

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT Housing—Federal Housing Commissioner TO: DIRECTORS, HOUSING DIVISION DIRECTORS, MULTIFAMILY DIVISION DIRECTORS, SINGLE FAMILY DIVISION	Series and Series Number: MATERIALS RELEASE NO. 1307
	ISSUE DATE March 19, 2001
	REVIEW DATE March 19, 2004
SUBJECT: 1. Product: StrucLam® Laminated Veneer Lumber (LVL) 2. Name and Address of Manufacturer Willamette Industries, Inc. 2550 Progress Way Woodburn, OR 97071	

Data on the nonstandard product described herein have been reviewed by the Department of Housing and Urban Development (HUD) and determination has been made that it is considered suitable from a technical standpoint for the use indicated herein. This Release does not purport to establish a comparative quality or value rating for this product as compared to standard products normally used in the same manner.

This Materials Release cannot be used as an indication of endorsement or approval by HUD of the described product, and any statement or representation, however made, indicating such approval or endorsement by HUD is unauthorized. See Code 18, U.S.C. 709.

Any reproduction of this Release must be in its entirety.

USE:

General framing lumber.

DESCRIPTION:

StrucLam LVL is produced by laminating veneers of Douglas fir-larch, Southern Pine, or a combination of Douglas fir-larch and Hemlock veneers which comply with Willamette Industries, Inc., plant manufacturing standards and United States Voluntary Product Standard, PS 1-95. StrucLam LVL is available in 2.2E, 2.0E, 1.9E, 1.8E, and 1.5E grades, and in thicknesses of 3/4 to 3-1/2 inches (19.1 to 89 mm), widths of 1-1/2 to 48 inches (38 to 1219 mm), and lengths up to 80 feet (24 384 mm). StrucLam LVL produced with Southern Pine veneers manufactured in 1.5E, 1.8E, 1.9E and 2.0E grades only while StrucLam produced with combination of Douglas fir-larch and Hemlock veneers manufactured in 1.5E, 1.8E, and 1.9E grades only. Various quantities, grades and thicknesses of veneers are oriented with the grain parallel to the length of the panel. Veneers are end-joined, as specified in Willamette's Manufacturing Standard.

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StrucLam LVL is produced by Willamette Industries's manufacturing plants with quality control inspections by APA - Engineered Wood Systems.

REQUIREMENTS:

StrucLam LVL shall meet the requirements of this MR.

1. Manufacturing tolerances shall be as specified in the applicable product manufacturing standard of Willamette Industries, Inc.
2. Adhesives shall be an exterior-type complying with ASTM D 2559. Each plant shall maintain a list of all approved adhesive suppliers and the adhesives for which they are approved. Such approved adhesives shall be as specified in the applicable product manufacturing standard of Willamette Industries, Inc. and shall be certified as meeting the requirements of product standard PS 1-95.
3. The veneer specification shall be as specified in the applicable product manufacturing standard of Willamette Industries, Inc. Each veneer sheet shall be ultrasonic and/or visually graded. Dry veneer bundles shall be identified indicating the veneer species and thickness in accordance with Willamette's manufacturing standard for StrucLam.
4. Wax, preservatives and other additives used in the product manufacture shall be as specified in the applicable product manufacturing standard of Willamette Industries, Inc.

DESIGN:

The structural performance of the finished member is assured by sampling and testing in accordance with the quality control performance procedures in the product manufacturing standard. StrucLam LVL allowable unit stresses shall be in accordance with Table 1. The design provisions for sawn lumber in the Minimum Property Standards (MPS) apply to StrucLam LVL unless otherwise noted in this MR. The service conditions for StrucLam LVL described in this MR shall be covered dry conditions of use. Dry conditions of use are those conditions of use represented by sawn lumber at which the moisture content is less than 16 percent.

Allowable unit stresses, allowable fastener capacities, and allowable load capacities noted in this MR are applicable for loading conditions of "normal" duration when materials have not been treated with fire retardants or preservatives. Duration of load adjustments, as provided for wood members and their connections, are permitted in accordance with the limitations specified in the Minimum Property Standards (MPS).

