



SECTION 05400- COLD-FORMED METAL FRAMING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cold-formed metal framing for walls.

1.2 RELATED SECTIONS

- A. Section 09110 - Non-Load Bearing Wall Framing.

1.3 REFERENCES

- A. ASTM C 1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections.
- B. AISI – Standard for Cold-Formed Steel Framing General Provisions.
- C. AWS D.1.3 - Structural Welding Code - Sheet Steel; 2000.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Submit manufacturer's product literature, data sheets and installation recommendations for specified products.
- C. Shop Drawings:
 - 1. Submit shop drawings prepared by the manufacturer showing plans, sections, elevations, layouts, profiles and product component locations, including anchorage, bracing, fasteners, accessories and finishes.
 - 2. Show connection details with screw types and locations, weld lengths and locations, and other fastener requirements.
 - 3. Where prefabricated or pre-finished panels are to be provided, provide drawings depicting panel configurations, dimensions and locations.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

- B. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Store materials protected from exposure to rain, snow or other harmful weather conditions, at temperature and humidity conditions per the recommendations of ASTM C955.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Dietrich Metal Framing;
500 Grant Street, Suite 2226,
Pittsburgh, PA 15219.
Tel: (412) 281-2805. Fax: (412) 281-2965.
E-mail: askforhelp@dietrichindustries.com.
www.dietrichmetalframing.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 COMPONENTS

- A. Studs: Cold-formed galvanized steel C-studs; Dietrich Big "D" Steel C-Studs:
 - 1. Sizes: As indicated on drawings.
 - 2. Minimum Yield Strength: As required for design.
- B. Runner Track: Cold-formed galvanized steel; Dietrich Big "D" Structural Runner Track:
 - 1. Designation: TSB Standard Leg 1 1/4 inches (32 mm) high.
 - 2. Designation: Equal Leg.
 - 3. Designation: Unequal Leg.
 - 4. Designation: Custom size up to 3 inches (76.2 mm) high.
 - 5. Designation: Slip Track (SLP-TRK®)
 - 6. Minimum Yield Strength: 33 ksi (227 MPa) (for 20 through 12 gauges only).
 - 7. Minimum Yield Strength: 50 ksi (345 MPa) (for custom order only).
 - 8. Minimum Yield Strength: As required for design.
 - 9. Web Sizes: As required to match the system stud size.
 - 10. Material thickness to match stud/joist thickness unless design dictates heavier thickness.
- C. Sliptrack Systems – Slotted Deflection Track
 - 1. Standard leg of 2 1/2 inches.
 - 2. Standard vertical slot of 1 1/2 inches in leg.
 - 3. Product available with 2 1/2 drift slots in web 'special order.'
 - 4. Minimum yield strength of 33 k.s.i. in 18 gauge and lighter

5. Minimum yield strength of 50 k.s.i. in 16 gauge and heavier.

D. Deflection Clips:

1. Slide Clips: Minimum Delivered Thickness: 14 gauge, 0.0677 inch (1.72 mm).
2. Slide Clips: Minimum Delivered Thickness: 12 gauge, 0.0966 inch (2.45 mm).
3. Fast Top Clip: Minimum Delivered Thickness: 14 gauge, 0.0677 inch (1.72 mm)
4. Fast Strut Clip: Minimum Delivered Thickness: 14 gauge, 0.0677 inch (1.72 mm)
5. Fast ClipSlide Clip: Minimum Delivered Thickness: 14 gauge, 0.0677 inch (1.72 mm)
6. QuickClip: Minimum Delivered Thickness: 10 gauge, 0.1180 inch (3 mm)

E. Clip Angles (Support Clips) EasyClip® Series: Minimum Delivered Thickness: 16 gauge, 0.0538 inch (1.37 mm); 14 gauge, 0.0677 inch (1.72 mm); 12 gauge, 0.0966 inch (2.45 mm).

