

ICC-ES Evaluation Report

ESR-5752

Reissued May 2025


This report also contains:

- [City of LA Supplement](#)

Subject to renewal May 2026

ICC-ES Evaluation Reports are not to be construed as representing aesthetics or any other attributes not specifically addressed, nor are they to be construed as an endorsement of the subject of the report or a recommendation for its use. There is no warranty by ICC Evaluation Service, LLC, express or implied, as to any finding or other matter in this report, or as to any product covered by the report.

Copyright © 2025 ICC Evaluation Service, LLC. All rights reserved.

DIVISION: 06 00 00— WOOD, PLASTICS AND COMPOSITES Section: 06 02 00— Design Information Section: 06 18 13— Glued-Laminated Beams	REPORT HOLDER: ROSBORO COMPANY, LLC	EVALUATION SUBJECT: GLUED-LAMINATED TIMBER	
---	--	---	---

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018, 2015 and 2012 [International Building Code® \(IBC\)](#)
- 2024, 2021, 2018, 2015 and 2012 [International Residential Code® \(IRC\)](#)

Property evaluated:

- Structural

2.0 USES

The Rosboro structural glued-laminated timbers (glulams) are used as structural components, such as beams, columns, decking, and rim boards, in buildings where Types III, IV, IV-HT, and V construction is permitted by building codes.

3.0 DESCRIPTION

3.1 General: The glulam products recognized in this report are manufactured by Rosboro Company in accordance with ANSI A190.1 based on layup combinations published in ANSI 117 or developed in accordance with ASTM D7341. Individual beam laminations are 2 inches (51 mm) or less in net thickness. Beam widths are between 2 ½ and 10 inches (64 and 254 mm), and beam depths are 6 inches (235 mm) or deeper.

3.2 Adhesive: Face and end-joint bonding adhesives comply with ASTM D2559 for exterior or wet use.

3.3 End Joints: End joints comply with ANSI A190.1.

3.4 Laminating Lumber: Rosboro glulams are manufactured using visually graded or E-rated lumber laminations that comply with rules of applicable approved lumber grading agencies and the procedures specified in the manufacturer's quality control manual in accordance with ANSI 117 and ANSI A190.1. Quality control for E-rating is conducted under the supervision of an approved third-party inspection agency.

3.5 Layup Combinations: Rosboro glulams are fabricated in accordance with ANSI A190.1 using the mixed-grade combinations noted in [Table 1](#) or single-grade combinations noted in [Table 2](#) of this report. Resawn purlin beams, manufactured by ripping nominally 6-inch beams vertically through their depth into two members of equal width, are permitted in accordance with ANSI A190.1.

4.0 DESIGN

Rosboro glulams described in this evaluation report comply with the building codes and are permitted to be designed in accordance with the National Design Specification for Wood Construction (NDS) or ANSI 117 using the allowable stress design (ASD) properties published in [Tables 1](#) and [2](#). Design values for the Load and Resistance Factor Design (LRFD) shall be permitted to be converted from the ASD values using the format conversion factors provided in Appendix N of the NDS.

5.0 CONDITIONS OF USE:

The specific glulam combinations described in this report comply with or are suitable alternatives to what is specified in those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Fabrication, design, and installation must comply with this evaluation report and the manufacturer's published design/installation instructions, and the applicable code. In the event of a conflict between this evaluation report and the manufacturer's design/published installation instructions, the most restrictive one governs.
- 5.2 The manufacturer's design and/or installation instructions must be available at the jobsite at all time during installation.
- 5.3 ASD referenced design values for normal conditions of loading must not exceed those provided in [Tables 1](#) and [2](#).
- 5.4 ASD referenced design values for combinations noted in [Table 1](#) are for members with four or more laminations stressed primarily in bending due to loads applied perpendicular to the wide faces of the laminations. Referenced design values are included, however, for axial stresses and stresses from bending due to loads applied parallel to the wide faces of the laminations.
- 5.5 ASD referenced design values for combinations noted in [Table 2](#) are for members with two or more laminations stressed primarily axially or in bending due to loads applied parallel to the wide faces of the laminations. Referenced design values are included, however, for stresses from bending due to loads applied perpendicular to the wide faces of the laminations.
- 5.6 Design calculations, signed and sealed by a registered design professional, verifying compliance with this report and the design requirements of the applicable code, must be submitted to the code official for approval.
- 5.7 The effects of checking on the glulam members are outside the scope of this report.
- 5.8 Rosboro glulams are manufactured under a quality assurance program with inspections by ICC-ES.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with ANSI 117, ANSI A190.1, and ANSI 405.
- 6.2 Data in accordance with ASTM D198, ASTM D2559, and ASTM D3737.
- 6.3 Quality documentation.

