

SECTION 05210 STEEL JOISTS

PART 1 - GENERAL

1.1 SUMMARY:

A. Section Includes:

1. Steel joists for floor and roof framing.

B. Related Sections:

1. Section 05120 - Structural Steel.
2. Section 05300 - Metal Decking.
3. Section 05400 - Cold Formed Metal Framing.
4. Section 05500 - Metal Fabrications: Framing for openings.

1.2 QUALITY ASSURANCE:

A. Provide joists fabricated in compliance with SJI "Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders".

B. Qualification of Welding Work:

1. Qualify welding processes and welding operators in accordance with the AWS "Structural Welding Code - Steel", AWS D1.1.
2. Joists welded in place are subject to inspection and testing. Expense of removing and replacing any portion of the steel joists for testing purposes will be borne by the Owner if welds are found to be satisfactory. Expense of removing and replacing any portion of the steel joists for testing purposes will be borne by the Contractor if welds are found to be unsatisfactory.

C. Inspection:

1. Inspect joists and girders in accordance with SJI "Specifications".

1.3 SUBMITTALS:

LEED MRc5: Regional Materials

Provide a statement from the manufacturer stating that materials provided were manufactured within a 500 mile radius of the site. Include location.

LEED MRc4: Recycled Content

Provide a statement from the manufacturer including the recycled content percentage, by weight, and whether the recycled content is post-consumer or post-industrial.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Steel: Comply with SJI "Specifications" for chord and web members.

LEED MRc4: Recycled Content
Specify Steel with recycled content.

B. High-Strength Threaded Fasteners: ASTM A325 or A490 heavy hexagon structural bolts with nuts and hardened washers.

C. Steel Prime Paint: Comply with SJI "Specifications".

LEED EQc4.2: Low Emitting Materials

1. VOC emissions from all paints applied onsite must not exceed the VOC and chemical component limits of Green Seal's Standard GS-11 requirements.

2.2 FABRICATION:

A. Fabricate steel joists and units in accordance with SJI "Specifications".

B. Bridging:

1. Provide horizontal or diagonal type bridging for "open web" joists complying with SJI "Specifications".
2. Provide bridging anchor for ends of all bridging lines terminating at walls or beams.

C. End Anchorages:

1. Provide end anchorages including bearing plates, to secure joists to adjacent construction, complying with SJI "Specifications".
2. Provide special sloped bearing ends where slope exceeds 1" per foot.

PART 3 - EXECUTION

3.1 ERECTION:

A. Place and secure steel joist units in accordance with SJI "Specifications", final shop drawings, and as herein specified.

B. Prior to the start of erection, check the height and location of all bearing surfaces and report all deviations from the approved shop drawings to the Structural Engineer. Verify that all joists are undamaged and ready for erection. Damaged or twisted joists will be repaired or replaced as directed by the manufacturer subject to acceptance by the Structural Engineer.

C. Bridging: Install bridging simultaneously with joist erection, before any construction loads are applied. Anchor ends of bridging lines at top and bottom chords where terminating at walls or beams.

D. Fastening Joists:

1. Field weld joist units to supporting steel framework and steel bearing plates in accordance with SJI "Specifications" for the type of joists used. Coordinate welding sequence and procedure with the placing of joists.
 2. Bolt joists to supporting steel framework in accordance with SJI "Specifications" for the type of joist used.
 - a. Provide high-strength threaded fasteners for bolted connections in accordance with SJI "Specifications for Structural Joists Using ASTM A325 or A490 Bolts".
- E. Touch-up Painting: After joist installation, wire brush welded areas, abraded or rusty surfaces, and clean with solvent. Paint field-applied bolt heads and nuts and prepared surfaces on joists and steel supporting members. Use same type of paint as used for shop painting.

END OF SECTION 05210