

RigidLam® LVL Columns

Douglas-fir

AXIAL FACTORED RESISTANCES (LBS) FOR 1.6E 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"
6	15,010	23,590	31,095	42,945	56,610	78,315
7	12,575	19,760	26,045	40,580	53,490	76,405
8	10,385	16,325	21,515	37,780	49,805	73,985
9	8,565	13,460	17,740	34,685	45,720	71,080
10	7,065	11,105	14,640	31,080	40,970	67,730
11	5,845	9,185	12,105	27,440	36,175	64,015
12	4,845	7,620	10,045	24,175	31,870	60,040
13	4,035	6,345	8,365	21,280	28,055	55,690
14	3,375	5,305	6,995	18,735	24,695	50,805
15	-	-	-	16,505	21,755	46,270
16	-	-	-	14,550	19,180	42,095
17	-	-	-	12,845	16,930	38,280
18	-	-	-	11,355	14,965	34,810
19	-	-	-	10,055	13,250	31,660
20	-	-	-	8,915	11,755	28,805
21	-	-	-	7,925	10,450	26,220
22	-	-	-	-	-	23,885
23	-	-	-	-	-	21,770
24	-	-	-	-	-	19,860
25	-	-	-	-	-	18,130

Notes:

- Column is a single, one-piece member for dry-use applications only.
- Column is assumed to have adequate bracing in all directions at both ends.
- Loads are calculated per Section 5.1 of CWC "Wood Design Manual 2010" and CSA O86-14 for simple columns with axial loads only.
- For side-loaded columns, see the CSA O86-14 provisions or consult with a design professional.
- Table assumes the worst case of an eccentricity of 1/6 of either column dimension.
- Table assumes column bearing to be on a steel plate that has been adequately sized for bearing on the material below.
- When bearing on a 1½" thick wood plate, axial factored loads (lbs) shall not exceed the following values:

Column Size	3½" x 3½"	3½" x 5½"	3½" x 7¼"	5¼" x 5½"	5¼" x 7¼"	7" x 7¼"
D Fir-L plate	11,439 lbs	17,975 lbs	23,695 lbs	26,963 lbs	35,542 lbs	47,389 lbs
Hem-Fir plate	7,517 lbs	11,812 lbs	15,571 lbs	17,719 lbs	23,356 lbs	31,142 lbs
Spruce-Pine-Fir plate	8,661 lbs	13,610 lbs	17,940 lbs	20,415 lbs	26,910 lbs	35,880 lbs
Northern plate	5,720 lbs	8,989 lbs	11,849 lbs	13,483 lbs	17,773 lbs	23,697 lbs

1.6E RigidLam® LVL Specified Strengths⁽¹⁾

True Modulus of Elasticity	E = 1,600,000 psi
Bending Edgewise	Fb = 4,158 psi ⁽²⁾
Bending Flatwise	Fb = 4,064 psi ⁽³⁾
Compression Parallel to Grain	Fc = 3,112 psi

- These specified strengths are for standard term load duration and apply to dry service conditions.
- The tabulated values are based on a reference depth of 12 inches. For other depths, when loaded edgewise, the allowable bending stress (Fb) shall be modified by a depth factor, $K_{zb} = (12/d)^{1/6}$ for Douglas-fir LVL (Mill #1055), where d is the LVL depth in inches. For depths less than 3½ inches, multiply the value by 1.17 for DF LVL.
- Tabulated Fb Tflat values are based on a thickness of 1¾". For other thicknesses, when loaded flatwise, multiply flat by $(1.75/t)^{1/6}$, where t is the LVL thickness in inches. For thicknesses less than 1¾", use the tabulates value.



RigidLam® LVL Columns

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AXIAL FACTORED RESISTANCES (LBS) FOR 2.1E 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"
6	20,885	32,820	43,265	60,020	79,115	109,105
7	17,230	27,075	35,690	56,640	74,660	106,420
8	14,150	22,235	29,310	52,640	69,390	103,020
9	11,620	18,265	24,075	48,205	63,545	98,910
10	9,565	15,035	19,820	42,615	56,175	94,165
11	7,895	12,410	16,360	37,455	49,375	88,890
12	6,540	10,280	13,550	32,885	43,350	83,240
13	5,440	8,550	11,270	28,875	38,065	76,350
14	4,545	7,145	9,415	25,375	33,445	69,405
15	-	-	-	22,320	29,420	63,020
16	-	-	-	19,655	25,910	57,200
17	-	-	-	17,335	22,850	51,920
18	-	-	-	15,310	20,180	47,140
19	-	-	-	13,545	17,855	42,825
20	-	-	-	12,005	15,825	38,925
21	-	-	-	10,665	14,060	35,405
22	-	-	-	-	-	32,225
23	-	-	-	-	-	29,355
24	-	-	-	-	-	26,765
25	-	-	-	-	-	24,425

Notes:

