Stud Tape

* Shiners
  + Air penetration
  + Penetration into pipes or wiring
  + Injury - during installing insulation
  + Inspection and Repair time and costs
  + Over nailing
  + Lack of fastening
* 16”, 24” on center
* Marking center plus edges of 2x4
* Enhanced with self-sealing materials
* Related nailing tape –

AWFS

Garage: Sprinkler controllers. Front, back, gardens. Recycle water integration

Testing:

* Every electrical plug
* Every HVAC duct

House Printer

* Reprint or print areas/components
* Spray paint
* Stud marking
* Penetration holes
* Instructions, warnings

Gym

* Interlocking floor tiles
* Wide door(s) to allow equipment installation
* High power fans – ceiling mounted on tracks for easy adjustment
* TV

Storage

HDX 270 Totes with a shelf system 6x6 =36 bins

Temp platform over thresholds to protect

Outdoor gas line barbeque

110 degree day – handle. If needed, isolate parts of the house

Advantex x-factor

Window sill

* Pre-pitched
* Sealed with zip tape
* Backdam
* <https://www.youtube.com/watch?v=6pJEMhI5yXg>
* No pneumatic nailing
* Laser level
* Pella Reserve collection
* Opening windows –double check action

Steve Baczek – High performance homes

Thermally modified exterior lumber

UV Protection for ZIP system

Rain screen

Sloped top and lower sills on Windows – with drip cut (preventing backup)

Negative blower door test – does the house “open up” with negative pressure?

Are casement windows required for fire exit? If “Yes”, need slightly wider windows

Testing:

Geothermal loops – individual and together

Under floor heating

Bathroom

* Floor heating with app!
  + Not currently used because the control is too complex

Shear wall

* Simpson straps

Job site

* Posted signs with details
  + “No insulation here”
  + “Double drywall”
* GatorShield – protect concrete
* Extra lights
* Heated room to protect caulks, paint,etc.
* Labeled (in layman English) pipes, wires, ducts, etc
* Don’t break the surface with screws

PVC system 15 – Reduced sound transmission

Simpson strong wall – shear strength

PEX A vs PEX B

Water Manifold

* Not for a big house – too distant to faucet
* Cold Two manifolds
* Softened
  + Most of house
* Non-softened
  + Ice makers
  + Kitchen sink

Insect defense?

Inspection = Thermal – Post insulation, pre drywall

Inspection = VOC testing

Inspection = NO KINKS!

Insulation code + at least 50%

Owens Corning Natural Polymers Ultra Pure Closed Cell 7.2 / Inch = 5.5 = R- 39.6

* House at “normal temp” – dehumidified and heated
* Exterior walls
* House / Garage
* Band joist
* Roof?
* Light pass to vapor seal studs to sheathing. Fill with GPS or Batt

Batt insulation where there is pipes (don’t concrete them in foam)

* + Protected with temporary barrier to prevent spraying

Interior sound walls – denim

Accustic putty pads on electrical

Accoustic sealant drywall edges and around electrical boxes

Quantum Fiber

Energy Vanguard

* Manual J
* Reia ducts - layout

Drywall – Eco smart?

Type X

3/8 everywhere

Bedroom Hallways – staggard studs

Mold tuff drywall

Laundry room / Kitchen – bottom 4’

Bathrooms walls / ceilings

Structo-crete USG

Fire = Garage

Sound = Master bedroom

Job site

* Temp fence with black on south side. Not all the way: center 50%

Backup drains

Documentation:

Product warranties (ex. StegoHome – Life of the Building)

Manufacturer sites

Download Spec and installation sheets

Rebates

* AdvanTech

Foundation

* StegoHome® Wrap 15-Mil Vapor Barrier - High-Performance Vapor Protection
  + 12 x 50 or 6 x 150 – whatever works best
* Stego® Crete Claw® Tape - Seal the Perimeter
* StegoHome® Tape
* **Life of the Building™ Warranty**.
* Exceeds ASTM E1745 Class A, B & C
* True Vapor Barrier Permeance (less than 0.01 perms)
* Radon Gas Diffusion Coefficient Testing
* Glass Fiber Reinforced Rebar (GFRB)
  + Lighter - 25% of steele
  + Easier to a single worker to lift/move
  + Decarbonize
* **Documentation**
  + **Raw dirt**
  + **Post insulation**
  + **Post vapor barrier**
* Termite Mesh
  + Not required, but extra piece of mind

Garage

* Full header beam, side to side, across all openings
* Simpson STHD4 strap tie holdowns
* Simpson Strong-Wall Shearwalls?

