and September	Baltimore, MD	November
Las Vegas, NV	March	Orlando, FL	November
Washington, D.C.	April and September	San Diego, CA	December
Charleston, SC	April	San Antonio, TX	December
Toronto	May		
Denver, CO	May		

Gordian also offers a suite of online RSMeans data self-paced offerings.  
Check our website at [RSMeans.com/products/training.aspx](http://RSMeans.com/products/training.aspx) for more information.

## Facilities Construction Estimating

In this two-day course, professionals working in facilities management can get help with their daily challenges to establish budgets for all phases of a project.

Some of what you'll learn:

- Determining the full scope of a project
- Understanding of Means data and what is included in prices
- Identifying appropriate factors to be included in your estimate
- Creative solutions to estimating issues
- Organizing estimates for presentation and discussion
- Special estimating techniques for repair/remodel and maintenance projects
- Appropriate use of contingency, city cost indexes, and reference notes
- Techniques to get to the correct estimate quickly

Who should attend: facility managers, engineers, contractors, facility tradespeople, planners, and project managers.

## Mechanical & Electrical Estimating

This two-day course teaches attendees how to prepare more accurate and complete mechanical/electrical estimates, avoid the pitfalls of omission and double-counting, and understand the composition and rationale within the RSMeans mechanical/electrical database.

Some of what you'll learn:

- The unique way mechanical and electrical systems are interrelated
- M&E estimates—conceptual, planning, budgeting, and bidding stages
- Order of magnitude, square foot, assemblies, and unit price estimating
- Comparative cost analysis of equipment and design alternatives

Who should attend: architects, engineers, facilities managers, mechanical and electrical contractors, and others who need a highly reliable method for developing, understanding, and evaluating mechanical and electrical contracts.

## Construction Cost Estimating: Concepts and Practice

This one or two day introductory course to improve estimating skills and effectiveness starts with the details interpreting bid documents and ends with the summary of the estimate and bid submission.

Some of what you'll learn:

- Using the plans and specifications to create estimates
- The takeoff process—deriving all tasks with correct quantities
- Developing pricing using various sources; how subcontractor pricing fits in
- Summarizing the estimate to arrive at the final number
- Formulas for area and cubic measure, adding waste and adjusting productivity to specific projects
- Evaluating subcontractors' proposals and prices
- Adding insurance and bonds
- Understanding how labor costs are calculated
- Submitting bids and proposals

Who should attend: project managers, architects, engineer owners' representatives, contractors, and anyone who's responsible for budgeting or estimating construction projects.

## Assessing Scope of Work for Facilities Construction Estimating

This two-day practical training program addresses the vital importance of understanding the scope of projects in order to produce accurate cost estimates for facilities repair and remodeling.

Some of what you'll learn:

- Discussions of site visits, plans/specs, record drawings of facilities, and site-specific lists
- Review of CSI divisions, including means, methods, materials, and the challenges of scoping each topic
- Exercises in scope identification and scope writing for accurate estimating of projects
- Hands-on exercises that require scope, take-off, and pricing

Who should attend: corporate and government estimators, planners, facility managers, and others who need to produce accurate project estimates.

## Practical Project Management for Construction Professionals

In this two-day course, acquire the essential knowledge and develop the skills to effectively and efficiently execute the day-to-day responsibilities of the construction project manager.

Some of what you'll learn:

- General conditions of the construction contract
- Contract modifications: change orders and construction change directives
- Negotiations with subcontractors and vendors
- Effective writing: notification and communications
- Dispute resolution: claims and liens

Who should attend: architects, engineers, owners' representatives, and project managers.

## Maintenance & Repair Estimating for Facilities

This two-day course teaches attendees how to plan, budget, and estimate the cost of ongoing and preventive maintenance and repair for existing buildings and grounds.

Some of what you'll learn:

- The most financially favorable maintenance, repair, and replacement scheduling and estimating
- Auditing and value engineering facilities
- Preventive planning and facilities upgrading
- Determining both in-house and contract-out service costs
- Annual, asset-protecting M&R plan

Who should attend: facility managers, maintenance supervisors, buildings and grounds superintendents, plant managers, planners, estimators, and others involved in facilities planning and budgeting.

## Life Cycle Cost Estimating for Facilities Asset Managers

Life Cycle Cost Estimating will take the attendee through choosing the correct RSMeans database to use and then correctly applying RSMeans data to their specific life cycle application. Conceptual estimating through RSMeans' new building models, conceptual estimating of major existing building projects through RSMeans' renovation models, pricing specific renovation elements, estimating repair, replacement and preventive maintenance costs today and forward up to 30 years will be covered.

Some of what you'll learn:

- Cost implications of managing assets
- Planning projects and initial & life cycle costs
- How to use RSMeans data online

Who should attend: facilities owners and managers and anyone involved in the financial side of the decision making process in the planning, design, procurement, and operation of facilities real assets.

