



2.0E RedLam™ LVL

Beams, Headers & Columns



[Download your free copy of RedSpec™ here.](#)

Specify RedLam™ LVL for your next project using RedSpec™ single-member sizing software.

Laminated Veneer Lumber

- Engineered to project specifications
- Consistent strength
- Consistent quality
- Finished lengths up to 80 feet

2.0E REDLAM™ LAMINATED VENEER LUMBER

RedLam™ LVL can be used as main carrying beams, flush beams, headers and wall framing. The RedLam™ LVL manufacturing process removes and disperses the natural defects inherent in wood and produces a product that is strong, dimensionally stable and very reliable.

STRONGER THAN NATURE

Our production process creates wood members with structural qualities equal to or greater than equivalent sizes of dimensional lumber and most glulam beams.

SIZES FOR EVERY NEED

RedLam™ LVL is manufactured in standard widths from 1½" – 3½", in lengths up to 80 feet, with depths of 9½" – 24" including wall framing in 2x and 3x sizes from 3½" – 11¼".

REDLAM™ LVL BEAMS AND HEADERS

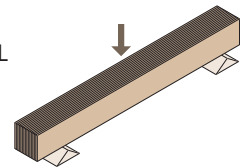
RedLam™ LVL beams work well in applications all over the structure. No matter where they're used, they install quickly with little or no waste. RedLam™ LVL is very stable and resists warping, splitting and shrinking.

RedLam™ LVL rim board is available in sizes that match Red-I™ joists up to 24" deep. See the RedBuilt™ LVL Rim Board Product Memo at www.RedBuilt.com

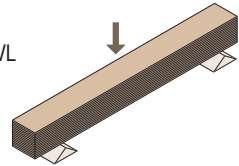


Beam, Plank and Column Orientation Diagrams

Beam Orientation
Load RedLam™ LVL parallel to glue line.



Plank Orientation
Load RedLam™ LVL perpendicular to glue line.



Column Orientation



2.0E RedLam™ LVL Available Sizes

Available Width	Depth												
	3½"	5½"	7¼"	9¼"	9½"	11¼"	117/8"	14"	16"	18"	20"	22"	24"
1½"	X	X	X	X		X							
1¾"	X	X	X	X	X	X	X	X	X	X			
2½"	X	X	X	X		X							
3½"	X	X	X	X	X	X	X	X	X	X	X	X	X
5¼"		X	X		X		X	X	X	X	X	X	X
7"			X		X		X	X	X	X	X	X	X

Resource Efficiency

Consider all of the positive attributes of wood when selecting your building material of choice. In addition to its structural properties, high strength-to-weight ratio, and ease of construction, wood is a naturally occurring, renewable resource that requires less energy to produce than steel or concrete. And it sequesters carbon—whether on the stump or in your structure.

Our RedLam™ LVL, as well as other RedBuilt™ products, are now available with FSC credits. Whether you're looking for LEED certification or simply because you want to ensure efficient use of raw materials, we can help. By making better use of every tree, RedBuilt™ produces cost-effective, consistently available engineered wood products that reduce environmental impact. The result is a quality wood product that offers superior strength and reliable performance.



The mark of responsible forest management

BEAM DESIGN STRESSES

Orientation	RedLam™ LVL Beam/Joist	RedLam™ LVL Plank ⁽⁵⁾
Grade	2.0E	2.0E
Shear modulus of elasticity	G = 125,000 psi	125,000 psi
Modulus of elasticity	E = 2.0 x 10 ⁶ psi ⁽¹⁾	2.0 x 10 ⁶ psi ⁽¹⁾
Flexural stress	F _b = 2,900 psi ⁽²⁾	3,430 psi
Tension stress	F _t = 1,660 psi ⁽³⁾	1,660 psi ⁽³⁾
Compression perpendicular to grain	F _{c⊥} = 750 psi ⁽⁴⁾	480 psi ⁽⁴⁾
Compression parallel to grain	F _c = 2,635 psi	2,635 psi
Horizontal shear parallel to grain	F _v = 285 psi	190 psi
Equivalent specific gravity	SG = 0.50	0.50

(1) The reference modulus of elasticity for beam and column stability, E_{min}, per the 2005 NDS[®] is 1.0 x 10⁶ psi.

(2) For 12" depth. For other depths, multiply F_b by $\left[\frac{12}{d}\right]^{0.136}$

(3) F_t is adjusted for volume effects for a range of common conditions.

(4) F_{c⊥} may not be increased for duration of load.

(5) Values shown are for thickness up to 3½".

For uniformly loaded simple span beams, deflection is calculated as follows:

$$\Delta = \frac{270wL^4}{Ebd^3} + \frac{28.8wL^2}{Ebd}$$

Where: Δ = Deflection, inches E = Modulus of Elasticity, psi
 w = Uniform load in plf b = Beam width, inches
 L = Span, feet d = Beam depth, inches

RedLam™ LVL is intended for dry-use, untreated applications

Code Evaluations: See ICC ESR-2993

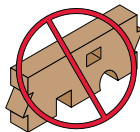
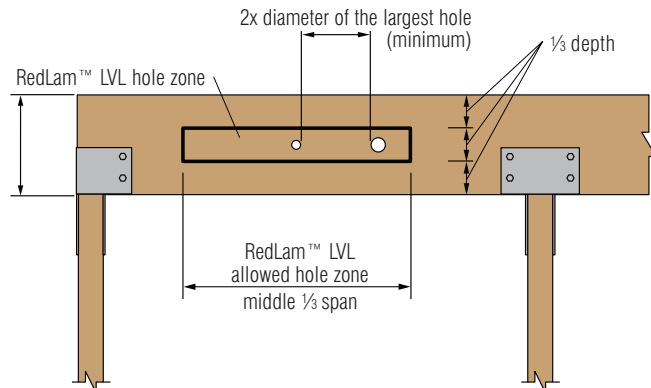
For RedLam™ LVL rim board properties see the RedBuilt™ LVL Rim Board Product Memo available at www.RedBuilt.com.

