

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Comply with AISI's "Specification for the Design of Cold-Formed Steel Structural Members" for calculating structural characteristics of cold-formed metal framing.
- C. Comply with HUD's "Prescriptive Method for Residential Cold-Formed Metal Framing."
- D. Comply with AWS D1.3, "Structural Welding Code - Sheet Steel."
- E. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Galvanized Steel Sheet: ASTM A 653/A 653M, G60 zinc coated; Structural Steel (SS); Grade 33.
- B. Steel Studs: C-shaped, with flange width of not less than 1-5/8 inches, minimum uncoated steel thickness of 0.0566 inch, and of depths indicated.
- C. Steel Joists: C-shaped, with flange width of not less than 1-5/8 inches, minimum uncoated steel design thickness of 0.0566 inch, and of depths indicated.
- D. Steel Track: U-shaped, minimum uncoated metal thickness same as studs or joists used with track, with flange widths of 1-1/4 inches for studs and 1-5/8 inches for joists, of web depths indicated.

2.2 ACCESSORIES

- A. Accessories: Fabricate from the same material and finish used for framing members, of manufacturer's standard thickness and configuration, unless otherwise indicated.
- B. Cast-in-Place Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- C. Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel drill screws.

- D. Insulation: ASTM C 665, Type I, unfaced mineral-fiber blankets.
- E. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035.

PART 3 - EXECUTION

3.1 FRAMING

- A. Install framing and accessories level, plumb, square, and true to line, and securely fastened, according to ASTM C 1007. Temporarily brace framing until entire integrated supporting structure has been completed and permanent connections are secured.
 - 1. Cut framing members by sawing or shearing; do not torch cut.
 - 2. Fasten framing members by welding or screw fastening.
 - 3. Install insulation in built-up exterior framing members.
 - 4. Fasten reinforcement plates over web penetrations larger than standard punched openings.
- B. Erection Tolerances: Install cold-formed metal framing with a maximum variation of 1/8 inch in 10 feet and with individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
- C. Studs: Install continuous top and bottom tracks securely anchored at corners and ends. Squarely seat studs against webs of top and bottom tracks. Space studs as indicated, set plumb, align, and fasten both flanges of studs to top and bottom tracks.
 - 1. Install and fasten horizontal bridging in stud system, spaced in rows not more than 48 inches apart.
 - 2. Install steel-sheet diagonal bracing straps to both stud flanges, terminate at and fasten to reinforced top and bottom track and anchor to structure.
 - 3. Install miscellaneous framing and connections to provide a complete and stable wall-framing system.
 - 4. Isolate non-load-bearing, curtain-wall framing from building structure using vertical slide clips or deflection track to prevent transfer of vertical loads while providing lateral support.
- D. Joists: Install and securely anchor perimeter joist track sized to match joists. Install joists bearing on supporting framing, brace and reinforce, and fasten to both flanges of joist track.
 - 1. Install bridging and fasten bridging at each joist intersection.
 - 2. Install miscellaneous joist framing and connections, including web stiffeners, closure pieces, clip angles, continuous angles, hold-down angles, anchors, and fasteners.
- E. Special inspection per Structural Notes on the construction documents.

END OF SECTION 054000