7.0 IDENTIFICATION

- 7.1 The ICC-ES mark of conformity, electronic labeling, or the evaluation report number (ICC-ES ESR-5752) along with the name, registered trademark, or registered logo of the report holder (Rosboro Company, LLC) must be included in the product label.
- 7.2 In addition, Rosboro glulams are identified by a stamp bearing the manufacturing plant number or address, the glulam combination identification symbol, and the name of the inspection agency.
- 7.3 The report holder's contact information is the following:

ROSBORO COMPANY, LLC
2509 MAIN STREET
SPRINGFIELD, OREGON 97477
(541) 746-8411
<https://rosboro.com/>

TABLE 1– REFERENCE DESIGN VALUES FOR STRUCTURAL GLUED LAMINATED TIMBER^(a,b)
(MEMBERS STRESSED PRIMARILY IN BENDING)

Combination Symbol	Species ^(c) Outer/Core (Bal or Unbal ^(d))	Bending About X-X Axis (Loaded Perpendicular to Wide Faces of Laminations)								Bending About Y-Y Axis (Loaded Parallel to Wide Faces of Laminations)						Axially Loaded		Fasteners	
		Extreme Fiber in Bending ^(e)		Compression Perpendicular to Grain		Shear Parallel to Grain	Modulus of Elasticity ^(h)			Extreme Fiber in Bending ⁽ⁱ⁾	Compression Perpendicular to Grain	Shear Parallel to Grain	Modulus of Elasticity ^(h)			Tension Parallel to Grain	Compression Parallel to Grain	Specific Gravity for Fastener Design	
		Bottom of Beam Stressed in tension (Positive Bending)	Top of Beam Stressed in Tension (Negative Bending)	Tension Face	Compression Face													Top or Bottom Face	Side Face
		F_{bx}^+ (psi)	F_{bx}^- (psi)	F_{cLx} (psi)		$F_{vx}^{(f)}$ (psi)	$E_{x\text{ true}}$ (10^6 psi)	$E_{x\text{ app}}$ (10^6 psi)	$E_{x\text{ min}}$ (10^6 psi)	F_{by} (psi)	F_{cLy} (psi)	$F_{vy}^{(f,g)}$ (psi)	$E_{y\text{ true}}$ (10^6 psi)	$E_{y\text{ app}}$ (10^6 psi)	$E_{y\text{ min}}$ (10^6 psi)	F_t (psi)	F_c (psi)	G	
16F-V3	DF/DF (U)	1600	1250	560	560	265	1.6	1.5	0.79	1450	560	230	1.6	1.5	0.79	975	1500	0.50	0.50
20F-V3	DF/DF (U)	2000	1450	650	560	265	1.7	1.6	0.85	1450	560	230	1.6	1.5	0.79	1000	1550	0.50	0.50
20F-V7	DF/DF (B)	2000	2000	650	650	265	1.7	1.6	0.85	1450	560	230	1.7	1.6	0.85	1050	1600	0.50	0.50
20F-V12	AC/AC (U)	2000	1400	560	560	265	1.6	1.5	0.79	1250	470	230	1.5	1.4	0.74	925	1500	0.46	0.46
20F-V13	AC/AC (B)	2000	2000	560	560	265	1.6	1.5	0.79	1250	470	230	1.5	1.4	0.74	950	1550	0.46	0.46
24F-V4	DF/DF (U)	2400	1850	650	650	265	1.9	1.8	0.95	1450	560	230	1.7	1.6	0.85	1100	1650	0.50	0.50
24F-V4-2.0E _{true}	DF/DF (U)	2400	1850	650	650	265	2.0	1.9	1.00	1450	560	230	1.8	1.7	0.90	1100	1650	0.50	0.50
24F-V5	DF/HF (U)	2400	1600	650	650	215	1.8	1.7	0.90	1350	375	200	1.6	1.5	0.79	1100	1450	0.50	0.43
24F-V8	DF/DF (B)	2400	2400	650	650	265	1.9	1.8	0.95	1550	560	230	1.7	1.6	0.85	1100	1650	0.50	0.50
24F-V8-2.0E _{true}	DF/DF (B)	2400	2400	650	650	265	2.0	1.9	1.00	1550	560	230	1.8	1.7	0.90	1100	1650	0.50	0.50
24F-V10	DF/HF (B)	2400	2400	650	650	215	1.9	1.8	0.95	1450	375	200	1.6	1.5	0.79	1150	1550	0.50	0.43
24F-V1	SP/SP (U)	2400	1750	740	650	300	1.8	1.7	0.90	1450	650	260	1.6	1.5	0.79	1100	1500	0.55	0.55
24F-V5	SP/SP (B)	2400	2400	740	740	300	1.8	1.7	0.90	1700	650	260	1.7	1.6	0.85	1150	1600	0.55	0.55
30F-E2M3 ^(k)	LVL/SP (B)	3000	3000	650 ^(l)	650 ^(l)	300	2.2	2.1	1.11	1750	650	260	1.8	1.7	0.90	1350	1750	0.50	0.50
30F-E/DF2 ^(k)	LVL/DF (B)	3000	3000	650 ^(l)	650 ^(l)	265 ^(m)	2.2	2.1	1.11	1550	560	230	1.8	1.7	0.90	1100	1650	0.50	0.50
Wet-use factors		0.8		0.53		0.875	0.833			0.8	0.53	0.875	0.833			0.8	0.73	See NDS	

