

RigidLam® LVL Columns

Douglas-fir

ALLOWABLE AXIAL LOAD CAPACITY (LBS) FOR 1.6E 2250 Fb RIGIDLAM® LVL COLUMNS

Effective Column Length (ft.)	Column Size																	
	3½" x 3½"			3½" x 5½"			3½" x 7¼"			5¼" x 5½"			5¼" x 7¼"			7" x 7¼"		
	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%
6	8,555	9,110	9,425	13,455	14,315	14,815	17,735	18,870	19,530	26,535	29,405	31,170	34,975	38,760	41,090	50,400	56,800	60,905
7	7,160	7,530	7,745	11,250	11,835	12,170	14,830	15,600	16,045	24,270	26,535	27,885	31,990	34,980	36,760	48,020	53,710	57,300
8	6,015	6,275	6,430	9,450	9,870	10,105	12,460	13,010	13,320	21,900	23,615	24,605	28,870	31,130	32,435	45,385	50,320	53,370
9	5,095	5,290	5,400	8,010	8,315	8,485	10,560	10,960	11,190	19,575	20,865	21,615	25,805	27,505	28,490	42,545	46,710	49,230
10	4,360	4,510	4,590	6,855	7,085	7,220	9,035	9,340	9,515	17,425	18,410	18,990	22,970	24,270	25,030	39,560	42,995	45,035
11	3,770	3,880	3,945	5,920	6,100	6,200	7,805	8,040	8,175	15,510	16,290	16,745	20,445	21,475	22,075	36,570	39,350	40,975
12	3,285	3,375	3,425	5,160	5,300	5,385	6,805	6,990	7,095	13,845	14,475	14,840	18,255	19,085	19,565	33,645	35,905	37,220
13	2,885	2,955	3,000	4,535	4,650	4,715	5,980	6,130	6,215	12,410	12,915	13,215	16,360	17,025	17,425	30,870	32,725	33,810
14	2,555	2,610	2,645	4,015	4,105	4,160	5,290	5,410	5,480	11,170	11,585	11,835	14,725	15,275	15,600	28,320	29,870	30,770
15	-	-	-	-	-	-	-	-	-	10,090	10,445	10,645	13,300	13,765	14,035	26,005	27,320	28,070
16	-	-	-	-	-	-	-	-	-	9,155	9,455	9,625	12,070	12,460	12,685	23,920	25,035	25,680
17	-	-	-	-	-	-	-	-	-	8,340	8,590	8,735	10,995	11,325	11,520	22,045	23,000	23,555
18	-	-	-	-	-	-	-	-	-	7,620	7,840	7,965	10,050	10,335	10,500	20,355	21,185	21,665
19	-	-	-	-	-	-	-	-	-	6,995	7,180	7,285	9,220	9,465	9,605	18,850	19,575	19,985
20	-	-	-	-	-	-	-	-	-	6,435	6,600	6,695	8,485	8,700	8,825	17,490	18,120	18,480
21	-	-	-	-	-	-	-	-	-	5,940	6,085	6,165	7,830	8,020	8,125	16,265	16,820	17,140
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15,160	15,645	15,930
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,150	14,590	14,840
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13,245	13,630	13,855
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,420	12,765	12,965

Notes:

- Column is a single, one-piece member for dry-use applications only.
DO NOT use this chart for multi-ply, built-up column applications.
- Column is assumed to have adequate bracing in all directions at both ends.
- Loads are calculated per the 2018 National Design Specification® for axial loads only.
- For side-loaded columns, use appropriate design software or consult with a design professional.
- Table assumes an eccentricity of 1/6 of the smaller column dimension.
- Table assumes column bearing to be steel or concrete. When bearing on a wood plate (with Fc perp = 425 psi), axial loads shall not exceed the load shown below for the given column size for all durations of load:

Column Size	3½" x 3½"	3½" x 5½"	3½" x 7¼"	5¼" x 5½"	5¼" x 7¼"	7" x 7¼"
Load (lbs)	5,206	8,181	10,784	12,272	16,177	21,569

1.6E RigidLam LVL Allowable Design Stresses ⁽¹⁾

True Modulus of Elasticity E = 1,600,000 psi⁽²⁾
 Bending (edgewise & flatwise) Fb = 2,250 psi⁽³⁾⁽⁴⁾
 Compression Parallel to Grain Fc = 1,950 psi

