

Rosboro 24F-V4/DF Treated Glulam
Rosboro

PR-L275
Revised June 21, 2013

Products: Rosboro 24F-V4/DF Treated Glulam
Rosboro, P.O. Box 20, 2509 Main Street, Springfield, OR 97477
(541) 746-8411
www.rosboro.com

1. Basis of the product report:
 - 2012 and 2009 International Building Code (IBC): Section 2303.1.3 Structural glued laminated timber
 - 2012 and 2009 International Residential Code (IRC): Sections R502.1.5, R602.1.2, and R802.1.4 Structural glued laminated timber
 - ASTM D3737-08 and D3737-07 recognized by the 2012 IBC and IRC, and 2009 IBC and IRC, respectively
 - ANSI/AITC A190.1-07 recognized by the 2012 IBC and IRC, and 2009 IBC and IRC
 - APA Reports T2005P-60 and T2006P-37, and other qualification data
2. Product description:

Rosboro Treated Glulam is used as beams, headers, rafters, or purlins, and is manufactured with the EWS 24F-V4/DF unbalanced layup combination in accordance with ANSI A190.1. The 24F-V4/DF glulam is treated with proprietary preservative systems, Hi-Clear II™ or K-8 (Copper-8-Quinolinolate) by Permapost Products Company in Hillsboro, Oregon (www.permapost.com), after manufacturing.
3. Design properties:

Table 1 lists the design properties for Rosboro Treated Glulam 24F-V4/DF. The allowable spans for Rosboro Treated Glulam 24F-V4/DF shall be in accordance with the recommendations provided by the manufacturer (www.rosboro.com/pdfs/techguide060326.pdf) and (www.rosboro.com/pdfs/TreatedGlulam.pdf), and with APA Data File: *Glued Laminated Beam Design Tables*, Form S475 (www.apawood.org/publications), as applicable. Based on studies conducted by APA, the Hi-Clear II™ or K-8 treatments do not have a negative effect on the bending strength and stiffness of glulam beams when used in accordance with the limitations specified in Section 6 of this report.
4. Product installation:

Rosboro Treated Glulam 24F-V4/DF shall be installed in accordance with the recommendations provided by the manufacturer and APA Technical Notes: *Glulam Connection Details*, Form T300, and *Preservative Treatment of Glued Laminated Timber*, Form S580 (www.apawood.org/publications). Permissible field notching and drilling shall be in accordance with the recommendations provided by the manufacturer, and with APA Technical Note: *Field Notching and Drilling of Glued Laminated Timber Beams*, Form S560 (www.apawood.org/publications).
5. Fire-rated assemblies:

Fire-rated assemblies shall be constructed in accordance with the recommendations provided by the manufacturer, and with APA Design/Construction Guide: *Fire-Rated Systems*, Form W305 (www.apawood.org/publications). For one- or two-hour rated glulam beams, Rosboro Treated Glulam 24F-V4/DF shall be constructed in accordance with ANSI A190.1 and designed in accordance with the recommendations provided by the

manufacturer, and with APA Technical Note: *Calculating Fire Resistance of Glulam Beams and Columns*, Form Y245 (www.apawood.org/publications).

6. Limitations:

- a) Rosboro Treated Glulam 24F-V4/DF shall be designed in accordance with the code using the design properties specified in this report.
- b) Rosboro Treated Glulam 24F-V4/DF are not recommended for use in marine applications, such as docks and marinas, or applications in direct ground and standing water contact.
- c) Rosboro Treated Glulam 24F-V4/DF is produced at Rosboro, Springfield, OR and Veneta, OR facilities under a quality assurance program audited by APA prior to treatment.
- d) This report is subject to re-examination in one year.

7. Identification:

Rosboro Treated Glulam 24F-V4/DF described in this report are identified by a label bearing the manufacturer's name (Rosboro) and/or trademark, the APA assigned plant number (1001 for Springfield or 1078 for Veneta), the product standard (ANSI A190.1), the APA logo, the report number PR-L275, the treatment by Permapost, and a means of identifying the date of manufacture.

Table 1. Design Values for Rosboro Treated Glulam 24F-V4/DF for Normal Duration of Load (1,2)

Symbol	Species ⁽³⁾ Outer/ Core	Bal / Unbal ⁽⁴⁾	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 ⁽⁵⁾		Compression Perpendicular to Grain		Shear Parallel to Grain ⁽⁶⁾	Modulus of Elasticity ⁽⁷⁾	Extreme Fiber in Bending ⁽⁸⁾	Compr. Perpendicular to Grain	Shear Parallel to Grain ⁽⁶⁾	Modulus of Elasticity ⁽⁷⁾	Tension Parallel to Grain	Compr. Parallel to Grain	Specific Gravity for Dowel-Type Fastener Design			
			Bottom of Beam Stressed in Tension (Positive Bending)	Top of Beam Stressed in Tension (Negative Bending)	Tension Face	Compr. Face									Top or Bottom Face	Side Face		
			F_{bx}^+ (psi)	F_{bx}^- (psi)	$F_{c\perp x}$ (psi)		F_{vx} (psi)	E_x^c (10^6 psi)	E_x^{min} (10^6 psi)	F_{by} (psi)	$F_{c\perp y}$ (psi)	F_{vy} (psi)	E_y^c (10^6 psi)	E_y^{min} (10^6 psi)	F_t (psi)	F_c (psi)	SG	
Rosboro Treated Glulam 24F-V4/DF	DF/DF	U	2,400	1,850	650	650	265	1.8	0.95	1,450	560	230	1.6	0.85	1,100	1,650	0.5	0.5
Wet-use factor			0.8		0.53		0.875	0.833		0.8	0.53	0.875	0.833		0.8	0.73	see NDS	

- (1) The combinations in this table are intended primarily for members stressed in bending due to loads applied perpendicular to the wide faces of the laminations. Design values are tabulated, however, for loading both perpendicular and parallel to the wide faces of the laminations.
- (2) The tabulated design values are for normal duration of loading. For other durations of loading, see the applicable building code. The tabulated design values are for dry conditions of use. For wet conditions of use, multiply the tabulated values by the wet-use factors shown at the bottom of the table.
- (3) DF = Douglas fir-Larch.
- (4) The unbalanced (U) layouts are intended primarily for simple-span applications.
- (5) 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, $C_v = (5.125/b)^{1/10} (12/d)^{1/10} (21/L)^{1/10}$, where b is the beam width (in.), d is the beam depth (in.), and L is the beam length between the points of zero moment (ft).
- (6) For non-prismatic members, members subject to impact or cyclic loading, or shear design of bending members at connections (NDS 3.4.3.3), the F_{vx} and F_{vy} values shall be multiplied by a factor of 0.72.
- (7) The tabulated E values already include a 5% shear deflection (also known as "apparent E"). The axial modulus of elasticity, E_{axial} and $E_{axial\ min}$, shall be calculated by multiplying the tabulated E_y and $E_{y\ min}$ by 1.05.
- (8) 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 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.

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**APA – THE ENGINEERED WOOD ASSOCIATION
HEADQUARTERS**

7011 So. 19th St. ▪ Tacoma, Washington 98466
Phone: (253) 565-6600 ▪ Fax: (253) 565-7265 ▪ Internet Address: www.apawood.org

PRODUCT SUPPORT HELP DESK
(253) 620-7400 ▪ *E-mail Address:* help@apawood.org

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