“If things are going wrong, stop, communicate, and fix it” (workplace sign)

* Glue dripping
* Walls not fitting
* Plans confusing
* Nails and screws too short or too long

CHAT GPT

Framing

* AwesomeFramers.com
* Arrowbuilding.com - Jake
* Crane?
  + Easy to lift
  + Won’t make it up the driveway
  + Lift from neighbor’s driveway?
* Do all load-bearing first
* Do non-load-bearing after house is sealed and acclimatized
* Customized bottom plate width to match insulated sheathing
* Concrete to wood
  + Owens Corning ProPink Sill Seal: Comfort Seal with sealant on both sides to air and bug seal
* Ready Frame
  + Clash Report
    - Work out in advance any issues
  + Little to no on-site sawing
    - Safer
    - Faster
    - Green
  + Specify starting point (normally left from).
    - Right rear?
  + Sill cripples pre-cut at 5%
  + 16’ plates (vs. 8’)
  + Top plate 16’
  + Boise Cascade LVL headers
  + Bracing supports
  + Cull lumber – eliminate “bad” wood studs
* Full header across multiple windows vs. individual
  + Living room
  + Dining room
  + Master closet
  + Family room
* Floor joists
  + Open web? I-Joist? LVL?
  + Green, strength, cost, mechanicals?
  + Standard?
    - L over 360?
* Quality check
  + Square, accurate, etc.
  + How? Who?
* Subfloor
  + 1 1/8 AdvanTech X-Factor
    - Builder rebate
  + AdvanTech glue
  + Nails – properly sized so it doesn’t come through and cause issues for the mechanicals
* Anchor
  + 4’ on center
  + Within 1’ of a plate break
  + Within 1’ of a corner
  + Specified by engineer
  + Make sure drilled holes are clean of dust
* Basement
  + “Floating Raft”: concrete > insulation > two layers of wood floor cross-installed
    - No wood on concrete
    - No glue down
* Zip
  + Shear value. R-3 better over R-6?
  + Specific nailing pattern

Deconstruction

* Got junk
* Hennepin Hazad
* Steel recycling

VideoPixie

* Lava lamp
* Space
  + Tardis
  + BlackHole –Cygnus
  + 2001: A Space Odyssey – station
  + Star Trek
  + Star Wars
  + Top 10 Fleet Arrivals – YouTube

Standards:

Edina:

Adopts Minnesota State Building Code

Building Inspections: https://www.edinamn.gov/204/Building-Inspections

Residential Development: <https://www.edinamn.gov/1038/Residential-Redevelopment>

Minnesota:

Minnesota State Building Codes: https://www.dli.mn.gov/business/codes-and-laws/2020-minnesota-state-building-codes

**2020 Minnesota Residential Code** – version 2020: <https://codes.iccsafe.org/content/MNRC2020P1>

**2021 International Residential Code**: <https://codes.iccsafe.org/content/IRC2021P3>

Note: The Minnesota Residential Code 2020 largely adopts the 2018 International Residential Code.

These are 2021 changes (improvements) from the 2018 code to be implemented in the build:\*

\* Where there is a conflict between 2018 and 2021, the Building Contractor will notify and discuss with the owner. Any changes will be documented and attached.

* Braced wall lines must be placed on a physical wall or placed between multiple walls.
* Emergency escape and rescue openings require a clear 36-inch-wide path to a public way.
* An engineered design is required for storm shelters.
* Updated Wind Speed maps match IBC and ASCE 7 maps.
* Deck design now considers snow load, tributary area for footing and post height, and guard details.
* Specific requirements for deck guardrails were added.
* Component and cladding wind pressures in Table R301.2(2) are updated for new design wind speeds and hip or gable roof profiles.
* Minimum footing size tables are revised to more accurately reflect current practice.
* Cripple wall requirements apply only to exterior cripple walls.
* New appendices for cob construction and 3D printed construction are added.
* A 30 percent reduction of airflow is permitted for balanced ventilation systems.
* Commercial gas cooking appliances are prohibited.
* The head pressure for a water test of DWV systems increased to 10 feet.
* Air vacuum testing is now permitted for plastic piping DWV systems.
* Section P2904 for dwelling sprinklers is expanded to more closely align with NFPA 13D.
* An emergency service disconnect is required in a readily accessible outdoor location.
* A surge-protective device (SPD) is now required at the service panel.
* The number of receptacle outlets required for peninsular and island countertops in kitchens is determined by the area of the countertop surface.
* GFCI protection is now required for damp and wet locations not included in the other 10 areas requiring GFCI protection.