1. EasyClip® A Series
 - a. Size: 3 by 3 by 3 inches (76.2 by 76.2 by 76.2 mm)
 - b. Size: 3 by 3 by 6 inches (76.2 by 76.2 by 152 mm)

F. U-Channel:

1. Size: 3/4 inches (19.1 mm).
2. Size: 1-1/2 inches (38.1 mm).
3. Size: 2 inches (51 mm).
4. Length: Manufacturer's standard length.
5. Minimum Delivered Thickness: 16 gauge, 0.0538 inch (1.37 mm)

G. Bridging/Spacer Bar: Dietrich TradeReady® Spazzer® 5400 Bridging and Bracing Bar.

1. Minimum Delivered Thickness: 16 gauge, 0.0538 inch (1.37 mm).
2. 1-1/4 by 1-1/4 by 50 inches (32 by 32 by 1270 mm) long pre-notched at 12, 16 and 24 inch (305 by 406 by 610 mm) centers.
3. Dietrich TradeReady® Spazzer® Bar Guard: Minimum Delivered Thickness: 20 gauge, 0.0329 inch (0.84 mm)
4. Length: As shown on drawings.
5. Web Stiffener – 2 piece - Minimum Delivered Thickness: 14 gauge 0.0677 inch (1.72 mm)

2.3 MATERIALS

- A. Cold-Formed Steel : Complying with ASTM A 1003/A 1003M; unless indicated otherwise.
- B. Galvanized Coating: G60 coating weight minimum, complying with ASTM C 955.
- C. Galvanized Coating: G90 coating weight minimum, complying with ASTM C 955.

2.4 FABRICATION

- A. General: Framing components may be pre-assembled into panels prior to erecting.
- B. Fabricate panels square, with components attached in a manner so as to prevent racking or distortion.
- C. Cut all framing components squarely for attachment to perpendicular members, or as required for an angular fit against abutting members. Hold members positively in place until properly fastened.
- D. Provide insulation as specified elsewhere in all double jamb studs and double header members, which will not be accessible to the insulation contractor.

- E. Axially Loaded Studs:
 - 1. Install studs to have full bearing against inside track web (1/8 inches (3.2 mm) maximum gap) prior to stud and track attachment.
 - 2. Splices in axially loaded studs are not permitted.
- F. Fasteners: Fasten components using self-tapping screws or welding.
- G. Welding: Welding is permitted on 18 gauge or heavier material only.
 - 1. Specify welding configuration and size on the Structural Calculation submittal.
 - 2. Qualify welding operators in accordance with Section 6.0 of AWS D.1.3.
 - 3. Touch up all welds with zinc-rich paint in compliance with ASTM A 780.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Prior to installation, inspect previous work of all other trades. Verify that all work is complete and accurate to the point where this installation may properly proceed in strict accordance with framing shop drawings.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 ERECTION

- A. General Erection Requirements:
 - 1. Install cold-formed framing in accordance with requirements of ASTM C1007.
 - 2. Weld in compliance with AWS D.1.3.
 - 3. Install in compliance with applicable sections of the AISI Standard for Cold-Formed Steel Framing General Provisions.
- B. Wall Systems:
 - 1. Erect framing and panels plumb, level and square in strict accordance with approved shop drawings.
 - 2. Handle and lift prefabricated panels in a manner so as not to cause distortion in any member.
 - 3. Anchor runner track securely to the supporting structure as shown on the erection drawings. Install concrete anchors only after full compressive strength has been achieved. Provide a sill sealer or gasket barrier between all concrete and steel connections.
 - 4. Butt all track joints. Securely anchor abutting pieces of track to a common structural element, or butt-weld or splice them together.
 - 5. Align and plumb studs, and securely attach to the flanges or webs of both upper and lower tracks except when vertical movement is specified.
 - 6. Install jack studs or cripples below window sills, above window and door heads, at freestanding stair rails and elsewhere to furnish support, securely attached to supporting members.
 - 7. Attach wall stud bridging in a manner to prevent stud rotation. Space bridging rows according to manufacturer's recommendations.
 - 8. Frame wall openings to include headers and supporting studs as shown in the drawings.
 - 9. Provide temporary bracing until erection is completed.
 - 10. Provide stud walls at locations indicated on plans as "shear walls" for frame stability and lateral load resistance.
 - 11. Where indicated in the drawings, provide for structural vertical movement using a vertical slide clip or other means in accordance with manufacturer's recommendations.

3.3 FIELD QUALITY CONTROL

- A. Inspection: Periodic special inspections are required by local code authorities.
 - 1. Owner will hire and pay inspection agency.
 - 2. Submit schedule showing when the following activities will be performed and resubmit schedule when timing changes.
 - 3. Notify inspection agency not less than 3 days before the start of any of the following activities.
 - 4. Inspections are required during welding operations, screw attachment, bolting, anchoring and other fastening of components within the force resisting structural system, including struts, braces, and hold-downs.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION