



RIGIDPLY RAFTERS INC.

APPEARANCE AND FINISH OPTIONS

STRUCTURAL GLUED LAMINATED WOOD TIMBERS

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Glue Laminated Structural Wood Timbers are designed and manufactured to provide specific structural properties and capabilities. These Timbers are manufactured from lumber that is structurally graded. Structural performance is not always consistent with appearance and finish expectations. In other words, the strongest part of the tree is often not where the best looking lumber is located. However, specifications and procedures do exist that will improve the Structural GluLam appearance to more closely meet the visual expectations of the project.

Following is a review of appearance and finish options typically available in Structural Glued Laminated Timber manufacturing. Finishing beyond these options is generally not suggested at the point of manufacture due to potential marking/damage of the finish during handling and shipping. Additional finishing should occur at the jobsite after product installation.

GENERAL INFORMATION:

1. GluLams are manufactured from generally 3 wood species, including Southern Yellow Pine (SYP), Douglas Fir (DF), and Alaskan Yellow Cedar (AYC).
2. Southern Yellow Pine GluLams can be manufactured with CCA preservative-treated lumber. Note that CCA preservative-treated lumber will appear different than untreated lumber when finished and stained.
3. Any fire treatment products must be applied to the GluLam Timbers after manufacturing. Careful consideration of the treatment and treatment process by the project Design Professional must occur such that the structural properties and longevity of the GluLam Timbers are not adversely affected. Note that Fire Rated Structural GluLam Timbers are also available – contact the manufacturer for additional information.
4. GluLam Timbers are planed during the manufacturing process, but are not sanded. Generally, sanding is not available except that manufacturers will sand specific areas of the Timber to minimize any marks left by the planing and manufacturing process.
5. GluLam Timbers will have planer chatter and other marks from the planing and manufacturing process. Planer marks tend to increase in quantity and visual significance as Timbers increase in size.
6. A rough surface texture can be created after manufacture to provide a rough finish appearance.
7. Some GluLam Timber Appearance Grades (see AITC 110-2001) require the use of appropriate wood filler for voids in the Timber that exceed AITC size limits. It is important to note that the wood filler may not accept stain in the same manner as the wood itself, and may further weather/age differently than the wood over time. Mixing the stain into the wood filler prior to application of the wood filler, or otherwise

modifying the color of the wood filler, is suggested to achieve the highest quality result. However, this process is not part of the manufacturing process and should be completed at the jobsite by other than the GluLam Manufacturer. Should this option be desired, order documents and information must clearly state that no filler is to be applied by the GluLam Timber Manufacturer. Note that consideration should be given to installing wood inserts rather than filler where appropriate and preferred. AITC guidelines will be followed unless otherwise specified to the manufacturer.

APPEARANCE GRADES

STRUCTURAL GLUED LAMINATED TIMBERS

AITC 110-2001

1. Appearance grades apply to the surfaces of Structural Glued Laminated Timbers, and include only growth characteristics of the lumber, potential filling of voids, and planer surfacing operations. Appearance grades do not impact structural properties or capabilities, and do not include laminating procedures, any stain or other finishes, any wrapping or packaging of the Timbers, or any other protective measures.
2. Within AITC 110-2001, the four different appearance grades are described and include Framing Grade, Industrial Grade, Architectural Grade and Premium Grade. The following highlights some of the differences between each appearance grade.
 - a. Framing Grade:
 - i. Intended for conventional framing applications with no appearance requirements.
 - ii. Allowable voids, gaps, loose knots and open knots do not need filled.
 - iii. Some wane (bark edge) is permitted.
 - iv. See AITC 110-2001 for specific parameters.
 - b. Industrial Grade:
 - i. For use in applications where the GluLam Timber may be visible, but appearance is a minor concern only.
 - ii. Allowable voids and gaps need not be filled.
 - iii. Allowable loose and open knots in the wide face are to be filled, except for truss members.
 - iv. Surfacing (planing) of two sides only is required, with little tolerance for “hit or miss” areas due to low laminations.
 - v. Some wane (bark edge) is allowed.
 - vi. See AITC 110-2001 for specific parameters.
 - c. Architectural Grade:
 - i. For use in applications where the GluLam Timber is visible, and appearance is of concern. Natural wood characteristics will still be present, however.
 - ii. Larger voids in exposed surfaces are to be filled, or repaired with a wood insert.
 - iii. The wide face of laminations exposed to view are to be free of loose knots. Open knots are to be filled.
 - iv. “hit or miss” areas due to low laminations and wane (bark edge) are not permitted. Surfacing (planing) of all sides is required.
 - v. Corners of the GluLam Timber exposed to view are to be eased.
 - vi. See AITC 110-2001 for specific parameters.
 - d. Premium Grade:
 - i. For use in applications requiring the highest available standard appearance grade. Note that structural properties and capabilities are still a priority, and the appearance is still secondary. Natural wood characteristics will still be present. **IMPORTANT** – Premium Grade is not at an appearance level common with other non-structural wood items such as furniture.

- ii. In exposed surfaces, allowable voids and gaps are to be filled, or repaired with a wood insert.
- iii. The wide face of laminations exposed to view are to have no loose or open knots.
- iv. “hit or miss” areas due to low laminations and wane (bark edge) are not permitted. Surfacing (planing) of all sides is required.
- v. Corners of the GluLam Timber exposed to view are to be eased.
- vi. See AITC 110-2001 for specific parameters.

FINISH OPTIONS – MANUFACTURING PROCESS

STRUCTURAL GLUED LAMINATED TIMBERS

1. Sealer: One coat of manufacturer’s clear sealer can be applied at the conclusion of the manufacturing process. This sealer is not to be considered as permanent protection for exterior and/or aggressive environments. This sealer is intended to offer limited moisture protection during transit to the jobsite and during installation. Stain or stain/sealer products can often be applied directly over this clear sealer at the jobsite by other than the manufacturer.
2. Stains and stain/sealers: Numerous fast-drying stain and stain/sealer one-coat products can be applied by the manufacturer. Note that surfaces are planed only, and that sanding is generally not available as a manufacturing option. Additional protective coatings, if desired, must be applied at the jobsite by other than the manufacturer.
 - a. Due to the species of wood, the manufacturing process, and the imperfections in structurally graded lumber, variations in stained appearance are to be expected. Some stains will further highlight these variations (i.e. darker stains).
 - b. Some handling and transit markings on the GluLam Timbers are to be expected, as securing the product during transit is critical. Repair of these markings is to be by other than the manufacturer.
 - c. It is important to select the correct stain or stain/sealer product to match the application requirements. Exterior stains, for example, often contain fungicides and other products (i.e. preservatives, pesticides, uv inhibitors, etc.). These exterior stain additives help the stain perform and weather satisfactorily over time. Typically, exterior stain and stain/sealer products are not to be used in interior applications, or other applications where toxicity of the stain is a concern. Consult with the stain manufacturer and the project design professional for specific information and guidelines for your application.

The information contained herein is for reference only and is not to be considered complete or all inclusive. Please consult all relevant industry documentation, applicable regulations, applicable building codes, and manufacturer information for those products selected.