For **SI**: 1 psi = 6.895 Pa

- (a) The combinations in this table are applicable to members consisting of 4 or more laminations and are intended primarily for members stressed in bending due to loads applied perpendicular to the wide faces of the laminations. However, design values are tabulated for loading both perpendicular and parallel to the wide faces of the laminations. For combinations and design values applicable to members loaded primarily axially or parallel to the wide faces of the laminations, see [Table 2](#). For members of 2 or 3 laminations, see [Table 2](#).
- (b) The tabulated design values are for normal duration of loading. For other durations of loading, see applicable building code. The tabulated design values are for dry conditions of use. For wet conditions of use, multiply the tabulated values by the factors shown at the bottom of the table.
- (c) The symbols used for species are AC = Alaska cedar, DF = Douglas fir-larch, HF = Hem-fir, SP = Southern pine, and LVL = Laminated veneer lumber in accordance with the manufacturing standard.
- (d) The unbalanced (U) layout is intended primarily for simple-span applications and the balanced (B) layout is intended primarily for continuous or cantilevered applications.
- (e) The tabulated design values in bending, F_{bx} , are based on members 5¹/₈ inches in width by 12 inches in depth by 21 feet in length. For members with a larger volume, F_{bx} must be multiplied by a volume factor, $C_v = (5.125/b)^{1/x} (12/d)^{1/x} (21/L)^{1/x}$, where b is the beam width (in.), d is the beam depth (in.), L is the beam length between the points of zero moment (ft), and x = 20 for Southern pine or x = 10 for other species. The tabulated F_{bx} values require the use of special tension laminations. If these special tension laminations are omitted, the F_{bx} values must be multiplied by 0.75 for members greater than or equal to 15 inches or by 0.85 for members less than 15 inches in depth.
- (f) The design values for shear, F_{vx} and F_{vy} shall be decreased by multiplying by a factor of 0.72 for non-prismatic members, notched members, and for all members subject to impact or cyclic loading. The reduced design value shall be used for the design of members at connections that transfer shear by mechanical fasteners. The reduced design value shall also be used for determining design values for the radial tension and torsion. F_{vx} and F_{vy} values do not include adjustments for checking.
- (g) Design values for F_{vy} are for timbers with laminations made from a single piece of lumber across the width or multiple pieces that have been edge-bonded. For timber manufactured from multiple-piece laminations (across width) that are not edge-bonded, the F_{vy} value shall be multiplied by 0.4 for members with 5, 7, or 9 laminations or by 0.5 for all other members. This reduction shall be cumulative with the adjustment in footnote (f).
- (h) The tabulated E values include true E (also known as "shear-free E"), apparent E, and E for beam stability calculation. For calculating beam deflections, the tabulated E_{app} values shall be used unless the shear deflection is determined in addition to bending deflection based on the tabulated E_{true} . The axial modulus of elasticity, E_{axial} and $E_{axial\ min}$, shall be equal to the tabulated $E_{y\ true}$ and $E_{y\ min}$ values.
- (i) The values of F_{by} were calculated based on members 12 inches in depth. For depths other than 12 inches, the F_{by} values are permitted to be increased by multiplying by the size factor $(12/d)^{1/9}$, where d is the beam depth in inches. When d is less than 3 inches, use the size adjustment factor for 3 inches.
- (j) The beam depths for 30F-E2M3/SP are limited to 7¹/₄ to 48 inches. The beam depths for 30F-E/DF2 are limited to 7¹/₄ to 26 inches. The 30F-E2M3/SP and 30F-E/DF2 are limited to dry-use only due to the use of LVL tension laminations.
- (k) The F_{cLx} value shall be permitted to be increased to the published value of the outermost LVL in the plank orientation.
- (l) The allowable shear stress shall be reduced to 255 psi, 215 psi, and 210 psi, respectively, for 9¹/₄-inch, 7¹/₂-inch, and 7¹/₄-inch-deep beams.