- These allowable design stresses apply to dry service conditions.
- No increase is allowed for duration of load.
- Edgewise bending: For depths other than 12" multiply Fb by (12/d)^{1/8}, where d = depth of member (inches).
- Flatwise bending: For thicknesses greater than 1¾", multiply Fb by (1.75/t)^{1/8} where t = thickness of member (inches)

RigidLam[®] LVL Columns

Douglas-fir

ALLOWABLE AXIAL LOAD CAPACITY (LBS) FOR 2.1E 2250 F_b RIGIDLAM[®] LVL COLUMNS

Effective Column Length (ft.)	Column Size																	
	3½" x 3½"			3½" x 5½"			3½" x 7¼"			5¼" x 5½"			5¼" x 7¼"			7" x 7¼"		
	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%	Floor 100%	Roof Snow 115%	Roof Live 125%
6	11,585	12,280	12,685	18,205	19,300	19,935	23,995	25,440	26,280	37,155	40,960	43,285	48,975	53,995	57,055	71,625	80,475	86,125
7	9,615	10,085	10,360	15,110	15,850	16,280	19,920	20,895	21,465	33,560	36,465	38,195	44,240	48,070	50,345	67,730	75,460	80,290
8	8,040	8,375	8,570	12,635	13,165	13,470	16,655	17,355	17,755	29,925	32,090	33,355	39,445	42,300	43,970	63,480	70,035	74,045
9	6,795	7,040	7,185	10,680	11,065	11,295	14,075	14,585	14,885	26,495	28,135	29,090	34,925	37,090	38,345	58,980	64,375	67,610
10	5,800	5,990	6,100	9,120	9,420	9,585	12,025	12,415	12,635	23,445	24,715	25,450	30,910	32,580	33,545	54,365	58,730	61,305
11	5,005	5,150	5,235	7,865	8,095	8,225	10,370	10,670	10,845	20,805	21,805	22,380	27,430	28,740	29,505	49,815	53,355	55,425
12	4,355	4,470	4,540	6,845	7,030	7,130	9,025	9,265	9,400	18,515	19,325	19,790	24,410	25,470	26,085	45,545	48,400	50,105
13	3,825	3,915	3,970	6,010	6,155	6,240	7,925	8,115	8,225	16,565	17,215	17,600	21,835	22,695	23,200	41,630	43,985	45,370
14	3,380	3,455	3,500	5,315	5,430	5,500	7,005	7,160	7,250	14,880	15,425	15,735	19,615	20,330	20,740	38,055	40,040	41,195
15	-	-	-	-	-	-	-	-	-	13,430	13,885	14,150	17,705	18,305	18,650	34,855	36,535	37,525
16	-	-	-	-	-	-	-	-	-	12,170	12,550	12,775	16,045	16,545	16,840	31,995	33,425	34,255
17	-	-	-	-	-	-	-	-	-	11,080	11,400	11,585	14,605	15,030	15,275	29,445	30,665	31,385
18	-	-	-	-	-	-	-	-	-	10,115	10,395	10,555	13,335	13,700	13,915	27,165	28,225	28,835
19	-	-	-	-	-	-	-	-	-	9,275	9,515	9,650	12,225	12,540	12,720	25,125	26,045	26,575
20	-	-	-	-	-	-	-	-	-	8,530	8,735	8,855	11,240	11,515	11,675	23,285	24,095	24,565
21	-	-	-	-	-	-	-	-	-	7,870	8,055	8,155	10,375	10,615	10,750	21,635	22,345	22,755
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20,150	20,780	21,130
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18,800	19,360	19,685
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17,580	18,080	18,365
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16,475	16,920	17,175

Notes:

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Load (lbs)	5,206	8,181	10,784	12,272	16,177	21,569

2.1E RigidLam LVL Allowable Design Stresses ⁽¹⁾

True Modulus of Elasticity E = 2,100,000 psi⁽²⁾
 Bending (edgewise & flatwise) F_b = 3,100 psi⁽³⁾⁽⁴⁾
 Compression Parallel to Grain F_c = 3,000 psi

- These allowable design stresses apply to dry service conditions.
- No increase is allowed for duration of load.
- Edgewise bending: For depths other than 12" multiply F_b by (12/d)^{1/6}, where d = depth of member (inches).
- Flatwise bending: For thicknesses greater than 1¾", multiply F_b by (1.75/t)^{1/6}, where t = thickness of member (inches)