

Specifications for Glued-Laminated Wood Construction

Division 6

Glued-Laminated Timber

General

1. Code and Reference Standards:

AITC “Timber Construction Manual”, latest edition.

ANSI / AF&PA “National Design Specifications For Wood Construction”, latest edition.

2. Description of Work:

The extent of glued-laminated timber work is shown on drawings, either by terminology used in this specification or by the abbreviations as indicated. Glued-Laminated Timber is hereby defined to include wood members fabricated from 1” or 2” nominal thickness lumber glued face-to-face with the grain of all laminates approximately parallel longitudinally.

3. Quality Assurance:

Standards.

To comply with the “Structural Glued-Laminated Timber” ANSI A190.1-2022.

Manufacturer.

Provide factory-glued timber units, produced by a single AITC licensed firm, qualified to issue the AITC “Quality Inspected “ Mark. Factory mark each piece of glued-laminated timber with AITC Quality Inspected Mark. Place AITC Mark on timber surfaces that will not be exposed in completed work.

1. Approved Manufacture: Structural Wood Systems, P.O. Box 250,
Greenville, AL 36037 , Contact Rick Taylor @ (334) 382-6534
sales@structuralwood.com

2. Other manufacturer with prior approval.

4. Submittals:

Product Data.

Submit certification, indicating glued-laminated timbers comply with requirements of ANSI A190.1-2022.

Shop Drawings.

Submit shop drawings prepared under the supervision of a professional engineer, licensed in the state where the project is located, showing full dimensions of each member. Indicate species and stress grade of lumber, type of glue, and other variables in required work. Furnish electronic PDF set of shop drawings for approval by the buyers approving agency. The contractor shall verify dimensions and be responsible for coordinating same. Laminated timber manufacturer is required to have a licensed professional engineer on staff.

5. Materials:

Lumber.

Comply with ANSI A190.1 and applicable lumber association standards cited therein for grades required to achieve glued-laminated timber requirements for allowable stress appearance, fabrication limitations and species. Laminating combinations shall be visually graded as determined by manufacturer.

Preservative Treatment. (option)

Where preservative treatment is specified or shown on plans, pressure treat lumber prior to gluing in accordance with AITC 109 “Standard for Preservative Treatment of Structural Glued-Laminated Timber.”

Treatment Types:

MCA-C .15# pcf – water-borne treatment for interior or exterior above ground use

DCOI .1# pcf – oil-borne treatment for exterior above ground use

DCOI .2# pcf – oil-borne treatment for ground contact

Lumber Species.

Southern Pine

Adhesive.

Adhesives shall be wet-use (waterproof) complying with ANSI A190.1. Adhesives shall contain no Urea Formaldehyde.

6. Timber Design:

General.

Glued laminated members to be sized by manufacturer except as shown on drawings. Final cross sections will be based on manufacturer's standard widths and depths. Manufacturer to provide design values (stresses) to fulfill structural demand in accordance with applicable provisions of AITC 117 "Design, Standard Specifications for Structural Glued-Laminated Timber of Softwood Species."

Camber.

Except as otherwise indicated, fabricate horizontal load bearing members with a camber as shown on the drawings.

Steel Connections.

Laminated timber manufacturer to supply all fabricated steel connections to join laminated to laminated, and laminated to supports exclusive of items embedded in concrete or welded to structural steel or connected to stud walls. Hardware shall be pre-fit and match-marked in the manufacturing facility.

- A. Steel work to conform to A.I.S.C. Specifications.
- B. Steel shall conform to ASTM A-36.
- C. Bolts shall conform to ASTM A-307, Zinc Plated.
- D. Shop paint fabricated steel with one coat of rust inhibitive primer.
- E. Where wet-use glulam work is indicated, finish fabricated assemblies with hot-dip galvanized coating (ASTM A 153), including bolts and other fasteners.

7. Appearance Grade:

Provide *Premium Appearance Grade* timbers complying with AITC 110. Premium is the highest standard appearance grade.

8. Finish:

Factory applied temporary penetrating sealer.

When stain is specified to be factory finished, use the following in lieu of the sealer specification:

Factory finished with (1) coat of manufacturer's semi-transparent, oil-based stain. Color to be chosen from manufacturer's standard stain colors. Manufacturer to submit color selection samples of finish for approval.

9. Factory Applied Protection:

Immediately after end-cutting each member to final length, apply a saturation coat of end sealer to ends and other cross-cut sections.

Individually wrap glued laminated timbers with manufacturer's standard water-resistant, plastic coated paper.

10. Product Handling:

Schedule delivery and installation of glue-laminated wood members to avoid extended on-site storage. Comply with AITC III-"Recommended Practice for Protection of Structural Glued-Laminated Timber during Transit, Storage and Erection." Keep laminated wood members as dry as possible during all phases of construction. If jobsite storage is necessary, place members on blocking away from ponding water and cover with a waterproof covering which will not allow ultraviolet ray penetration. Time of removal of factory wrapping is optional, but it must be emphasized that factory applied wrapping provides additional protection from damage in handling and in-transit only. If further utilization of the wrap is desired for protection after shipment, the members should be inspected and provided with additional protection as necessary. If it is impractical to replace wrapping, ALL of it should be removed. Do not leave members partially exposed due to potential sun bleaching. Do not allow moisture to accumulate inside wrapping. Do not remove wrapping on individually wrapped members until it will serve no useful purpose, including protection from the weather, soiling and damage from work of other trades. It is imperative that the field handling instructions sheet that comes with the material shipment be thoroughly reviewed before unloading.

11. Installation: (not Structural Wood Systems responsibility)

General.

The anchor bolt settings and/or bearing elevations (not Structural Wood Systems responsibility) must be held within 1/8" of the dimensions shown on the shop drawings. All members must be adequately braced until the complete structural system (all pertinent construction materials) has been installed. Correction of minor misfits and a reasonable amount of cutting, reaming, re-drilling or alignment with drift pins will be considered a legitimate expense of erection.