**Please bring a laptop with ability to access the internet.**

## Building Systems and the Construction Process

This one-day course was written to assist novices and those outside the industry in obtaining a solid understanding of the construction process - from both a building systems and construction administration approach.

Some of what you'll learn:

- Various systems used and how components come together to create a building
- Start with foundation and end with the physical systems of the structure such as HVAC and Electrical
- Focus on the process from start of design through project closeout

This training session requires you to bring a laptop computer to class.

Who should attend: building professionals or novices to help make the crossover to the construction industry; suited for anyone responsible for providing high level oversight on construction projects.

## Training for our Online Estimating Solution

Construction estimating is vital to the decision-making process at each state of every project. Our online solution works the way you do. It's systematic, flexible and intuitive. In this one-day class you will see how you can estimate any phase of any project faster and better.

Some of what you'll learn:

- Customizing our online estimating solution
- Making the most of RSMeans "Circle Reference" numbers
- How to integrate your cost data
- Generating reports, exporting estimates to MS Excel, sharing, collaborating and more

Also offered as a self-paced or on-site training program!

## Site Work Estimating with RSMeans data

This one-day program focuses directly on site work costs. Accurately scoping, quantifying, and pricing site preparation, underground utility work, and improvements to exterior site elements are often the most difficult estimating tasks on any project. Some of what you'll learn:

- Evaluation of site work and understanding site scope including: site clearing, grading, excavation, disposal and trucking of materials, backfill and compaction, underground utilities, paving, sidewalks, and seeding & planting.
- Unit price site work estimates—Correct use of RSMeans site work cost data to develop a cost estimate.
- Using and modifying assemblies—Save valuable time when estimating site work activities using custom assemblies.

Who should attend: Engineers, contractors, estimators, project managers, owner's representatives, and others who are concerned with the proper preparation and/or evaluation of site work estimates.

Please bring a laptop with ability to access the internet.

## Registration Information

### Register early to save up to \$100!!!

Register 45+ days before the date of a class and save \$50 off each class. This savings cannot be combined with any other promotion or discounting of the regular price of classes!

### How to register

#### By Phone

Register by phone at 877.620.6245

#### Online

Register online at

[RSMeans.com/products/seminars.aspx](http://RSMeans.com/products/seminars.aspx)

Note: Purchase Orders or Credits Cards are required to register.

**Two-day seminar registration fee - \$1,200\*.**

**One-Day Construction Cost Estimating or Building Systems and the Construction Process - \$765\*.**

### Government pricing

All federal government employees save off the regular seminar price. Other promotional discounts cannot be combined with the government discount. Call 781.422.5115 for government pricing.

### CANCELLATION POLICY:

If you are unable to attend a seminar, substitutions may be made at any time before the session starts by notifying the seminar registrar at 781.422.5115 or your sales representative.

If you cancel twenty-one (21) days or more prior to the seminar, there will be no penalty and your registration fees will be refunded. These cancellations must be received by the seminar registrar or your sales representative and will be confirmed to be eligible for cancellation.

If you cancel fewer than twenty-one (21) days prior to the seminar, you will forfeit the registration fee.

In the unfortunate event of an RSMeans cancellation, RSMeans will work with you to reschedule your attendance in the same seminar at a later date or will fully refund your registration fee. RSMeans cannot be responsible for any non-refundable travel expenses incurred by you or another as a result of your registration, attendance at, or cancellation of an RSMeans seminar.

Any on-demand training modules are not eligible for cancellation, substitution, transfer, return or refund.

## Training for our CD Estimating Solution

This one-day course helps users become more familiar with the functionality of the CD. Each menu, icon, screen, and function found in the program is explained in depth. Time is devoted to hands-on estimating exercises.

Some of what you'll learn:

- Searching the database using all navigation methods
- Exporting RSMeans data to your preferred spreadsheet format
- Viewing crews, assembly components, and much more
- Automatically regionalizing the database

This training session requires you to bring a laptop computer to class.

When you register for this course you will receive an outline for your laptop requirements.

Also offered as a self-paced or on-site training program!

## Facilities Estimating Using the CD

This two-day class combines hands-on skill-building with best estimating practices and real-life problems. You will learn key concepts, tips, pointers and guidelines to save time and avoid cost oversights and errors.

Some of what you'll learn:

- Estimating process concepts
- Customizing and adapting RSMeans cost data
- Establishing scope of work to account for all known variables
- Budget estimating: when, why, and how
- Site visits: what to look for and what you can't afford to overlook
- How to estimate repair and remodeling variables

This training session requires you to bring a laptop computer to class.

Who should attend: facility managers, architects, engineers, contractors, tradespeople, planners, project managers, and anyone involved with JOC, S or IDIQ.

