

## SECTION 05 21 19

## OPEN WEB STEEL JOIST FRAMING

07/07

## 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 within the text by the basic designation only.

## AMERICAN WELDING SOCIETY (AWS)

**AWS B2.1** (2005; Errata 2006; Errata 2006) Welding Procedure and Performance Qualification

**AWS D1.1/D1.1M** (2008) Structural Welding Code - Steel

## STEEL JOIST INSTITUTE (SJI)

**SJI 279167 SPECS/LOADS** (2006) 42nd Edition Standard Specifications and Load Tables for Steel Joists and Joist Girders

## THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

**SSPC PS 14.01** (1982; E 2004) Steel Joist Shop Painting System

**SSPC Paint 15** (1999; R 2004) Steel Joist Shop Primer/Metal Building Primer

## U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

**29 CFR 1926** Safety and Health Regulations for Construction

**29 CFR 1926.757** Steel Erection; Open Web Steel Joists

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

**SD-02 Shop Drawings**

**steel joists framing drawings; A/E**

Detail drawings shall include fabrication and erection details, specifications for shop painting, and identification markings of joists and joist girders, plan view layout of joists, joist girders, and bridging, bridging member sizes and connection details. Joist framing drawings and the associated structural

calculations are to be stamped and signed by a registered Civil or Structural Engineer currently licensed in the State of California.

#### SD-07 Certificates

##### Steel Joists; A/E

Certificates stating that the steel joists and joist girders have been designed and manufactured in accordance with SJI Specs & Tables for the loads indicated on drawings. Complete engineering design computations may be submitted in lieu of the certification.

### 1.3 REGULATORY REQUIREMENT

All steel joist framing must conform to 29 CFR 1926.757. Secure all joist bridging and anchoring in place prior to the application of any construction loads. Distribute temporary loads so that joist capacity is not exceeded. Do not apply loads to bridging.

### 1.4 DELIVERY AND STORAGE

Handle, transport, and store joists in a manner to prevent damage affecting their structural integrity. Store all items off the ground in a well drained location protected from the weather and easily accessible for inspection and handling.

### 1.5 QUALITY ASSURANCE

All work must comply with the requirements set forth in 29 CFR 1926.

#### 1.5.1 Drawing Requirements

Submit steel joists framing drawings. Show joist type and size, layout in plan, and erection details including methods of anchoring, framing at openings, type and spacing of bridging, requirements for field welding, and details of accessories as applicable.

Submit certificates stating that the steel joists and joist girders have been with SJI Specs and tables for the loads indicated on the drawings.

#### 1.5.2 Certificate Requirements

Certificates stating that the steel joists and joist girders have been designed and manufactured in accordance with SJI Specs & Tables for the loads indicated on drawings. Complete engineering design computations may be submitted in lieu of the certification.

## PART 2 PRODUCTS

### 2.1 JOISTS AND ACCESSORIES

Provide design data from SJI 279167 SPECS/LOADS for the joist series indicated.

### 2.2 PAINTING

#### 2.2.1 Shop Painting

Clean and prime joists in accordance with SSPC Paint 15 and SSPC PS 14.01,

Steel Joist Shop Painting System, using only Type I, "Red Oxide Paint."  
Finish coat of paint is specified in Section 09 90 00.00 40 PAINTING AND  
COATING.

### PART 3 EXECUTION

#### 3.1 INSTALLATION

##### 3.1.1 Handling and Erection

Conform to SJI 279167 SPECS/LOADS for the joist series indicated.

##### 3.1.2 Welding

All welding must conform to AWS B2.1 and AWS D1.1/D1.1M.

#### 3.2 BEARING PLATES

Provide bearing plates to accept full bearing after the supporting members have been plumbed and properly positioned, but prior to placing superimposed loads. The area under the plate must be damp-packed solidly with bedding mortar, except where nonshrink grout is indicated on the drawings.

#### 3.3 PAINTING

##### 3.3.1 Touch-Up Painting

After erection of joists, touch-up connections and areas of abraded shop coat with paint of the same type used for the shop coat.

#### 3.4 VISUAL INSPECTIONS

##### 3.4.1 Erection Inspection

AWS D1.1/D1.1M, Section 6. Perform erection inspection and field welding inspections with AWS certified welding inspectors. Welding inspectors must visually inspect and mark welds.

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