

## **SECTION 06 1733 - WOOD I-JOISTS**

### **PART 1 GENERAL**

#### **1.01 SECTION INCLUDES**

- A. Wood I-Joists for floor and roof framing.
- B. All materials and installation of joists as shown on the drawings and specified herein including fasteners, hangers, and other accessories required for a complete installation.
- C. Bridging, bracing, and anchorage.

#### **1.02 RELATED REQUIREMENTS**

- A. Section 06 1000 - Rough Carpentry: Installation requirements for miscellaneous framing.
- B. Section 06 1000 - Rough Carpentry: Material requirements for blocking, plates, and miscellaneous framing.

#### **1.03 REFERENCE STANDARDS (LATEST EDITION)**

- A. ASTM D5055 - Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists.
- B. AWWA U1 - Use Category System: User Specification for Treated Wood; American Wood-Preservers' Association.
- C. PS 2 - Performance Standard for Wood-Based Structural-Use Panels.

#### **1.04 DESIGN**

- A. Products: products shall be designed to fit the dimensions and spacings indicated on the plans and to meet the performance requirements noted herein, and Structural Drawings.

#### **1.05 SUBMITTALS**

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's literature describing materials, dimensions, allowable spans and spacings, bearing and anchor details, bridging and bracing requirements, and installation instructions; identify independent inspection agency.
- C. Shop Drawings: To be provided indicating sizes and spacing of joists, bracing and bridging, bearing stiffeners, holes to be cut (if any), and framed openings between joists.
- D. Production: Fabrication and/or cutting shall not proceed until the architect and engineer have approved the submittal package.
- E. Certificate: Certification by joist manufacturer that products delivered are of the same design and construction as those evaluated by the independent inspection agency.

## 1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

## 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in manufacturer's original packaging with manufacturer's name and product identification intact and legible.
- B. Protect products from damage due to weather and breakage.
- C. Protect joists from warping or other distortion by stacking in upright position, braced to resist movement, with air circulation under coverings and around stacks.
- D. Handle individual joists in the upright position.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Wood I-Joists:
  - 1. Weyerhaeuser Trus Joist TJI
  - 2. Substitutions: See Section 01 6000 - Product Requirements.
- B. Alternates and/or Equals:
  - 1. Base Bid: Due to the customized detailing and engineering characteristics of the roof and/or floor framing assembly, it is a requirement that Weyerhaeuser Trus Joists TJI joists be used in the base bid.
  - 2. Alternate Manufacturers: Other manufacturers' bids are to be listed in the alternate section of your proposal. All framing plans, detailing and calculations for the alternate bids will be reviewed by the owner, architect, and engineer for structural performance, possible conflicts with related trades, and compatibility with the overall building requirements and building code. Engineered analysis and calculations are to be provided to the engineer of record by the proposed alternate manufacturer showing that the alternate joist meets or exceeds the performance requirements. Without joist manufacturer analysis/calculations, submitted alternates will be immediately rejected.
  - 3. Alternate products will only be permitted if written approval and acceptance is obtained by both architect and engineer at least four days prior to the bid date. Any monetary savings that may be realized by using an alternate product shall be forwarded to the owner.

### 2.02 MATERIALS

- A. Wood I-Joists: Laminated veneer lumber top and bottom flanges and oriented strand board (OSB) webs bonded together with structural adhesive, with published span rating to meet project requirements.
  - 1. Span Rating: Established and monitored in accordance with ASTM D5055 by independent inspection agency.
  - 2. Oriented Strand Board: Comply with PS 2.
  - 3. Adhesive: Tested for wet/exterior service in accordance with ASTM D2559.
  - 4. Depth: As indicated on drawings.
  - 5. Fabrication Tolerances:
    - a. Flange Width: Plus/minus 1/16 inch
    - b. Flange Thickness: Plus/minus 1/16 inch

- c. Joist Depth: Plus/minus 1/16 inch
  - 6. Marking: Mark each piece with depth, joist spacing, and allowable span for joist spacing.
  - 7. Provide bearing stiffeners if required by span rating or joist hanger manufacturer.
- B. Joist Bridging: Type, size and spacing recommended by joist manufacturer.
  - C. Wood Blocking, Plates, and Miscellaneous Framing: As specified in Section 06 1000.
  - D. Fasteners: Electrogalvanized steel, type to suit application.

### **2.03 WOOD TREATMENT**

- A. Factory-Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that supports and openings are ready to receive joists.
- B. Verify that field measurements are as indicated on shop drawings.

### **3.02 PREPARATION**

- A. Coordinate placement of bearing items.

### **3.03 ERECTION**

- A. I joists, if stored prior to installation, shall be protected from the weather. They shall be handled with care so they are not damaged. I joists shall be installed in accordance with the plans or any manufacturer's drawings and installation suggestions. Temporary construction loads that cause stresses beyond design limits are not permitted. Safety bracing is to be provided by the installer to keep the -I joists straight and plumb as required and to ensure adequate lateral support for the individual -I joist members and the entire system until the sheathing material is applied. Install joists in accordance with manufacturer's instructions.
- B. Set structural members level and plumb, in correct position.
- C. Make provisions for erection loads and for sufficient temporary bracing to maintain structure plumb and in true alignment until completion of erection and installation of permanent bracing.
- D. Do not field cut or alter structural members without approval of Architect.
- E. Install permanent bridging and bracing.
- F. Coordinate installation of sheathing/decking with work of this section.

### **3.04 TOLERANCES**

- A. Framing Members: 1/8 inch maximum, from true position.

## **END OF SECTION**