

# RigidLam® LVL Columns

Douglas-fir and Southern Yellow Pine

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

Effective Column Length (ft.)	Column Size																	
	3-1/2" x 3-1/2"			3-1/2" x 5 1/4"			3-1/2" x 7"			5 1/4" x 5 1/4"			5 1/4" x 7"			7" x 7"		
	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	8,485	9,025	9,340	12,730	13,540	14,010	16,975	18,055	18,680	25,230	27,945	29,625	33,640	37,260	39,500	48,560	54,715	58,670
7	7,090	7,450	7,665	10,635	11,180	11,495	14,180	14,905	15,330	23,045	25,175	26,450	30,725	33,565	35,265	46,230	51,690	55,140
8	5,950	6,205	6,355	8,925	9,310	9,535	11,900	12,415	12,715	20,760	22,365	23,305	27,680	29,825	31,075	43,650	48,375	51,295
9	5,040	5,230	5,340	7,560	7,845	8,010	10,080	10,460	10,680	18,525	19,735	20,440	24,700	26,315	27,250	40,880	44,850	47,250
10	4,310	4,455	4,535	6,465	6,680	6,805	8,620	8,910	9,075	16,470	17,400	17,945	21,960	23,205	23,925	37,980	41,235	43,165
11	3,720	3,835	3,895	5,585	5,750	5,845	7,445	7,670	7,795	14,655	15,390	15,815	19,540	20,520	21,085	35,050	37,690	39,235
12	3,245	3,330	3,380	4,865	4,995	5,070	6,490	6,665	6,765	13,080	13,665	14,005	17,440	18,220	18,675	32,205	34,335	35,605
13	2,850	2,920	2,960	4,275	4,380	4,440	5,700	5,840	5,920	11,715	12,195	12,470	15,620	16,260	16,630	29,535	31,300	32,330
14	2,520	2,575	2,610	3,780	3,865	3,915	5,040	5,155	5,220	10,540	10,935	11,160	14,050	14,580	14,880	27,080	28,550	29,405
15										9,520	9,850	10,040	12,695	13,135	13,385	24,855	26,095	26,815
16										8,635	8,915	9,070	11,515	11,885	12,095	22,855	23,905	24,520
17										7,865	8,100	8,235	10,485	10,800	10,980	21,055	21,960	22,485
18										7,185	7,390	7,505	9,580	9,850	10,005	19,445	20,225	20,675
19										6,590	6,765	6,865	8,790	9,020	9,155	17,995	18,675	19,065
20										6,065	6,215	6,305	8,085	8,290	8,405	16,695	17,290	17,630
21										5,595	5,730	5,805	7,465	7,640	7,745	15,520	16,045	16,345
22																14,460	14,925	15,190
23																13,500	13,910	14,150
24																12,630	13,000	13,210
25																11,840	12,170	12,355

## ALLOWABLE AXIAL LOAD (LBS.) CAPACITY FOR 2.1E 3100 Fb RIGIDLAM® LVL COLUMNS

Effective Column Length (ft.)	Column Size																	
	3-1/2" x 3-1/2"			3-1/2" x 5 1/4"			3-1/2" x 7"			5 1/4" x 5 1/4"			5 1/4" x 7"			7" x 7"		
	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	17,380	18,420	19,025	23,175	24,565	25,370	35,465	39,095	41,315	47,285	52,130	55,085	69,150	77,705	83,160
7	9,615	10,085	10,360	14,420	15,130	15,540	19,230	20,175	20,725	32,035	34,805	36,445	42,715	46,406	48,595	65,395	72,855	77,530
8	8,040	8,375	8,570	12,060	12,565	12,855	16,080	16,755	17,145	28,560	30,625	31,835	38,085	40,835	42,450	61,290	67,615	71,490
9	6,795	7,040	7,185	10,190	10,565	10,780	13,590	14,085	14,375	25,295	26,855	27,765	33,725	35,810	37,025	56,945	62,150	65,270
10	5,800	5,990	6,100	8,705	8,985	9,150	11,605	11,985	12,200	22,380	23,590	24,295	29,845	31,455	32,395	52,490	56,700	59,185
11	5,005	5,150	5,235	7,510	7,725	7,855	10,015	10,305	10,470	19,850	20,810	21,365	26,470	27,745	28,485	48,115	51,515	53,510
12	4,355	4,470	4,540	6,535	6,710	6,810	8,715	8,945	9,080	17,675	18,445	18,890	23,570	24,595	25,190	43,980	46,755	48,375
13	3,825	3,915	3,970	5,735	5,875	5,955	7,650	7,835	7,940	15,810	16,435	16,800	21,080	21,915	22,400	40,175	42,470	43,810
14	3,380	3,455	3,500	5,075	5,185	5,250	6,765	6,915	7,000	14,205	14,720	15,020	18,940	19,630	20,030	36,740	38,655	39,775
15										12,820	13,250	13,500	17,090	17,670	18,000	33,655	35,275	36,215
16										11,620	11,980	12,190	15,490	15,975	16,255	30,895	32,275	33,075
17										10,570	10,880	11,060	14,095	14,510	14,745	28,430	29,615	30,300
18										9,655	9,920	10,075	12,875	13,230	13,435	26,225	27,250	27,845
19										8,850	9,080	9,215	11,805	12,110	12,285	24,255	25,145	25,660
20										8,140	8,340	8,455	10,855	11,120	11,275	22,480	23,260	23,710
21										7,510	7,685	7,785	10,015	10,250	10,380	20,890	21,575	21,970
22																19,450	20,060	20,410
23																18,155	18,695	19,000
24																16,975	17,455	17,735
25																15,905	16,340	16,585

### 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 2005 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  $F_C \text{ perp} = 425 \text{ PSI}$ ), axial loads shall not exceed the load shown below for the given column size for all durations of load:

Column Size	3 1/2" x 3 1/2"	3 1/2" x 5 1/4"	3 1/2" x 7"	5 1/4" x 5 1/4"	5 1/4" x 7"	7" x 7"
Load (lbs.)	5,206	7,809	10,412	11,714	15,618	20,825

### 1.6E RigidLam LVL Allowable Design Stresses<sup>(1)</sup>

True Modulus of Elasticity (MOE)	E	=	1,600,000 PSI <sup>(2)</sup>
Bending (edgewise & flatwise)	$F_b$	=	2,250 PSI <sup>(3)(4)</sup>
Compression Parallel to Grain	$F_c$	=	1,950 PSI

### 2.1E RigidLam LVL Allowable Design Stresses<sup>(1)</sup>

True Modulus of Elasticity (MOE)	E	=	2,100,000 PSI <sup>(2)</sup>
Bending (edgewise & flatwise)	$F_b$	=	3,100 PSI <sup>(3)(4)</sup>
Compression Parallel to Grain	$F_c$	=	3,000 PSI

(1) These allowable design stresses apply to dry service conditions.

(2) No increase is allowed for duration of load.

(3) Edgewise bending: For depths other than 12" multiply  $F_b$  by  $(12/d)^{1/8}$ , where d = depth of member (inches).

(4) Flatwise bending: For thicknesses greater than 1-3/4" multiply  $F_b$  by  $(1.75/t)^{1/5}$ , where t = thickness of member (inches).