

SECTION 06 17 33

WOOD I-JOISTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Section Includes: Provision and installation of all prefabricated wood I-Joists, blocking and accessories as shown on the drawings, herein specified and necessary to complete the Work.
- B. Related Sections:
 - 1. Section 06 10 00 - Rough Carpentry.
 - 2. Section 06 17 00 - Shop-Fabricated Structural Wood.
 - 3. Section 06 18 00 - Glued-Laminated Construction.

1.02 REFERENCES

- A. The GENERAL CONDITIONS, SPECIAL CONDITIONS, and DIVISION 1 shall apply to work in this Section.
- B. Published specifications, standards, tests or recommended methods of trade, industry or governmental organizations apply to work in this section when cited by abbreviations noted below (latest editions apply).
 - 1. California Code of Regulations. Title 24, 2016 edition, also known as California Building Code (CBC).
 - 2. American Society for Testing and Materials (ASTM): D5055, Establishing and Monitoring Structural Capacities of Prefabricated Wood I-joists.
 - 3. National Design Specification for Wood Construction (NDS) published by the American Forest and Paper Association.

1.03 QUALITY ASSURANCE

- A. Design: The I-joists shall be designed to fit the dimensions and loads indicated on the plans. All designs shall be in accordance with allowable values and section properties assigned and approved by the CBC. Manufacturer's registered professional engineer shall supervise and be responsible for joist design.
- B. Qualifications of Manufacturer: The "I"-joists shall be manufactured by WeyerHaeuser (ICC ER Report ESR-1153), or equal manufacturer substituted per Section 01630. Substitutions are subject to review by the Structural Engineer. Manufacturer to have a minimum of 5 years experience. Fabricating plant shall be approved by an independent ICC certified testing agency.

- C. I-joists shall be proven by testing and evaluation in accordance with ASTM D-5055-04.
- D. I-joists shall have been tested by an approved testing agency and approved as a component in roof and floor assemblies with a one-hour fire rating.

1.04 SUBMITTALS

- A. Shop Drawings: Submit shop drawings of all materials to be furnished under this section. Shop drawings shall include:
 - 1. Plan layout of members and bridging, design loads and installation instructions.
 - 2. Details of member connections, stiffeners, blocking and web openings.
 - 3. Structural calculations stamped and signed by California Registered Civil or Structural Engineer.
- B. Certification of approval by ICC of fabricating plant.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver members tagged, unloaded carefully, store in a vertical position and handle only as recommended by the manufacturer; protect from adverse environmental conditions until members are installed and protected by permanent means.

1.06 WARRANTY

- A. The products delivered will be free from manufacturing errors or defects in workmanship and material. The design of members shall be adequate to carry the loads specified on drawings and in these specifications for the normal and expected life of the building.

PART 2 - PRODUCTS**2.01 MATERIALS**

- A. Flanges: continuous laminated veneer lumber proof loaded per ANSI A190.1, moisture content not to exceed 15 percent; $F_t = 2000$ psi, $E = 2.0 \times 10^6$ psi.
- B. Webs: OSB Exposure I with exterior glue, in accordance with United States Product Standard PS2 "Construction and Industrial Plywood."
- C. Adhesive: Adhesives shall comply with ASTM D2559.
- D. Web Stiffeners and Blocking Panels: Comply with details and dimensions as shown on the drawings and as per manufacturer's instructions.

- E. Metal Bridging: Metal bridging shall be 20 gauge "TB-tension bridging" (nail type) as manufactured by Simpson Strong-Tie Company, Inc.

2.02 DESIGN CRITERIA

- A. Wood I-Joists and their accessories shall be designed by a California licensed Civil or Structural Engineer in accordance with the load and deflection criteria provided on the Drawings and in these specifications.
- B. Where necessary, joist design shall be coordinated with stair manufacturer, window wall manufacturer, skylights and elevator manufacturer.
- C. I-joists shall be designed to allow web openings as specified on the drawings.

2.03 FABRICATION

- A. Each joist shall be identified by a stamp indicating the joist type, ICC evaluation number, manufacturer's name, plant identification and the independent inspection agency's logo.
- B. Tolerances
 - 1. Depth: $\pm 1/16"$
 - 2. Flange Width: $\pm 1/16"$

PART 3 - EXECUTION

3.01 ERECTION AND INSTALLATION

- A. The I-joists are to be erected and installed in accordance with plans, and I-joist manufacturer drawings and installation instructions and recommendations. Temporary construction loads which cause stresses beyond design limits are not permitted. Erection bracing, in addition to that specified, is to be provided to keep the joist straight and plumb as required. This bracing is also to assure adequate lateral support for the individual joists and the entire system, until the sheathing material has been fully applied.
- B. Hammering on inside of flanges (away from web) will not be permitted.
- C. Nails or screws into the side of flange, for the purpose of supporting pipe or other loads will only be permitted if detailed on shop drawings.
- D. No cutting or notching of the flanges will be permitted.
- E. Holes shall not be cut in the web unless such holes are specifically detailed and dimensioned on the shop drawings.

3.02 QUALITY ASSURANCE

- A. Contractor shall give notification to Architect and Project Inspector before enclosing I-joists to provide for review of the installation.

END OF SECTION