

**SECTION 12 31 00
MANUFACTURED METAL CASEWORK**

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Manufactured standard and custom casework, with cabinet hardware.
- B. Countertops.

1.02 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2023.
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar 2023.
- C. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable 2021a.
- D. BHMA A156.9 - Cabinet Hardware 2020.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Keying Conference: Conduct conference prior to ordering keys. Incorporate conference decisions into keying submittal.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Component dimensions, configurations, construction details, joint details, and attachments; manufacturer's catalog literature on hardware, accessories, and service fittings, if any.
- C. Shop Drawings: Indicate casework types, sizes, locations, using large scale plans, elevations, cross sections. Include rough-in and anchors, placement dimensions and tolerances, clearances required, and keying information.
- D. Samples for Finish Selection: Fully finished, for color selection. Minimum sample size: 2 inches by 3 inches (51 mm by 75 mm).
- E. Maintenance Data: Manufacturer's recommendations for care and cleaning.
 - 1. Finish touch-up kit for each type and color of materials provided.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience and approved by manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect items provided by this section during handling and installation, including finished surfaces and hardware items. For metal surfaces, use polyethylene film or other protective material standard with the manufacturer.
- B. Accept casework on site. Inspect on arrival for damage.
- C. Coordinate size of access and route to place of installation.

1.07 WARRANTY

- A. Manufacturer Warranty: Provide 5-year warranty against defects. Complete forms in Owner's name and register with manufacturer. Covered defects include, but are not limited to:
 - 1. Ruptured, cracked, or stained finish coating.
 - 2. Discoloration or lack of finish integrity.
 - 3. Cracking or peeling of finish.
 - 4. Failure of hardware.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Contract Documents are based on products by ICI Scientific by Institutional Casework, Inc. As installed by Steve Ward and Associates, Inc. C/O Chad Breece.

2.02 FABRICATION

- A. Assembly: Shop assemble casework items for delivery to site in units easily handled and to permit passage through building openings.
- B. Casework: Die-formed metal sheet; each unit self-contained and not dependent on adjacent units or building structure for rigidity; factory-fabricated, factory-assembled, and factory-finished.
 - 1. Style: Flush overlay - square edge.
 - 2. Primary Cabinet Material: Cold-rolled steel.
 - 3. Cabinet Nominal Dimensions: Unless otherwise indicated, provide cabinets of widths and heights indicated on drawings, and with the following front-to-back dimensions:
 - 4. Steel Sheet Metal:
 - a. Gables, Front and Back Panels, Gusset Plates, Aprons, and Rails: 18 gauge, 0.0478 inch (1.21 mm) minimum thickness.
 - b. Cabinet Floors, Shelves, and Filler Panels: 20 gauge, 0.0359 inch (0.91 mm) minimum thickness.
 - c. Backing Sheet to Door and Door Fronts: 22 gauge, 0.0299 inch (0.76 mm) minimum thickness.
 - 5. Structural Performance: Provide components that safely support the following minimum loads, without deformation or damage:
 - a. Base Units: 500 pounds per linear foot (744 kg/linear m) across the cabinet ends.
 - b. Suspended Units: 300 pounds (136 kg), minimum, static load.
 - 6. Corners and Joints: Without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.
 - 7. Edges and Seams: Smooth. Form counter tops, shelves, and drain boards from continuous sheets.

8. Shelf Edges: Turned down 3/4 inch (19 mm) on each side and returned 3/4 inch (19 mm) front and back.
9. Ends: Close open ends with matching construction.
10. Welding: Electric spot welded; joints ground smooth and flush.
11. Doors: Fabricate drawer and door fronts of sandwiched sheets of sheet steel welded together and reinforced for hardware.
 - a. Fill with sound-deadening core.
12. Fittings and Fixture Locations: Cut and drill countertops, backs, and other casework components for service outlets and fixtures.
13. Filler Panels: Flanged on both sides, of matching construction and finish, for locations where cabinets do not fit tight to adjacent construction.
14. Separation: Use bituminous paint or non-conductive tape to coat metal surfaces in contact with cementitious materials, and to separate dissimilar metals.