**2024 International Residential Code:** <https://www.iccsafe.org/products-and-services/i-codes/code-development/current-code-development-cycle/>

* Decks
* EV charging
* Wind and snow loads
* Stairways and landings
* Vapor retarder
* Ledger flashing
* Energy storage systems
* Flood zone and elevation requirements?

The Building Contractor will review all approved proposals and recommend and document those that can be reasonably implemented.

**2027 International Residential Code:**

2020 Minnesota Residential Energy Code: <https://codes.iccsafe.org/content/MNEC2020P1>

2020 Minnesota Fire Code: https://codes.iccsafe.org/content/MNFC2020P1

2020 Minnesota Plumbing Code: <https://epubs.iapmo.org/2020/MPC/>

Minnesota Electrical Code: <https://www.dli.mn.gov/business/electrical-contractors/electrical-codes-and-standards>

Minnesota Solar Energy Code: <https://www.revisor.mn.gov/rules/1325/>

Other:

California Energy Code:

What energy standards might be coming? Ex. Vacancy shut off switches

American Wood Protection Standards: <https://awpa.com/standards>

Builder:

List any standards that the builder enforces to diverge or go beyond already mentioned codes.

Quality:

Required inspections:

1. Foundation
2. Framing
3. Rough-in
4. Insulation and fire-stopping
5. Final

Builder:

Document builder’s inspection process and attach any artifacts (i.e. test plans).

Owner:

The owner shall hire a third-party inspector and the owner’s expensive to perform independent inspections at the following stages:

1. Foundation
2. Framing
3. Rough-in
4. Insulation and fire-stopping
5. Final

The builder shall provide sufficient notice and opportunity for the third-party inspector to perform their inspections.

Materials:

Document the materials used, any installation processes, and any alternatives or recommendations:

Ex.

Framing:

2x4 #2 Standard grade SPF Fir dimensional lumber

Floor joists: 2-5/16 in. x 11-7/8 in. grade 2.2E Pro 360 Trus Joist TJI I-Beam by Weyerhaeuser

Deck:

Green:

* Low carbon concrete?
* Denim insulation
* A2L refrigerants
* Thermal energy storage systems
* WiFi control – pool
* WiFi control – rain water storage / reuse

? permanent ladder garage roof to upper roof?

Midcentury fireplace: [https://www.etsy.com/listing/1775145477/miniature-mid-century-modern-style-led](https://www.etsy.com/listing/1775145477/miniature-mid-century-modern-style-led?click_key=154704b984f549f6d94b7aef2a32ad8b39dda621%3A1775145477&click_sum=d98b1797&ref=search2_top_narrowing_intent_modules_etsys_pick-4&frs=1)

Midcentury boomerang: [https://www.etsy.com/listing/1538966777/mid-century-modern-boomerang-magnets-set](https://www.etsy.com/listing/1538966777/mid-century-modern-boomerang-magnets-set?click_key=57a6bf309c818eda86a646ea233b83b2f3487c48%3A1538966777&click_sum=73118f87&ref=internal_similar_listing_bot-6&sts=1&listing_id=1538966777&listing_slug=mid-century-modern-boomerang-magnets-set)

Midcentury squares: [https://www.etsy.com/listing/1699488389/mid-century-modern-geometric-squares](https://www.etsy.com/listing/1699488389/mid-century-modern-geometric-squares?click_key=367fac71e73c57127ad404219b528f20014160bc%3A1699488389&click_sum=e8545df4&ref=listing-free-shipping-bundle-1&sts=1)

Honeycomb pot: [https://www.etsy.com/listing/1743487023/off-white-wood-honeycomb-planter-3d](https://www.etsy.com/listing/1743487023/off-white-wood-honeycomb-planter-3d?click_key=6fbc2ff2ee486a0c85add10ba71d45d52c909d11%3A1743487023&click_sum=d7cebd5b&ref=search2_top_narrowing_intent_modules_etsys_pick-3&pro=1&frs=1)