TABLE 2 – REFERENCE DESIGN VALUES FOR STRUCTURAL GLUED LAMINATED TIMBER^(a,b)
(MEMBERS STRESSED PRIMARILY IN AXIAL TENSION OR COMPRESSION)

Combination Symbol	Species ^(c)	Grade	All Loading			Axially Loaded				Bending about Y-Y Axis Loaded Parallel to Wide Faces of Laminations				Bending About X-X Axis Loaded Perpendicular to Wide Faces of Laminations		Fasteners	
			Modulus of Elasticity ^(d)			Compression Perpendicular to Grain	Tension Parallel to Grain	Compression Parallel to Grain		Bending ^(e)			Shear Parallel to Grain ^(f,g)	Bending ^(h)	Shear Parallel to Grain ⁽ⁱ⁾	Specific Gravity for Fastener Design	
						F _{cL} (psi)	2 or More Lami- nations	4 or More Lami- nations	2 or 3 Lami- nations	4 or More Lami- nations	3 Lami- nations	2 Lami- nations	F _{vy} (psi)	2 Lami- nations to 15 in. Deep ^(j)	F _{vx} (psi)	G	
																	Ex true, Ey true OR Eaxial (10 ⁶ psi)
1	DF	L3	1.6	1.5	0.79	560	950	1550	1250	1450	1250	1000	230	1250	265	0.50	
2	DF	L2	1.7	1.6	0.85	560	1250	1950	1600	1800	1600	1300	230	1700	265	0.50	
3	DF	L2D	2.0	1.9	1.00	650	1450	2300	1900	2100	1850	1550	230	2000	265	0.50	
5	DF	L1	2.1	2.0	1.06	650	1650	2400	2100	2400	2100	1800	230	2200	265	0.50	
69	AC	L3	1.3	1.2	0.63	470	725	1150	1100	1100	975	775	230	1000	265	0.46	
70	AC	L2	1.4	1.3	0.69	470	975	1450	1450	1400	1250	1000	230	1350	265	0.46	
Wet-use factors			0.833			0.53	0.8	0.73		0.8			0.875	0.8	0.875	See NDS	