2.03 CABINET HARDWARE

- A. Manufacturer's standard types, styles and finishes.
- B. Comply with BHMA A156.9 requirements.
 1. Acceptable base materials for plated finishes include brass, bronze, and steel.
- C. Locks: Provide locks on casework doors where indicated. Lock with 5 pin cylinder and 2 keys per lock.
 1. Hinged Doors: Cam type lock, bright chromium plated over nickel on base material.
 2. Keying: Key locks alike within a space; key each room separately.
 3. Master Key System: All locks operable by master key.
- D. Shelves in Cabinets:
 1. Shelf Standards and Rests: Vertical standards with rubber button fitted rests, satin chromium plated over nickel on base material.
- E. Swinging Doors: Hinges, pulls, and catches.
 1. Hinges: Visible, number as required by referenced standards for width, height, and weight of door.
 - a. Visible Hinges: Installed on framed cabinet face, and on door face, bright chromium plated over nickel on base material.
 - b. Concealed Hinges: Installed in cabinet edge, and on door back, bright chromium plated over nickel on base material.
 - c. European-Style Hinges for Overlay Doors: 110 degree opening angle.
 - d. Pivot Hinge for Inset Doors: Top and bottom door mount.
 2. Pulls: Chrome wire pulls, 4 inches (102 mm) wide.
 - a. Pull design to comply with project's referenced accessibility requirements.
 3. Catches: Magnetic.

2.04 MATERIALS

- A. General: Manufacturer's standard materials for units specified, unless otherwise indicated.
- B. Sheet Steel: High-strength low-alloy, cold rolled and leveled unfinished steel sheet, ASTM A1008/A1008M, Class 1 (matte) finish.
- C. Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, CS or FS Type B, with G90/Z275 coating; stretcher leveled.
- D. Stainless Steel Sheet: ASTM A666 Type 304.

2.05 FINISHES

- A. Metal (Except Stainless Steel): Degrease and phosphate etch followed by primer; minimum two coats baked epoxy. Color as selected by architect from manufacturer's full range.
- B. Stainless Steel: No. 4 finish.
- C. Shop finish all components.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of support framing and anchors.

3.02 INSTALLATION

- A. Install casework, components and accessories in accordance with manufacturer's instructions.
- B. Large Components: Ensure that large components can be moved into final position without damage to other construction.
- C. Use anchoring devices to suit conditions and substrate materials encountered.
- D. Set casework items plumb and square, securely anchored to building structure, with no distortion.
 - 1. Wall Cabinets: Examine wall surfaces in installation space. Do not proceed with installation if the following conditions are encountered:
 - a. Maximum variation from plane of masonry wall exceeds 1/4 inch in 10 feet (6 mm/3 m) and 1/2 inch in 20 feet (13 mm/6 m) or more, and/or maximum variation from plumb exceeds 1/4 inch (6 mm) per story.
- E. Align cabinets to adjoining components.
- F. Fasten together cabinets in continuous runs, with joints flush, uniform and tight. Misalignment of adjacent units not to exceed 1/16 inch (1.6 mm). In addition, do not exceed the following tolerances:
 - 1. Variation of tops of Base Cabinets from Level: 1/16 inch (1.6 mm) in 10 feet (3 m).
 - 2. Variation of Faces of Cabinets from a True Plane: 1/8 inch (3 mm) in 10 feet (3 m).
 - 3. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch (0.8 mm).
 - 4. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch (1.6 mm).
- G. Field touch-up blemishes to original finish.

3.03 ADJUSTING

- A. Adjust operating parts, including doors, drawers, hardware, fixtures to function smoothly.

3.04 CLEANING

- A. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.
- B. Clean casework, counters, shelves, glass, legs, hardware, fittings and fixtures.

3.05 PROTECTION

- A. Do not permit finished casework to be exposed to continued construction activity.
- B. Protect casework and countertops from ongoing construction activities. Prevent installers from standing on or storing tools and materials on casework or countertops.
- C. Repair damage that occurs prior to Date of Substantial Completion, including finishes, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

- END OF SECTION -