## AACE approved courses

Many seminars described and offered here have been approved for 14 hours (recertification credits) of credit by the AACE International Certification Board toward meeting the continuing education requirements for recertification of Certified Cost Engineer/Certified Cost Consultant.

## AIA Continuing Education

We are registered with the AIA Continuing Education System (AIA/CES) and are committed to developing quality learning activities in accordance with CES criteria. Many seminars meet the AIA/CES criteria for Quality Level 2. members may receive 14 learning units (LUs) for each two-day RSMeans

## Daily course schedule

The first day of each seminar session begins at 8:30 a.m. and ends at 4:30 p.m. The second day begins at 8:00 a.m. and ends at 4:00 p.m. Participants are urged to bring a hand-held calculator since many actual problems will be out in each session.

## Continental breakfast

Your registration includes the cost of a continental breakfast and a morning afternoon refreshment break. These informal segments allow you to discuss topics of mutual interest with other seminar attendees. (You are free to make your own lunch and dinner arrangements.)

## Hotel/transportation arrangements

We arrange to hold a block of rooms at most host hotels. To take advantage of special group rates when making your reservation, be sure to mention that you are attending the RSMeans Institute data seminar. You are, of course, free to stay at the lodging place of your choice. (Hotel reservations and transportation arrangements should be made directly by seminar attendees.)

## Important

Class sizes are limited, so please register as soon as possible.

\*Note: Pricing subject to change.

## Installing Contractor's Overhead & Profit

Below are the average installing contractor's percentage markups applied to base labor rates to arrive at typical billing rates.

**Column A:** Labor rates are based on average residential wages for 7 major U.S. regions. Base rates, including fringe benefits, are listed hourly and daily. These figures are the sum of the wage rate and employer-paid fringe benefits such as vacation pay and employer-paid health costs.

**Column B:** Workers' compensation rates are the national average of state rates established for each trade.

**Column C:** Column C lists average fixed overhead figures for all trades. Included are federal and state unemployment costs set at 8%; social security taxes (FICA) set at 7.65%; builder's risk insurance costs set at 0.80%; and public liability costs set at 2.02%. All percentages, except those for social security taxes, vary from state to state as well as from company to company.

**Columns D and E:** Percentages in Columns D and E are based on the presumption that the installing contractor has annual billing of \$2,000,000 and up. Overhead percentages may increase with smaller annual billing. The overhead percentages for any given contractor may vary greatly and depend on a number of factors such as the contractor's annual volume, engineering and logistical support costs, and staff requirements. The figures for overhead and profit will also vary depending on the type of job, the job location, and the prevailing economic conditions. All factors should be examined very carefully for each job.

