

SECTION 05120 - STRUCTURAL METAL FRAMING

PART I - GENERAL

1.01 DESCRIPTION

- A. The work includes but is not limited to structural steel, steel studs, and miscellaneous fabrications.
- B. Miscellaneous Fabrications include but are not limited to railings, ladders, elevator hoisting beams (if applicable) and roof opening frames.

1.02 QUALITY ASSURANCE

- A. Comply with AISC "Code of Standard Practice for Steel Buildings and Bridges", latest edition. AWS D1.1 "Structural Welding Code".
- B. Comply with AISI "Specification for the Design of Cold-Formed Structural Members".
- C. Comply with requirements of architect of record.
- D. Field alterations of structural steel are not allowed without written approval of the Engineer of Record.
- E. Quality Control Testing: A certified AWS Weld Inspector shall inspect 100% of welded moment connections and 10% of all other welded connections. Manually torque test 10% of all bolted connections to verify correct tightness.

1.03 SUBMITTALS

- A. Submit shop drawings to architect of record.

PART II - PRODUCTS

2.01 MATERIALS

- A. Structural Steel Shapes, Plates, Bars; ASTM A36 ASTM A992.
- B. Steel Pipe; ASTM A 501.
- C. Steel Tubing; Cold-Formed ASTM A 500, grade B; hot-formed ASTM A 501.
- D. Anchor bolts and fasteners, ASTM A 325 as required by architect of record. ASTM A 307 anchor bolts are acceptable in non-tension applications.
- E. Primer; Fabricators standard rust inhibiting primer.
- F. Steel studs and C joists, ASTM A 653, Structural Quality, grade 33.

PART III - EXECUTION

3.01 ERECTION

- A. Set frames accurately to lines and elevations indicated. Level and plumb individual members within AISC tolerances. Comply with AISC specifications for bearing, alignment and welds.
- B. Touch-up paint all exposed and/or abraded areas after erection.
- C. Welds of all metal fabrications shall be ground smooth and prepared for final painting.
- D. All structural steel encased in concrete, masonry or in contact with earth shall be painted with bituminous paint.
- E. Hoisting beams for elevators shall be furnished and installed by General Contractor.

END OF SECTION

SECTION 05250 - METAL JOISTS/METAL DECKING

PART I - GENERAL

1.01 DESCRIPTION

- A The extent of steel joists, joist girders and metal decking is shown on drawings.

1.02 QUALITY ASSURANCE

- A. Provide joists fabricated in compliance with the Steel Joist Institute (SJI) specifications and load tables for K-Series and KS-Series Open Web Steel Joists. Provide joist girders in compliance with SJI Specifications and Load Tables with G-Series joist girders.
- B. Provide metal deck in compliance with:
 - AISC "Specification for the Design of Cold – Formed Steel Structural Members".
 - AWS "Structural Welding Code".
 - SDI "Design Manual for Floor Decks and Roof Decks.
 - Provide roof deck, which is listed in "Factory Mutual Approval Guide" for "Class I" fire rated construction.

1.03 SUBMITTALS

- A. Submit shop drawings to architect of record.

PART II - PRODUCTS

2.01 JOISTS

- A. Steel: Comply with SJI " Specifications".
- B. Fasteners: ASTM A 325 or A490 structural bolts, nuts and hardened washers.
- C. Steel Primer Paint: Manufacturers standard.

2.02 METAL DECKING

- A. Provide units of size and gauge as required by architect of record.
- B. Steel for painted metal deck: ASTM A 1008 Grade C.
- C. Steel for galvanized metal deck: ASTM A 653, Structural Quality.
- D. Galvanizing: ASTM A924, G60.
- E. Miscellaneous shapes, extensions, connectors, closure strip, bracing as required by the architect of record.

PART III - EXECUTION

3.01 JOISTS:

- A. Do not start placement until supporting work is in place and secured.
- B. Comply with requirements of architect of record.
- C. Coordinate placement to eliminate conflict with all roof openings.

3.02 METAL DECK

- A. Place on supporting framework, adjust to final position accurately aligned and on proper bearing.
- B. Secure as required by architect of record.
- C. Provide additional support, closers, etc. at all openings.

3.03 TOUCH-UP PAINT

- A. Touch-up all exposed or abraded joists and metal deck after installation.

END OF SECTION