Bubbles pot: [https://www.etsy.com/listing/1702138522/wood-bubbles-planter-9-color-options](https://www.etsy.com/listing/1702138522/wood-bubbles-planter-9-color-options?click_key=6bc9fd64a76ff05651b6d29bbccb2491adc6066e%3A1702138522&click_sum=c74ce72c&ref=related-1&pro=1&frs=1)

Wood Sakura pot: [https://www.etsy.com/listing/1764199070/wood-saukra-planter-9-colors-modern-and](https://www.etsy.com/listing/1764199070/wood-saukra-planter-9-colors-modern-and?click_key=b0d81f29ce7dbe5acae5850e93b6f4bd2b66731b%3A1764199070&click_sum=96863723&ref=related-5&pro=1&frs=1)

Happy face pot: [https://www.etsy.com/listing/1072129958/3d-printed-happy-face-planter-eco](https://www.etsy.com/listing/1072129958/3d-printed-happy-face-planter-eco?click_key=ffa3b2b4cc029f7ea1a7cf4f869e29198492cd14%3A1072129958&click_sum=2b20984e&ref=internal_similar_listing_bot-6&pro=1&frs=1&listing_id=1072129958&listing_slug=3d-printed-happy-face-planter-eco)

Prisma Vase: [https://www.etsy.com/listing/1837791058/prisma-vase-modern-geometric-vase-3d](https://www.etsy.com/listing/1837791058/prisma-vase-modern-geometric-vase-3d?click_key=be9e44b019154b43cea09dccc9e6422707e2e1d5%3A1837791058&click_sum=85a4cbdc&ref=search_recently_viewed-1)

Torio Pot: [https://www.etsy.com/listing/1649367990/torio-planter-pot-stl-3d-print-file-by](https://www.etsy.com/listing/1649367990/torio-planter-pot-stl-3d-print-file-by?ga_order=most_relevant&ga_search_type=all&ga_view_type=gallery&ga_search_query=3d+print&ref=sr_gallery-1-48&pro=1&sts=1&dd=1&content_source=aa2f76895960513c38e8cbff7dc19831da2ccde9%253A1649367990&search_preloaded_img=1&organic_search_click=1)

Vamio pot: [https://www.etsy.com/listing/1816224001/modern-vamio-wide-vase-for-home-decor](https://www.etsy.com/listing/1816224001/modern-vamio-wide-vase-for-home-decor?ref=listing_page_ad_row-6&pro=1&sts=1&plkey=f58ebfd625bc6b45cb585fc11275362e6002282e%3A1816224001&listing_id=1816224001&listing_slug=modern-vamio-wide-vase-for-home-decor)

Leaf vase: [https://www.etsy.com/listing/1791261561/elegant-leaf-pattern-vase-o-available-in](https://www.etsy.com/listing/1791261561/elegant-leaf-pattern-vase-o-available-in?click_key=12512b813339f8b3afe96a5cd22b9c30968ae36a%3A1791261561&click_sum=6353c4ba&ref=related-2&pro=1&sts=1)

Nado vase: [https://www.etsy.com/listing/1764173077/nado-vase-elegant-modern-tall-vase](https://www.etsy.com/listing/1764173077/nado-vase-elegant-modern-tall-vase?click_key=6eb1a74a44a6a07eadc83b29de9369f771a24c84%3A1764173077&click_sum=c937ae17&ref=related-1&pro=1&sts=1)

Krono vase: [https://www.etsy.com/listing/1749962676/krono-vase-sculptural-elegance-modern](https://www.etsy.com/listing/1749962676/krono-vase-sculptural-elegance-modern?click_key=c62cea7aebc847cbd964dbde07cab23b56482d18%3A1749962676&click_sum=c23661c1&ref=listing-free-shipping-bundle-1&pro=1&sts=1)

Gnomes: <https://www.etsy.com/listing/1660437439/5-gnomes-supportless-3d-model>

Planter: <https://www.etsy.com/listing/1678046852/indoor-planter-pot-3d-printed-planter>

WoodBubbles Planter: <https://www.etsy.com/listing/1702138522/wood-bubbles-planter-9-color-options>

Saukra Planter: <https://www.etsy.com/listing/1764199070/wood-saukra-planter-9-colors-modern-and>