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Allowable lateral and withdrawal nail values for all grades of StrucLam, used for nails driven perpendicular to glue lines (wide face of material), shall be as provided for in the MPS for solid-sawn lumber with a specific gravity of 0.50.

Allowable lateral nail values for all grades of StrucLam except the 1.5E grade, used for nails driven parallel to glue lines (edge of material), shall be as provided for in the MPS for solid-sawn lumber with a specific gravity of 0.50. Allowable lateral nail values for the 1.5E grade of StrucLam, used for nails driven parallel to glue lines (edge of material), shall be as provided for in the MPS for solid-sawn lumber with a specific gravity of 0.43. Additionally, the specific gravity used for determining allowable lateral nail values for nails driven parallel to glue lines (edge of material) shall be reduced to 0.46 for Grades 1.8E, 1.9E, 2.0E, and 2.2E of StrucLam when loads along the edge face are oriented perpendicular to the length of the member.

Allowable withdrawal nail values, used for nails driven parallel to the glue lines (edge of the material) shall be as provided for in the NDS for solid-sawn lumber with a specific gravity of 0.46 for all grades of StrucLam, except that the allowable withdrawal nail values for 1.5E StrucLam shall be based on a specific gravity of 0.43.

Allowable lateral design values, used for bolts placed perpendicular to glue lines (wide face of material), shall be as provided in the MPS for solid-sawn lumber having a specific gravity of 0.50, for all grades of StrucLam, except that the allowable lateral design value for 1.5E StrucLam shall be based on a specific gravity of 0.43.

Table 1
ALLOWABLE STRESSES¹ FOR STRUCLAM LVL

Grade	Modulus Of Elasticity (X 10 ⁶ psi)	Flexure ² F _b psi	Tension ⁴ F _t psi	Compression psi			Horizontal Shear psi	
				Parallel F _c	Perpendicular ³		Joist F _v	Plank F _v
					Joist F _{cp}	Plank F _{cp}		
2.2E	2.20	3100	2200	3000	750	450	285	165
2.0E	2.00	2950	1900	2900	750	450	285	165
1.9E	1.90	2600	1700	2700	700	450	285	165
1.8E	1.80	2600	1700	2500	700	450	285	165
1.5E	1.50	2250	1500	1950	575	435	220	150

For SI: 1 psi = 6.89 kPa

- Adjustments to allowable design stresses, except for E and F_{cp}, shall be in accordance with the MPS. Increases in F_b for repetitive member use shall be 4 percent.
- Values are for plank orientation with a maximum 3.5 inch (88.9 mm) depth and for joist orientation with a 12 inch (310.9 mm) depth. In joist orientation, adjust F_b for other depths by (12/d)^{0.1333}. For depths less than 3.5 inch (88.9 mm), use the value for 3.5 inch (88.9 mm).
- Values for F_{cp} are based on 0.04 inch (1 mm) displacement per ASTM D 143.
- Tension values are for a 4-foot (1243 mm) LVL length. For longer LVL lengths, the value shall be adjusted by multiplying by (4.0 / LVL length in feet)^{0.125}. For lengths less than 4 feet (1243 mm), use the table value for 4 feet (1243 mm).

INSTALLATION AND LIMITATIONS:

Installation shall be in strict accordance with HUD Minimum Property Standards (MPS) and applicable codes for solid lumber construction, subject to the following limitations:

- StrucLam LVL shall be stored and handled in accordance with the specifications contained in the manufacturer's literature.
- This report does not evaluate the effects of holes or notches in any StrucLam member.
- Nails installed parallel to glue lines on the narrow face of the material shall be spaced at a minimum of 3 inches (76 mm) for 8d common nails, 4 inches (102 mm) for 10d and 12d common nails, and 8 inches (203 mm) for 16d common nails.

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MANUFACTURING PLANTS:

StrucLam LVL covered by this MR shall be produced at the following locations:

Willamette Industries, Inc. Albany Production Facility 2812 Old Salem Road Albany, Oregon 97321 (541) 679-9589	Willamette Industries, Inc. Winston Production Facility 375 Dillard Garden Road Winston, Oregon 97496 (541) 679-9589	Willamette Industries, Inc. Simsboro LVL Production Facility 252 Duraflake Road Simsboro, Louisiana 71275 (318) 247-0274
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CERTIFICATION AND IDENTIFICATION:

Willamette Industries, Inc. shall certify that the StrucLam LVL conforms to the requirements of this MR. APA - EWS shall validate the manufacturer's certification that StrucLam LVL meets the requirements of this MR. Quality assurance test records shall be made available for inspection by HUD upon request.