**Column F:** Column F lists the total of Columns B, C, D, and E.

**Column G:** Column G is Column A (hourly base labor rate) multiplied by the percentage in Column F (O&P percentage).

**Column H:** Column H is the total of Column A (hourly base labor rate) plus Column G (Total O&P).

**Column I:** Column I is Column H multiplied by eight hours.

Abbr.	Trade	Base Rate Incl. Fringes		Over-head	Profit	Total Overhead & Profit		Rate with O & P			
		Hourly	Daily			%	Amount	Hourly	Daily		
Skin	Skilled Workers Average (5% added)	\$36.00	\$54.00	9.8%	18.5%	27.0%	10%	65.3%	\$24.10	\$61.05	\$488.40
	Workers Average (5% added)	27.00	40.50	13.1		25.0		66.6	18.40	46.05	368.40
	Foreman Average (5.50 over trade)	31.45	47.15	9.8		27.0		65.3	24.45	61.90	495.20
	Foreman Average, Outside (\$2.00 over trade)	26.90	39.35	9.8		27.0		65.3	25.40	64.35	514.80
	Foreman Inside	26.90	39.35	10.8		25.0		64.3	17.85	45.65	365.20
R	690.8 M438 2020 39ED			9.0		30.0		67.5	24.95	61.90	495.20
				5.4		30.0		63.9	27.45	70.40	563.20
				12.1		25.0		65.6	23.20	58.60	468.80
				2.1		25.0		65.6	19.70	49.75	398.00
				0.8		25.0		64.3	23.25	59.40	475.20
				7.6		25.0		61.1	21.95	57.90	463.20
				4.4		30.0		62.9	26.25	67.95	543.60
				3.9		30.0		62.4	34.70	90.30	722.40
				1.0		28.0		63.5	24.40	62.85	502.80
				0.0		28.0		63.5	24.10	62.10	496.80
				0		28.0		63.5	22.90	58.95	471.60
				0		28.0		63.5	21.15	54.50	436.00
				0		28.0		63.5	24.40	62.85	502.80
				3		25.0		63.8	22.45	57.65	461.20
						25.0		60.6	21.80	57.75	462.00
Mach	Mortar Builders	20.00	28.00			25.0		65.6	23.35	58.95	471.60
Mil	Milwrights	36.55	54.85			25.0		58.9	22.70	61.25	490.00
Mun	Mosaic & Ceramic Workers	34.50	51.75			25.0		60.7	21.00	55.55	444.40
Pack	Painters, Ordinary	30.20	44.80			25.0		62.8	18.95	49.15	393.20
Pain	Painters, Structural Steel	30.70	43.85			25.0		76.3	23.45	54.15	433.20
Pack	Paper Hangers	30.20	42.40			25.0		62.8	19.05	49.35	394.80
Pile	Pile Drivers	35.80	48.00			30.0		69.4	25.55	62.40	499.20
Plas	Plasterers					25.0		63.2	22.15	57.15	457.20
Plat	Plasterers, Interior					25.0		63.2	19.30	49.85	398.80
Plum	Plumbers					30.0		63.7	25.85	66.45	531.60
Roofm	Rodmen (Reinforcing)	39.50	316.00	8.1		28.0		64.6	25.50	65.00	520.00
Roofc	Roofers, Composition	30.95	247.60	25.5		25.0		79.0	24.45	55.40	443.20
Rots	Roofers, Tile & Slate	31.00	248.00	25.5		25.0		79.0	24.50	55.50	444.00
Rohe	Roofers, Helpers (Composition)	23.20	185.60	25.5		25.0		79.0	18.35	41.55	332.40
Shee	Sheet Metal Workers	39.25	314.00	7.2		30.0		65.7	25.80	65.05	520.40
Spiri	Sprinkler Installers	40.45	323.60	5.4		30.0		63.9	25.85	66.30	530.40
Stpi	Steamfitters or Pipefitters	41.95	335.60	5.2		30.0		63.7	26.70	68.65	549.20
Ston	Stone Masons	35.20	281.60	12.1		25.0		65.6	23.10	58.30	466.40
Sswk	Structural Steel Workers	40.35	322.80	14.4		28.0		70.9	28.60	68.95	551.60
Tilf	Tile Layers	35.15	281.20	7.2		25.0		60.7	21.35	56.50	452.00
Tilh	Tile Layers Helpers	26.80	214.40	7.2		25.0		60.7	16.25	43.05	344.40
Trit	Truck Drivers, Light	33.10	264.80	10.4		25.0		63.9	21.15	54.25	434.00
Trhv	Truck Drivers, Heavy	33.80	270.40	10.4		25.0		63.9	21.60	55.40	443.20
Sswl	Welders, Structural Steel	40.20	321.60	14.4		28.0		70.9	28.50	68.70	549.60
Wrck	*Wrecking	28.20	225.60	14.5		25.0		68.0	19.15	47.35	378.80

\*Not included in averages

Residential Costs with RSMeans data

# 2020 Residential Costs

## with RSMeans data

A comprehensive collection of costs for new single-family residential construction projects, the 39<sup>th</sup> edition of this cost book is appropriate for economical, standard, custom, and luxury home builds. With adjustments for more than 930 locations across North America, costs can be localized for even greater accuracy.

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- NEW! Data now organized in MasterFormat® 2018. See comparison table for more details!
- Updated costs for materials, labor, equipment, and crews
- Updated Location Factors for more than 930 U.S. and Canadian locations by which you can adjust your estimate to obtain accurate costs for your specific region
- Expanded temporary barriers and enclosures to include a system for Dust and Infectious Control Partitions

### Unit Prices (organized in MasterFormat® 2018)

- |                                 |  |
|---------------------------------|--|
| 1 General Requirements          | 9 Finishes                                 |
| 2 Existing Conditions           | 10 Specialties                             |
| 3 Concrete                      | 11 Equipment                               |
| 4 Masonry                       | 12 Furnishings                             |
| 5 Metals                        | 13 Special Construction                    |
| 6 Wood, Plastics & Composites   | 14 Conveying Equipment                     |
| 7 Thermal & Moisture Protection | 21 Fire Suppression                        |
| 8 Openings                      | 22 Plumbing                                |
|                                 | 23 Heating, Ventilating & Air Conditioning |

- |                                 |
|---------------------------------|
| 26 Electrical                   |
| 27 Communications               |
| 28 Electronic Safety & Security |
| 31 Earthwork                    |
| 32 Exterior Improvements        |
| 33 Utilities                    |
| 48 Electrical Power Generation  |

### Assemblies

- |                  |
|------------------|
| 1 Site Work      |
| 2 Foundations    |
| 3 Framing        |
| 4 Exterior Walls |
| 5 Roofing        |
| 6 Interiors      |
| 7 Specialties    |
| 8 Mechanical     |
| 9 Electrical     |

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