

**SECTION 05400**  
**STRUCTURAL METAL STUD FRAMING**

**PART 1 GENERAL**

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to work of this section.
- B. For steel framing for non-structural interior walls and partitions see SECTION 09250 GYPSUM DRYWALL.

1.02 DESCRIPTION

A. SCOPE OF WORK

- 1. Extent of structural stud framing is shown on drawings.

B. Types of structural stud framing members include the following:

- 1. "C" shaped structural steel studs
- 2. Channel shaped structural steel runners with 1-1/4 legs
- 3. Studs and accessories are to be obtained from one manufacturer

1.03 QUALITY ASSURANCE

- A. ASTM A-446 Steel Sheet, Zinc Coated (Galvanized) by the Hot Dip Process Structural (Physical) quality.
- B. ASTM A-924-94 Steel Sheet, Zinc Coated (Galvanized) by the Hot Dip Process, general requirements.
- C. AWS "Code for Welding in Building Construction, D1.0".
- D. ANSI 249.1 - 1973 "Safety in Welding and Cutting".
- E. ASTM A-568 Standard Specification for general requirements for steel, carbon, and high strength low-alloy hot rolled sheet and cold rolled sheet.
- F. AISC "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings", latest edition.

1.04 SUBMITTALS

- A. Submit manufacturer's product information on framing and accessories, including other data as may be required to certify compliance with performance requirements specified herein.

- B. Submit complete structural calculations for the steel framing system. Calculations shall cover all studs, jamb studs, runner track, bracing, attachment of light gauge framing to light gauge framing, and attachment of light gauge framing to concrete or structural steel. Calculations shall be signed and sealed by a registered Florida engineer.
- C. Submit complete detail shop drawings for metal stud exterior wall system and special component installation not fully dimensioned or detailed in manufacturer's product data. Shop drawings shall be signed and sealed by a registered Florida engineer.
- D. Submitted shop drawings must be checked and signed by the General Contractor.
- E. Submit certification of materials from the manufacturer to show compliance with the specification and related drawings.
- F. Welder certification: See Section 05120 for certification submittal requirement.

#### 1.05 PRODUCT HANDLING

- A. Protect structural stud framing members from rusting and damage. Deliver to project site in bundles, fully identifies with name, brand, type and grade. Store off ground in a dry ventilated space or protect with suitable waterproof coverings.

#### 1.06 COMPONENT DESIGN

- A. In accordance with AISI "Specification of the Design of Cold-Formed Steel Structural Members", latest edition. No composite action shall be considered between collateral wall material.

### **PART 2 PRODUCTS**

#### 2.01 SYSTEM COMPONENTS

- A. With each type of steel framing required, provide manufacturer's standard steel runners (tracks), blocking, lintels, clip angles, bracing reinforcements, fasteners, and accessories as recommended by manufacturer for applications indicated, as needed to provide a complete steel framing system.

#### 2.02 MATERIALS

- A. Fabricate metal framing components of structural quality sheet steel with a minimum yield point of 50,000 psi for studs, and 33,000 psi for runners; ASTM A 653 and A 570.
- B. Provide galvanized finish to metal framing components complying with ASTM A 525 with a G60 coating.

2.03 "C" SHAPED STUDS

- A. Manufacturer's standard structural steel studs of size and shape, indicated, with nominal 1-5/8" flange and minimum 1/2" flange return lip. See drawings for gauge.

2.04 AVAILABLE PRODUCTS

- A. Subject to compliance with requirements, products that may be incorporated in the work include, but are not limited to:
  - 1. Clark Steel Framing Systems
  - 2. Dietrich Industries, Inc.
  - 3. Unimast Incorporated

2.05 FABRICATION

- A. Framing components may be prefabricated into panels prior to erection. Fabricate panels plumb, square, true to line and braced against racking with joints welded. Perform lifting of prefabricated panels in a manner to prevent damage or distortion.
- B. Splicing of components shall not be permitted.

2.06 FASTENING

- A. Attach all components by welding or screw fasteners as recommended by manufacturer. No bolts, rivets, or similar devices shall be used for permanent fastening.

**PART 3 EXECUTION**

3.01 INSTALLATION

- A. Install metal framing system in strict accordance with manufacturer's printed or written instruction and recommendations. Employ authorized installers approved by the manufacturer to do all installation work.
- B. Install continuous tracks sized to match stud depth. Align tracks accurately to layout at base and tops of studs. Secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24" o.c. spacing for nail or power driven fasteners, or 16" o.c., for other types of attachments. Provide fasteners at corners and at ends of tracks.
- C. Install studs vertically in the runners, 16 inches on centers. Provide additional framing and headers at all openings as required.
- D. Where required, temporary bracing shall be provided until erection is completed.
- E. Resistance to bending and rotation about the minor axis shall be provided by mechanical lateral bracing where required.

3.02 TOLERANCES

- A. No more than 1/8" out of alignment in 10'-0" vertically, horizontally, or diagonally as determined by 16'-0" straight edge, with total tolerance of 3/8" in any run.

**END OF SECTION 05400**