RC Car: <https://www.instructables.com/Scratch-Build-an-RC-Car-With-CAD-and-Rapid-Prototy/>

Two part planter: <https://makerworld.com/en/models/896768?from=recommend#profileId-854963>

Modern Easter Bunny: <https://makerworld.com/en/models/1108945?from=recommend#profileId-1105151>

Modern Bamboo Planter: <https://makerworld.com/en/models/751899?from=recommend#profileId-685737>

Modern Bunny: <https://makerworld.com/en/models/1096948?from=recommend#profileId-1091475>

Moss Planter (fuzzy skin): <https://thangs.com/designer/Make%20Anything/3d-model/Moss%20Planter%2080x100mm-1253134>

Hinges: <https://www.youtube.com/watch?v=BWsUk1xSSn4>

Cloisonne printing

Black Velvet Cake

Submarine Hot tub

Web

ECMA2025 - Sets

New Select Option: <https://www.youtube.com/watch?v=tNBufpGQihY>

Abort Controllers: <https://www.youtube.com/watch?v=BeZfiCPhZbI>

Css Field-Size: <https://www.youtube.com/watch?v=ElELqkwzcYM&t=7s>

Error Handling: <https://www.youtube.com/watch?v=OQQAv8t3bfc>

Code Review: <https://www.youtube.com/watch?v=aIdyHQIC9og>

Performance: <https://www.youtube.com/watch?v=INLq9RPAYUw>

Performance: <https://www.youtube.com/watch?v=-Ln-8QM8KhQ>

Display Prop: <https://www.youtube.com/watch?v=JY0FN71vCbw>

1. CSS Layers: <https://www.youtube.com/watch?v=VA975GOUFmM>
2. Text-wrap: balance
3. @container house-card {}
4. Oklch
5. @has – inputs
6. ::backdrop
7. Field-sizing: content
8. Anchor position-anchor
9. Interplolate-size: allow-keywords
10. Overflow: clip
11. Abort controller
12. React-query

Cut

Path orientation

Return null;

https://medium.com/@davidkelley87/stop-using-return-null-in-react-a2ebf08fc9cd

Barrel files:

https://blog.logrocket.com/using-barrel-exports-organize-react-components/

Fuzz: https://www.youtube.com/watch?v=zmZCA9jqGiI

* Colorfab moss green
* Lighting infill
* Solid infill threshhold 15
* Fuzz
  + Fuzzy skin
    - Point dist: .5
    - Thickness .3
  + Infill = 0
  + Permiters = 1
  + Seems

Eggs: Wen Fuliang

Weirdchillz : Beethoven’s Resurrection

# TTFB

A good Time to First Byte (TTFB) value is considered to be 0.8 seconds or less, while values above 1.8 seconds are considered poor

Target: < .8 seconds

https://web.dev/articles/optimize-ttfb

03.22.2025: 4700 (4 seconds)

Here's a more detailed explanation:

* **What is TTFB?**

TTFB measures the time it takes for a web server to send the first byte of data to a user's browser after receiving a request.

* **Why is it important?**

A low TTFB indicates a responsive and fast web server, which is crucial for a good user experience, especially for dynamic web pages.

* **How to improve TTFB?**
  + **Use a fast web host:** A reliable and fast web host can significantly improve TTFB.
  + **Use caching:** Caching helps reduce the load on the server by storing frequently accessed data.
  + **Use GZIP compression:** GZIP compression reduces the size of files, leading to faster loading times.
  + **Optimize your database:** A well-optimized database can improve the speed of dynamic content generation.
  + **Use a CDN:** Content Delivery Networks (CDNs) distribute content across multiple servers, reducing latency for users in different locations.
  + **Keep WordPress, plugins, and themes updated:** Outdated software can lead to performance issues.
  + **Reduce queries:** Minimize the number of database queries to improve server performance.
  + **Use a premium DNS service:** A good DNS service can help users quickly find the correct IP address for your website.
* **Factors affecting TTFB:**

Network latency, high website traffic, server configuration and performance, DNS response time, and bot traffic can all affect TTFB.

* **TTFB vs. other metrics:**

While TTFB is a foundational metric, it's important to note that it's not a Core Web Vital metric. It's important to focus on metrics like First Contentful Paint (FCP) and Largest Contentful Paint (LCP) as well.