

# Structural Finger Jointed Lumber



The demand for wood products in construction and the need for wise use of our renewable resource – wood, call for the effective use of the entire tree. To make structural finger jointed lumber, short sections of lumber are end-jointed, utilizing finger joints, into long, building code approved lumber sections resulting in more useable lumber recovered from each log.

## Finger Joint Quality Control

The same independent testing/inspection agencies that assure the quality of solid-sawn lumber oversee the production of finger jointed lumber. In addition to traditional lumber grading practices, finger jointed lumber is subject to stringent quality control requirements assuring strong, reliable joints. Manufacturers sample production routinely to test for bond strength and adhesive durability of the joints. In fact, testing must exhibit strength values within the joint more than twice the design value of the lumber sections utilized.

## Code Acceptance

For builders and code officials, the use of structurally finger-jointed lumber is accepted for building design in the United States. Section 2303.1.1 of the 2006 International Building Code (IBC) states the following:

*“Approved end-jointed lumber is permitted to be used interchangeably with solid-sawn members of the same species and grade.”*

Furthermore, sections 2306.1 and 2307.1 of the 2006 International Building Code reference the 2005 National Design Specification (NDS), published by the American Forest & Paper Association, for the structural analysis and design of wood-based structures. Section 4.1.6 of the NDS states the following:

*“Reference design values for sawn lumber are applicable to structural end-jointed or edge-glued lumber of the same species and grade. Such use shall include, but not be limited to light framing, studs, joists, planks, and decking. When finger jointed lumber is marked “STUD USE ONLY” or “VERTICAL USE ONLY” such lumber shall be limited to use where any bending or tension stresses are of short duration.”*

## Types of Joints

**STUD USE ONLY.** A Stud Use Only stamp signifies jointed lumber with a primary purpose of resisting compression loads. Also labeled VERTICAL USE ONLY, the joints are usually 3/8” to 5/8” long and may have blunt tips on the fingers. While the adhesives used in this lumber are typically water resistant, they are only certified for interior use. Stud Use Only lumber is available in limited sections (up to 2x6 - 12 ft long).

**CERTIFIED EXTERIOR JOINTS.** Lumber with Certified Exterior Joints can be loaded to the same design values as solid-sawn lumber. The joints usually have 7/8” to 1 1/8” long fingers, and the adhesives are tested to be waterproof and creep resistant. This joint can be used in any width or length recognized under the American Lumber Standard Committee.

## Identification (Gradestamps)

Finger Jointed Lumber may qualify for dimension lumber grades of Select Structural, #1, #2, #3, or STUD. The lumber can be identified by the information on the grademark. Without an approved grademark, it is impossible to tell structural finger jointed lumber from nonstructural jointed products. Each piece of approved lumber must have a grademark identifying its species, moisture content, HRA status, joint type, mill ID, grade and grading agency.

Lumber for construction use in the U.S. is evaluated under the Department of Commerce Voluntary Product Standard PS 20. The American Lumber Standard Committee (ALSC) initiated this standard and is the accrediting body for agencies that supervise grademarking of glued structural lumber. Timber Products Inspection, Inc. (TP) has approval from the ALSC as well as the International Accreditation Service, a subsidiary of the International Code Council, to supervise all approved finger jointing Quality Control Programs including TP’s own *Stud Use End Jointed Lumber Program*.

## HRA vs. NON-HRA

The inclusion of the markings “HRA” or “NON-HRA” on the gradestamp of finger-jointed lumber was instituted in February 2007 by the American Lumber Standards Committee. These markings identify the adhesive’s ability to pass the American Wood Council’s Elevated-Temperature Adhesive Qualification Procedure.

The mark “HRA” (Heat Resistant Adhesive) indicates the adhesive used has met or exceeded the requirements of the American Wood Council’s test. Finger Jointed Lumber with the “HRA” gradestamp has been certified to be used in any assemblies. The “NON-HRA” (Non-Heat Resistant Adhesive) grademark indicates the adhesive cannot be used in fire-rated assemblies.

## Additional Information

For additional information, contact Timber Products Inspection at 770/922-8000 or visit our website at [www.tpinspection.com](http://www.tpinspection.com).

Stamp Examples:

AUDITED BY CERT. EXT. JNTS.  
TP<sup>®</sup> NO.2 KD-19  
000F HRA SYP

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AUDITED BY CERT. GLUED JNTS.  
**TP**<sup>®</sup> **STUD KD-19**  
VERTICAL USE ONLY  
**000F HRA SYP**

AUDITED BY CERT. GLUED JNTS.  
**TP**<sup>®</sup> **STUD KD-19**  
VERTICAL USE ONLY  
**000F NON-HRA SYP**