StrucLam LVL certified as conforming to this MR shall be identified with a stamp noting:

1. The product trade name (StrucLam) and grade
2. The name or logo of the manufacturer
3. The registered logo of APA-EWS
4. The number of this MR (HUD MR 1307)
5. The plant mill number (1024 for Winston, OR, 1025 for Albany, OR, and 1044 for Simsboro, LA)

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SAMPLE STAMPS



Willamette Industries, Inc.

APA EWS

STRUCLAM LVL

2.0E

1024

APA EWS - NER QA397
NER-472 ICBO ER-5718 CCMC 12715-R
MEA 348-91-M MR-1307

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WARRANTY:

Willamette Industries, Inc. warrants StrucLam against faulty performance resulting from faulty materials or workmanship in the manufacturing process for a period equal to the expected life of the structure in which they are installed, provided they are selected, purchased, handled and installed in accordance with Willamette Industries installation instructions by a person who has been trained for installation by Willamette Industries, Inc. or an authorized agent.

This warranty applies to any material failure due to manufacturing only and does not cover, nor will the manufacturer be liable for, any defects or damages due to misuse, improper installation, or damage resulting from fire, lightning, or other causes beyond the manufacturer's control.

The manufacturer's warranty does not, in any way, relieve the builder of responsibility under the terms of the Builder's Warranty required by the National Housing Act or under any provisions applicable to any other housing program. A copy of the manufacturer's warranty shall be furnished by the builder to the owner upon completion of the property.

MANUFACTURER'S RESPONSIBILITIES:

Issuance of this Materials Release (MR) commits the manufacturer to fulfill as a minimum, the following:

1. Produce, label and certify the material, product or system in strict accordance with the terms of this MR.
2. Provide necessary corrective action in a timely manner for all cases of justified complaint, poor performance or failure reported by HUD.
3. When requested, provide the Office of Consumer and Regulatory Affairs, Manufactured Housing and Standards Division, HUD Headquarters, with a representative list of properties in which the material, product or system has been used, including complete addresses or descriptions of locations and dates of installation.
4. Inform HUD, in advance, of changes in production facilities, methods, design of the product, company name, ownership or mailing address.

EVALUATION:

This MR shall be valid for a period of three years from the date of initial issuance or most recent renewal or revision, whichever is later. The holder of this MR shall apply for renewal or revision 90 days prior to the Review Date printed on this MR. Submittals for renewal or revision shall be sent to:

U. S. Department of Housing and Urban Development
Manufactured Housing and Standards Division
451 Seventh Street, S.W., Room 9152
Washington, DC 20410

Appropriate User Fee shall be sent to:

U. S. Department of Housing & Urban Development
Technical Suitability of Products Fees
P. O. Box 954199
St. Louis, MO 63195-4199

The holder of this MR may apply for revision at any time prior to the Review Date. Minor revisions may be in the form of a supplement to this MR.

If the Department determines that a proposed renewal or supplement constitutes a revision, the appropriate User Fee for a revision will be need to be submitted in accordance with in accordance with Code of Federal Regulations 24 CFR 200.934, "User Fee System for the Technical Suitability of Products Program," and current User Fee Schedule.

CANCELLATION:

Failure to apply for a renewal or revision shall constitute a basis for cancellation of the MR. HUD will notify the manufacturer that the MR may be canceled when:

1. conditions under which the document was issued have changed so as to affect production of, or to compromise the integrity of the accepted material, product, or system;
2. the manufacturer has changed its organizational form without notifying HUD; or,
3. manufacturer has not complied with responsibilities it assumed as a condition of HUD's acceptance.

However, before cancellation, HUD will give the manufacturer a written notice, of the specific reasons for cancellation, and the opportunity to present views on why the MR should not be canceled. No refund of fees will be made on a canceled document.

 This Materials Release is issued solely for the captioned firm, and is not transferable to any person or successor entity.