- Column is a single, one-piece member for dry-use applications only.
- Column is assumed to have adequate bracing in all directions at both ends.
- Loads are calculated per Section 5.1 of CWC "Wood Design Manual 2010" and CSA O86-14 for simple columns with axial loads only.
- For side-loaded columns, see the CSA O86-14 provisions or consult with a design professional.
- Table assumes the worst case of an eccentricity of 1/6 of either column dimension.
- Table assumes column bearing to be on a steel plate that has been adequately sized for bearing on the material below.
- When bearing on a 1½" thick wood plate, axial factored loads (lbs) shall not exceed the following values:

Column Size	3½" x 3½"	3½" x 5½"	3½" x 7¼"	5¼" x 5½"	5¼" x 7¼"	7" x 7¼"
D Fir-L plate	11,439 lbs	17,975 lbs	23,695 lbs	26,963 lbs	35,542 lbs	47,389 lbs
Hem-Fir plate	7,517 lbs	11,812 lbs	15,571 lbs	17,719 lbs	23,356 lbs	31,142 lbs
Spruce-Pine-Fir plate	8,661 lbs	13,610 lbs	17,940 lbs	20,415 lbs	26,910 lbs	35,880 lbs
Northern plate	5,720 lbs	8,989 lbs	11,849 lbs	13,483 lbs	17,773 lbs	23,697 lbs

2.1E RigidLam® LVL Specified Strengths⁽¹⁾

True Modulus of Elasticity	E = 2,100,000 psi
Bending Edgewise	Fb = 5,729 psi ⁽²⁾
Bending Flatwise	Fb = 5,013 psi ⁽³⁾
Compression Parallel to Grain	Fc = 4,788 psi

- These specified strengths are for standard term load duration and apply to dry service conditions.
- The tabulated values are based on a reference depth of 12 inches. For other depths, when loaded edgewise, the allowable bending stress (Fb) shall be modified by a depth factor, $K_{zb} = (12/d)^{1/6}$ for Douglas-fir LVL (Mill #1055), where d is the LVL depth in inches. For depths less than 3½ inches, multiply the value by 1.17 for DF LVL.
- Tabulated Fb Tflat values are based on a thickness of 1¾". For other thicknesses, when loaded flatwise, multiply flat by $(1.75/t)^{1/6}$, where t is the LVL thickness in inches. For thicknesses less than 1¾", use the tabulates value.



RigidLam® LVL Columns

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AXIAL FACTORED RESISTANCES (LBS) FOR 2.3E 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"
6	22,300	35,040	46,195	63,775	84,065	116,115
7	18,585	29,205	38,495	60,245	79,415	113,290
8	15,325	24,080	31,745	56,075	73,915	109,705
9	12,620	19,835	26,145	51,450	67,820	105,395
10	10,405	16,355	21,560	45,940	60,560	100,415
11	8,605	13,520	17,820	40,505	53,390	94,895
12	7,135	11,210	14,780	35,645	46,990	88,975
13	5,940	9,335	12,305	31,355	41,330	82,300
14	4,965	7,805	10,290	27,590	36,365	74,995
15	-	-	-	24,290	32,020	68,235
16	-	-	-	21,415	28,225	62,035
17	-	-	-	18,900	24,910	56,385
18	-	-	-	16,705	22,020	51,250
19	-	-	-	14,785	19,490	46,595
20	-	-	-	13,115	17,285	42,385
21	-	-	-	11,655	15,365	38,575
22	-	-	-	-	-	35,135
23	-	-	-	-	-	32,020
24	-	-	-	-	-	29,205
25	-	-	-	-	-	26,665

Notes:

- Column is a single, one-piece member for dry-use applications only.
- Column is assumed to have adequate bracing in all directions at both ends.
- Loads are calculated per Section 5.1 of CWC "Wood Design Manual 2010" and CSA O86-14 for simple columns with axial loads only.
- For side-loaded columns, see the CSA O86-14 provisions or consult with a design professional.
- Table assumes the worst case of an eccentricity of 1/6 of either column dimension.
- Table assumes column bearing to be on a steel plate that has been adequately sized for bearing on the material below.
- When bearing on a 1½" thick wood plate, axial factored loads (lbs) shall not exceed the following values:

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Northern plate	5,720 lbs	8,989 lbs	11,849 lbs	13,483 lbs	17,773 lbs	23,697 lbs

2.3E RigidLam® LVL Specified Strengths⁽¹⁾

True Modulus of Elasticity	E = 2,300,000 psi
Bending Edgewise	Fb = 5,729 psi ⁽²⁾
Bending Flatwise	Fb = 5,729 psi ⁽³⁾
Compression Parallel to Grain	Fc = 4,788 psi

- These specified strengths are for standard term load duration and apply to dry service conditions.
- The tabulated values are based on a reference depth of 12 inches. For other depths, when loaded edgewise, the allowable bending stress (Fb) shall be modified by a depth factor, $K_{zb} = (12/d)^{1/6}$ for Douglas-fir LVL (Mill #1055), where d is the LVL depth in inches. For depths less than 3½ inches, multiply the value by 1.17 for DF LVL.
- Tabulated Fb Tflat values are based on a thickness of 1¾". For other thicknesses, when loaded flatwise, multiply flat by $(1.75/t)^{1/6}$, where t is the LVL thickness in inches. For thicknesses less than 1¾", use the tabulates value.

