RedBUILT™

2.0E RedLam™ LVL
Beams, Headers and Columns



RedLam™ Laminated Veneer Lumber

- Engineered to project specifications
- Consistent strength
- Consistent quality
- Finished lengths up to 80 feet
- Revit families available at RedBuilt.com

RedSPEC™ NEXT

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.

RedLam™ LVL Beams and Headers

RedLam™ LVL beams work well in applications throughout 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.

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". Secondary laminations availble up to 7" widths.

2.0E RedLam™ LVL Available Sizes of Beams Headers & Columns

Available Width	Depth												
	3½"	5½"	7¼"	9¼"	9½"	11¼"	11 7/8"	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

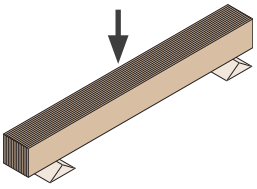
For Rim Board please see the RedBuilt™ Rim Board Specification and Design (TB-401) on redbuilt.com. Rim Board for use with Red-I™ joists is sized specifically to transfer load around the joists. Refer to TB-401 for available Rim Board sizes compatible with Red-I™ joists.

⚠ WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to www.P65Warnings.ca.gov/wood.

Beam, Plank and Column Orientation Diagrams

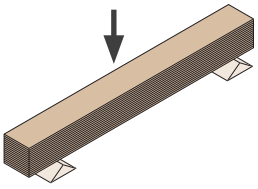
Beam Orientation

Load RedLam™ LVL parallel to glue lines.

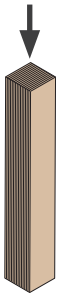


Plank Orientation

Load RedLam™ LVL perpendicular to glue lines.



Column Orientation







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 made with responsibly sourced fiber. Whether you're looking for LEED® certification or simply 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.

VERIFIED by SCS GLOBAL SERVICES ENVIRONMENTAL PRODUCT DECLARATION BASED ON LCA

SUSTAINABLE FORESTRY INITIATIVE SFI-01 969

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	2.0 x 10^6 psi
Minimum modulus of elasticity	E_{min}	=	1.0 x 10^6 psi(1)	1.0 x 10^6 psi
Flexural stress	F_b	=	2,900 psi(2)	2,845 psi(6)
Tension stress	F_t	=	1,660 psi(3)	1,660 psi(3)
Compression perpendicular to grain	$F_{c\perp}$	=	750 psi(4)	650 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) E_{min} is the reference modulus of elasticity for beam stability and column stability calculations.

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

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

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

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

(6) For thicknesses of 1¾" and less, Fb = 3,125 psi.

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; w = uniform load, plf; L = span, feet; E = Modulus of Elasticity, psi; b = beam width, inches; d = beam depth, inches

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

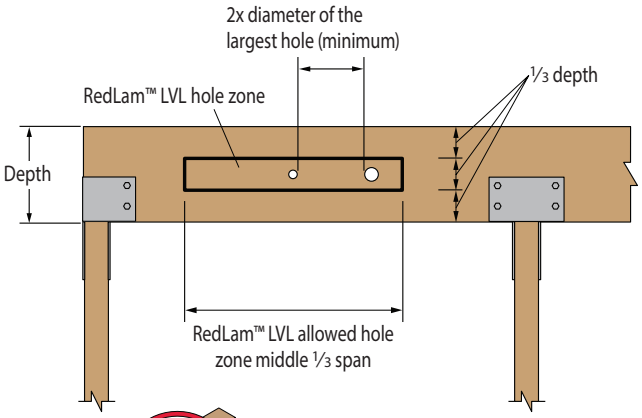
Code Evaluations: See ICC ESR-2993 and LABC/LARC Supplement

For rim board properties see RedBuilt™ Rim Board Specification and Design (TB-401) available at RedBuilt.com.

Beam Design Properties (100% Load Duration)

Width	Depth	Weight (plf)	Shear (lbs)	Moment (ft-lbs)	I (in^4)	EI x 10^6 (in^2-lbs)
1¾"	9½"	4.8	3,160	6,600	125	250
	11⅞"	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
3½"	9½"	9.7	6,320	13,100	250	500
	11⅞"	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
	24"	24.5	15,960	73,900	4,032	8,060
5¼"	9½"	14.5	9,480	19,700	375	750
	11⅞"	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
	22"	33.7	21,950	94,200	4,659	9,320
	24"	36.8	23,940	110,800	6,048	12,100
7"	9½"	19.4	12,640	26,300	500	1,000
	11⅞"	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
	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

Beam and Header Allowable Holes





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

For other hole sizes, hole locations, or loads, use RedSpec™ software or contact your RedBuilt technical representative.

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.

Minimum Nail Spacing

Nail Type		Nail Size	RedLam™ LVL Face	RedLam™ LVL 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)

(1) For headers and beams. For Red-I™ joists and open-web trusses with RedLam LVL chords, see the nailing criteria in the respective specifier's guide.

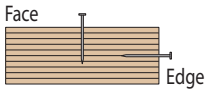
(2) Minimum spacing must be 5" for 4 rows of nails.

(3) Spacing may be reduced to 5" where nail penetration does not exceed 1⅜".

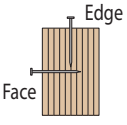
General Notes

- If more than one row of nails is used, offset rows at least ½" and stagger. Maintain ⅜" minimum edge distance.
- Nailing pattern to be per plans and specifications, and nail spacing should comply with criteria listed on this page.

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



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



SERVICE AND SUPPORT YOU CAN COUNT ON.

RedBuilt is committed to creating superior structural solutions. How? By offering efficient structural building products supported by a broad range of services.

- Our team of RedBuilt representatives—one of the industry's largest—isn't afraid to get its hands dirty. We can help with technical information, installation questions or code compliance.
- At RedBuilt, our goal is to help you build solid and durable structures. A limited warranty for our products is in effect for the expected life of the building.
- Call us with a problem that you believe may be caused by our products, and our representative will contact you within one business day to evaluate the problem and help solve it—GUARANTEED.



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If this is more than one year old, contact your RedBuilt representative.