

PART 1 - GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN IRON AND STEEL INSTITUTE (AISI)

AISI SG-673 (1986) Cold-Formed Steel Design Manual

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 570 (1996) Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality

ASTM A 611 (1997) Commercial Steel (CS) Sheet, Carbon, Cold-Rolled

AMERICAN WELDING SOCIETY, INC. (AWS)

AWS D1.3 (1989) Structural Welding Code – Sheet Steel

FEDERAL SPECIFICATIONS (FS)

FS TT-P-664 (Rev. D) Primer Coating, Alkyd, Corrosion-Inhibiting, Lead and Chromate Free, VOC-Compliant

1.2 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures."

1.2.1 SD-02, Shop Drawings

- a. Framing drawings

1.2.2 SD-03, Product Data

- a. Studs and Track

1.3 DELIVERY, STORAGE, AND HANDLING

Deliver materials to job site and store in adequately ventilated, dry locations. Storage area shall permit easy access for inspection and handling. If necessary to store materials outside, stack off the ground, support on a level platform, and protect from the weather as approved. Handle materials to prevent damage. Replace damaged items with new, as directed by the Contracting Officer.

1.4 LOAD-BEARING COLD-FORMED METAL FRAMING

Include top and bottom tracks, fastenings, and other accessories necessary for complete installation. Framing members shall have the structural properties indicated. Where physical structural properties are

not indicated, they shall be as necessary to withstand all imposed loads. Design framing in accordance with AISI SG-673.

1.5 MAXIMUM DEFLECTION

a. Exterior Studs:

Deflection Criteria	Exterior Finish
L/360	Cement Plaster
L/600	Brick Veneer

Wall deflections shall be computed on the basis that studs withstand all lateral forces independent of any composite action from sheathing materials. Studs abutting windows or louvers shall also be designed not to exceed 1/4 inch maximum deflection.

1.6 QUALITY ASSURANCE

1.6.1 Drawing Requirements

Submit framing drawings to show sizes, thicknesses, layout, material designations, methods of installation, and accessories.

PART 2 - PRODUCTS

2.1 STUDS

Grades specified are normally used for this type of framing. See manufacturer's current literature for other grades and section properties available.

2.1.1 Studs and braces 16 Gage (0.0598 Inch) and Heavier. Carbon steel, ASTM A 570, Grade 50, galvanized.

2.1.2 Studs 18 Gage (0.0478 Inch) and Lighter (Interior partitions only).

Studs 18 Gage (0.0478 Inch) and Lighter, Track, and Accessories (All Gages): Carbon steel, ASTM A 611, Grade C, painted. Track shall have deep leg for studs 16 gage and heavier. Unless noted otherwise provide 3 5/8" deep by 20 gage steel studs with 1 3/8" flange for non load bearing interior partitions.

2.1.3 Sizes, Gages, Section Modulus, and Other Structural Properties

Studs shall be stamped with manufacturer's name, initials, or logo, an ICBO number, material thickness and yield strength. Size and gage as indicated. Steel stud deflection shall be limited to L/600 for exterior wall brick veneer construction.

2.2 PAINT

Ungalvanized steel, if used, shall be thoroughly cleaned, phosphate treated, and coated with corrosion-inhibiting primer, FS TT-P-664.

2.3 PLASTIC GROMMETS

Supply plastic grommets, recommended by stud manufacturer, to protect electrical wires. Prevent metal to metal contact for plumbing pipes.

PART 3 - EXECUTION

3.1 FASTENING

Fasten framing members together by welding for studs 16 gage and heavier or by welding or using self-drilling or self-tapping screws for studs 18 gage and lighter. Welding shall conform to AWS D1.3 welding procedure. Electrodes and screw connections shall be as required and indicated in the design calculations. Do not field weld materials lighter than 18 gage.

3.2 TRACKS

Provide accurately aligned runners at top and bottom of partitions. Anchor tracks as indicated. Butt weld joints in tracks or splice with stud inserts. Fasteners shall be at least 3 inches from the edge of concrete slabs.

3.3 STUDS

Cut studs square and set with firm bearing against webs of top and bottom tracks. Position studs vertically in tracks and space as indicated in design. Do not splice studs. Provide at least two studs at jambs of doors and other openings 2 feet wide or larger. Provide jack studs over openings, as necessary, to maintain indicated stud spacing. Provide tripled studs at corners, positioned to receive interior and exterior finishes. Fasten studs to top and bottom tracks by welding for 16 gage studs and heavier only screwing both flanges to the tracks for studs 18 gage and lighter. In curtain wall construction, provide for vertical movement where studs connect to the structural frame. Provide horizontal bracing in accordance with AISI SG-673, consisting of, as a minimum, runner channel cut to fit between and welded to the studs or hot- or cold-rolled steel channels inserted through cutouts in web of each stud and secured to studs with welded clip angles. Bracing shall be not less than the following:

LOAD	HEIGHT	BRACING
Wind load only	Up to 10 feet	one row at mid-height
	Over 10 feet	Rows 5'-0" o.c. maximum
Axial load	Up to 10 feet	Two rows at 1/3 points
	Over 10 feet	Rows 3'-4" o.c. maximum

3.4 ERECTION TOLERANCES

a. Framing members which will be covered by finishes such as wallboard, plaster, or ceramic tile set in a mortar setting bed, shall be within the following limits:

- (1) Layout of walls and partitions: 1/4 inch from intended position;
- (2) Plates and runners: 1/4 inch in 8 feet from a straight line;
- (3) Studs 1/4 inch in 8 feet out of plumb, not cumulative; and
- (4) Face of framing members: 1/4 inch in 8 feet from a true plane.

b. Framing members which will be covered by ceramic tile set in dry-set mortar, latex-portland cement mortar, or organic adhesive shall be within the following limits:

- (1) Layout of walls and partitions: 1/4 inch from intended position;
- (2) Plates and runners: in 2400 mm 1/8 inch in 8 feet from a straight line;
- (3) Studs: in 2400 mm 1/8 inch in 8 feet out of plumb, not cumulative; and
- (4) Face of framing members: in 2400 mm 1/8 inch in 8 feet from a true plane.

3.5 FIELD PAINTING

Touch up mars and field welds in galvanized coating with zinc rich paint.

END OF SECTION