For SI: 1 psi = 6.895 Pa

- (a) The combinations in this table are applicable to members consisting of 2 or more laminations and are intended primarily for members stressed in axial tension or compression. However, design values are tabulated for loading both perpendicular and parallel to the wide faces of the laminations.
- (b) The tabulated allowable design values are for normal duration of loading. For other durations of loading, see applicable building code. The tabulated allowable design values are for dry conditions of use. For wet conditions of use, multiply the tabulated values by the factors shown at the bottom of the table.
- (c) The symbols used for species are AC = Alaska cedar and DF = Douglas fir-larch.
- (d) The tabulated E values include shear-free (true) modulus of elasticity (E_{x true}, E_{y true}, and E_{axial}), apparent modulus of elasticity (E_{x app} and E_{y app}), and 5th percentile modulus of elasticity (E_{x min}, E_{y min}, and E_{axial min}). For column stability calculation, E_{axial min} shall be used. For calculating the total deflection due to bending, the tabulated E_{x app} or E_{y app} values shall be used, or as an alternative, the true (shear-free) bending deflection shall be calculated using the tabulated E_{x true} or E_{y true}, which shall be added to the calculated shear deflection to determine the total deflection due to bending.
- (e) The values of F_{by} are based on members 12 inches in depth. For depths less than 12 inches, F_{by} shall be permitted to be increased by multiplying by the flat use factor, (12/d)^{1/9}, where d is the beam depth in inches. When d is less than 3 inches, use the size adjustment factor for 3 inches.
- (f) For non-prismatic members, notched members, members subject to impact or cyclic loading, or shear design of bending members at connections, the tabulated F_{vx} and F_{vy} values shall be multiplied by 0.72.
- (g) The tabulated F_{vy} values are for members of 4 or more lams. The tabulated F_{vy} values shall be multiplied by a factor of 0.95 for 3 lams and 0.84 for 2 lams. For members with 5, 7, or 9 lams manufactured from multiple-piece lams with unbonded edge joints, the tabulated F_{vy} values shall be multiplied by a factor of 0.4. For all other members manufactured from multiple-piece lams with unbonded edge joints, the tabulated F_{vy} values shall be multiplied by a factor of 0.5. This adjustment shall be cumulative with the adjustment specified in Footnote (f).
- (h) The values of F_{bx} are based on members 5 1/8 inches in width by 12 inches in depth by 21 feet in length. For members with a larger volume, F_{bx} shall be multiplied by a volume factor, C_v = (5.125/b)^{1/x} (12/d)^{1/x} (21/L)^{1/x}, where b is the beam width (in.), d is the beam depth (in.), L is the beam length between the points of zero moment (ft), and x = 20 for Southern pine and x = 10 for other species.
- (i) The tabulated F_{bx} values are for members without special tension lams up to 15 inches in depth. If the member depth is greater than 15 inches without special tension lams, the tabulated F_{bx} values must be multiplied by a factor of 0.88. If special tension lams are used, the tabulated F_{bx} values are permitted to be increased by a factor of 1.18 regardless of the member depth, provided that the increased F_{bx} value does not exceed 2,400 psi. This factor shall be cumulative with the volume factor, C_v, specified in Footnote (h).

ICC-ES Evaluation Report

ESR-5752 City of LA Supplement

Issued May 2025

This report is subject to renewal May 2026.

www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®

DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES

Section: 06 02 00—Design Information

Section: 06 18 13—Glued-Laminated Beams

REPORT HOLDER:

ROSBORO COMPANY, LLC

EVALUATION SUBJECT:

GLUED-LAMINATED TIMBER

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that Rosboro structural glued-laminated timbers (glulams), described in ICC-ES evaluation report [ESR-5752](#), have also been evaluated for compliance with the codes noted below as adopted by the Los Angeles Department of Building and Safety (LADBS).

Applicable code editions:

- 2023 *City of Los Angeles Building Code* ([LABC](#))
- 2023 *City of Los Angeles Residential Code* ([LARC](#))

2.0 CONCLUSIONS

The Rosboro structural glulams, described in Sections 2.0 through 7.0 of the evaluation report [ESR-5752](#), comply with the LABC Chapter 23, and the LARC Chapter R301, and are subject to the conditions of use described in this supplement.

3.0 CONDITIONS OF USE

The Rosboro structural glulams described in this evaluation report supplement must comply with all of the following conditions:

- All applicable sections in the evaluation report [ESR-5752](#).
- The design, installation, conditions of use and identification of the Rosboro structural glulams are in accordance with the 2021 *International Building Code*® (IBC) and 2021 *International Residential Code*® (IRC) provisions, as applicable, noted in the evaluation report [ESR-5752](#).
- The design, installation and inspection are in accordance with additional requirements of LABC Chapters 16 and 17, as applicable.
- Under the LARC, an engineered design in accordance with LARC Section R301.1.3 must be submitted.

This evaluation report supplement expires concurrently with the evaluation report ESR-5752, issued May 2025.