BEAM DESIGN PROPERTIES

100% Load Duration

Width (in)	Depth (in)	Weight (plf)	Shear (lbs)	Moment (ft-lbs)	I (in ⁴)	EI x 10 ⁶ (in ² -lbs)
1.75	9.5	4.8	3,160	6,600	125	250
	11.875	6.1	3,950	10,000	244	490
	14	7.1	4,660	13,500	400	800
	16	8.2	5,320	17,400	597	1,190
	18	9.2	5,990	21,600	851	1,700
3.5	9.5	9.7	6,320	13,100	250	500
	11.875	12.1	7,900	19,900	488	980
	14	14.3	9,310	27,100	800	1,600
	16	16.3	10,640	34,700	1,195	2,390
	18	18.4	11,970	43,200	1,701	3,400
	20	20.4	13,300	52,600	2,333	4,670
	22	22.5	14,630	62,800	3,106	6,210
5.25	24	24.5	15,960	73,900	4,032	8,060
	9.5	14.5	9,480	19,700	375	750
	11.875	18.2	11,850	29,900	733	1,470
	14	21.4	13,970	40,600	1,201	2,400
	16	24.5	15,960	52,100	1,792	3,580
	18	27.6	17,960	64,800	2,552	5,100
	20	30.6	19,950	78,900	3,500	7,000
7	22	33.7	21,950	94,200	4,659	9,320
	24	36.8	23,940	110,800	6,048	12,100
	9.5	19.4	12,640	26,300	500	1,000
	11.875	24.2	15,790	39,800	977	1,950
	14	28.6	18,620	54,100	1,601	3,200
	16	32.7	21,280	69,400	2,389	4,780
	18	36.8	23,940	86,400	3,402	6,800
7	20	40.8	26,600	105,200	4,667	9,330
	22	44.9	29,260	125,700	6,211	12,420
	24	49.0	31,920	147,800	8,064	16,130

HEADERS AND BEAMS



DO NOT cut, notch, or drill holes in headers or beams except as indicated in the illustrations and tables

General Notes

- Allowed hole zone suitable for headers and beams with uniform loads only.
- Round holes only.
- No holes in cantilevers.
- No holes in headers or beams in plank orientation.

Header or Beam Depth	Maximum Round Hole Size
5½"	1¾"
7¼" – 20"	2"

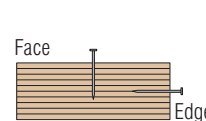
See illustration for allowed hole zone.

NAILING INFORMATION

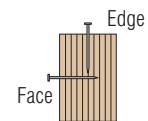
Minimum Nail Spacing

Nail Type	Nail Size	RedLam™ LVL		
		Face	Edge ⁽¹⁾	
8d	Box	0.113" x 2½"	2"	3"
	Common	0.131" x 2½"	2"	3"
10d	Box	0.128" x 3"	2"	3"
	Common	0.148" x 3"	3"	4" ⁽²⁾
12d	Box	0.128" x 3¼"	2"	3"
	Common	0.148" x 3¼"	3"	4" ⁽²⁾
16d	Box	0.135" x 3½"	3"	4"
	Sinker	0.148" x 3¼"	3"	4" ⁽²⁾
	Common	0.162" x 3½"	4"	8" ⁽³⁾

- For headers and beams. For Red-I™ joists and open-web trusses, see the nailing criteria in the respective specifier's guide.
- Minimum spacing must be 5" for 4 rows of nails.
- Spacing may be reduced to 5" where nail penetration does not exceed 1⅓".



Flatwise orientation
 (typical with Red-I™ joists and plywood edge blocking)



Edgewise orientation
 (typical with rim board, beams, and headers)

- If more than one row of nails is used, offset rows at least ½" and stagger. Maintain ⅓" minimum edge distance.
- Nailing pattern to be per plans and specifications, and nail spacing should comply with criteria listed on this page.



SERVICE AND SUPPORT YOU CAN COUNT ON.

RedBuilt™ is committed to creating superior structural solutions. How? By offering efficient structural building products supported by the broadest range of services available:

- RedBuilt™ representatives and experienced technical staff are located throughout the United States to help with technical information, installation questions, or code compliance.
- At RedBuilt™, our goal is to help you build solid and durable structures by providing high-quality commercial building products and unparalleled technical and field support. A limited warranty for our products is in effect for the expected life of your structure.

Our team of RedBuilt™ representatives—one of the industry's largest—isn't afraid to get its hands dirty. If you call us with a problem that you believe may be caused by our products, our representative will contact you within one business day to evaluate the problem and help solve it—**GUARANTEED.**



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REPRESENTATIVE INFORMATION