

SECTION 05210 - STEEL JOISTS

**PART 1 GENERAL**

1.01 WORK INCLUDED

- A. Provide open web steel joists with bridging, attached bearing plates, angles and anchors as shown on the Drawings and specified herein.

1.02 RELATED WORK

- A. Section 05120, Structural Steel
- B. Section 05310, Metal Deck
- C. Section 09900, Painting

1.03 QUALITY ASSURANCE

- A. Conform to Steel Joist Institute (SJI) Standard Specifications, load tables and weight tables for open web steel joists K-series.
- B. For all welding, use only certified welders holding current AWS certificates.

1.04 SUBMITTALS

- A. Submit shop drawings, product data, certifications, etc.
- B. Submit for approval to the Resident and to the Building Department having jurisdiction, shop drawings indicating sizes, spacing and location of joists, bridging, connections, and attachments. Use standard designations, configurations and joist and girder coding, shop drawings and calculations submitted shall be signed and sealed by a State of Maine Professional Engineer.
- C. Submit manufacturer's certification that joists comply with current SJI Standard Specifications.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Ship, store and handle steel joists as recommended by SJI Standard Specifications. Handle and store members to avoid excessive stresses and deforming members.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Open Web Joist Members: As indicated on the Drawings and as per SJI Standard Specifications.
- B. Bridging and Supplementary Framing: Per SJI Standard Specifications.
- C. Anchor Bolts: ASTM A 325 threaded rods, with nuts and washers.
- D. Threaded Fasteners: ASTM A 325 as indicated on Drawings, with nuts and washers.
- E. Welding Electrodes: AWS D1.1 Code, AWS A5.1 or A5.5, E70XX
- F. Shapes and Plates: ASTM A 36
- G. Primer: SSPC 15, Type 1 red oxide

2.02 FABRICATION

- A. Fabricate steel joists in accordance with SJI Standard Specifications, including all supplementary framing. Prepare surfaces and shop prime with one coat of primer, except surfaces that are to be field welded or in contact with concrete.
  - 1. Roof Joist: Top and bottom chords angles, web members round bars bent at panel points.
- B. Open web steel joist to be used on a vertical fashion to support the windows shall be fabricated in accordance with SJI Standard Specifications; all diagonal web members as well at the bottom chord shall be constructed using rods.
  - 1. Window Wall Joist: Top chord to be angles bottom chord and web members round bars bent at panel points.

**PART 3 EXECUTION**

3.01 ERECTION

- A. Erect joists in accordance with the requirements of the SJI Standard Specifications with the bearing of joists at supports in accordance with SJI standards.
- B. Provide temporary bracing during erection for induced loads and stresses.

- C. Carefully coordinate all anchorages for plates and angles in masonry. Weld the joists seats to bearing plates after alignment and installation of bridging. Weld all bridging and framing angles.
  - D. Install high-strength threaded fasteners in accordance with AISC Specifications for Structural Joints Using ASTM A 325 or A 490 Bolts.
  - E. Do not erect decking until joists are braced and bridged.
  - F. After erection, prime welds, abrasions and surfaces not primed with a primer consistent with shop coat.
- 3.02 PROTECTION
- A. Do not permit construction loads to exceed the capacity of the joists at any time.

\*\*\*END OF SECTION\*\*\*