

# Allowable Design Values & Stresses, Section Properties

## BOISE GLULAM® 24F-V4 Design Values

Width (in)	Depth (in)	Weight (plf)	Allowable Shear (lbs)	Allowable Moment (ft-lbs)	Moment of Inertia (in <sup>4</sup> )
3 <sup>1</sup> / <sub>8</sub>	6	4.6	3313	3750	56.3
	7 <sup>1</sup> / <sub>2</sub>	5.7	4141	5859	109.9
	9	6.8	4969	8438	189.8
	10 <sup>1</sup> / <sub>2</sub>	8.0	5797	11484	301.5
	12	9.1	6625	15000	450.0
	13 <sup>1</sup> / <sub>2</sub>	10.3	7453	18984	640.7
	15	11.4	8281	23438	878.9
	16 <sup>1</sup> / <sub>2</sub>	12.5	9109	28359	1169.8
	18	13.7	9938	33750	1518.8
3 <sup>1</sup> / <sub>2</sub>	4 <sup>1</sup> / <sub>2</sub>	3.8	2783	2363	26.6
	6	5.1	3710	4200	63.0
	7 <sup>1</sup> / <sub>2</sub>	6.4	4638	6563	123.0
	9	7.7	5565	9450	212.6
	10 <sup>1</sup> / <sub>2</sub>	8.9	6493	12863	337.6
	12	10.2	7420	16800	504.0
	13 <sup>1</sup> / <sub>2</sub>	11.5	8348	21263	717.6
	15	12.8	9275	26250	984.4
5 <sup>1</sup> / <sub>8</sub>	6	7.5	5433	6150	92.3
	7 <sup>1</sup> / <sub>2</sub>	9.3	6791	9609	180.2
	9	11.2	8149	13838	311.3
	10 <sup>1</sup> / <sub>2</sub>	13.1	9507	18834	494.4
	12	14.9	10865	24600	738.0
	13 <sup>1</sup> / <sub>2</sub>	16.8	12223	30770	1050.8
	15	18.7	13581	37589	1441.4
	16 <sup>1</sup> / <sub>2</sub>	20.6	14939	45052	1918.5
	18	22.4	16298	53151	2490.8
	19 <sup>1</sup> / <sub>2</sub>	24.3	17656	61881	3166.8
	21	26.2	19014	71237	3955.2
	22 <sup>1</sup> / <sub>2</sub>	28.0	20372	81215	4864.7
	24	29.9	21730	91810	5904.0

Width (in)	Depth (in)	Weight (plf)	Allowable Shear (lbs)	Allowable Moment (ft-lbs)	Moment of Inertia (in <sup>4</sup> )
5 <sup>1</sup> / <sub>2</sub>	9	12.0	8745	14850	334.1
	10 <sup>1</sup> / <sub>2</sub>	14.0	10203	20213	530.6
	12	16.0	11660	26214	792.0
	13 <sup>1</sup> / <sub>2</sub>	18.0	13118	32789	1127.7
	15	20.1	14575	40056	1546.9
6 <sup>3</sup> / <sub>4</sub>	7 <sup>1</sup> / <sub>2</sub>	12.3	8944	12656	237.3
	9	14.8	10733	18225	410.1
	10 <sup>1</sup> / <sub>2</sub>	17.2	12521	24457	651.2
	12	19.7	14310	31520	972.0
	13 <sup>1</sup> / <sub>2</sub>	22.1	16099	39425	1384.0
	15	24.6	17888	48163	1898.4
	16 <sup>1</sup> / <sub>2</sub>	27.1	19676	57724	2526.8
	18	29.5	21465	68102	3280.5
8 <sup>3</sup> / <sub>4</sub>	19 <sup>1</sup> / <sub>2</sub>	32.0	23254	79288	4170.9
	21	34.5	25043	91276	5209.3
	22 <sup>1</sup> / <sub>2</sub>	36.9	26831	104061	6407.2
	24	39.4	28620	117636	7776.0
	9	19.1	13913	23048	531.6
	10 <sup>1</sup> / <sub>2</sub>	22.3	16231	30891	844.1
	12	25.5	18550	39812	1260.0
	13 <sup>1</sup> / <sub>2</sub>	28.7	20869	49798	1794.0
	15	31.9	23188	60834	2460.9
	16 <sup>1</sup> / <sub>2</sub>	35.1	25506	72911	3275.5
18	38.3	27825	86018	4252.5	
19 <sup>1</sup> / <sub>2</sub>	41.5	30144	100147	5406.7	
21	44.7	32463	115290	6752.8	
22 <sup>1</sup> / <sub>2</sub>	47.9	34781	131438	8305.7	
24	51.0	37100	148585	10080.0	

### Notes:

1) Allowable moment calculated using glulam volume factor ( $C_v$ ) with a span length of 21 ft. Allowable moment shall be multiplied by  $(21/\text{Span Length [ft]})^{1/10}$  for longer spans.

## BOISE GLULAM® 24F-V4 Allowable Design Stresses

Bending $F_b$ [psi]		Horizontal Shear $F_v$ [psi]	Modulus of Elasticity $E$ [psi]	Tension Parallel to Grain $F_t$ [psi]	Compression Parallel to Grain $F_c$ [psi]	Compression Perpendicular to Grain $F_c$ [psi]
Tension Zone in Tension	Compression Zone in Tension					
<b>2400</b>	<b>1850</b>	<b>265</b>	<b>1,800,000</b>	<b>1100</b>	<b>1650</b>	<b>650</b>

### Notes:

The data is for stock beams. For information on sizes not listed, please use BC CALC® software or consult with Boise EWP Engineering. Consult Boise EWP Engineering for additional design stresses for nonstandard applications and stability issues.

# Column Table & Allowable Stresses


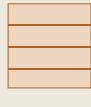
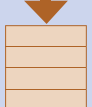
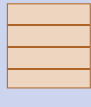
## BOISE GLULAM® COLUMNS

Allowable Axial Load — Combination 3 Column Grade

Column Length [ft]	3 1/8" Wide Column Allowable Axial Load (lb)						5 1/8" Wide Column Allowable Axial Load (lb)								
	3 1/8" x 6"			3 1/8" x 7 1/2"			5 1/8" x 5 1/8"			5 1/8" x 6"			5 1/8" x 7 1/2"		
	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%	100%	115%	125%
4	20,200	22,160	23,340	25,260	27,710	29,180	31,380	35,530	38,170						
5	16,940	18,150	18,850	21,180	22,690	23,570	29,520	33,080	35,340	35,890	40,450	43,330			
6	13,890	14,650	15,090	17,370	18,320	18,860	27,360	30,300	32,110	33,760	37,640	39,950			
7	11,400	11,920	12,210	14,260	14,890	15,270	24,990	27,300	28,690	31,060	33,850	35,520	34,870	37,470	38,990
8	9,460	9,820	10,030	11,830	12,280	12,530	22,530	24,270	25,290	27,870	29,960	31,180	30,990	32,950	34,080
9	7,940	8,210	8,360	9,930	10,260	10,450	20,110	21,440	22,210	24,780	26,340	27,250	27,470	28,960	29,830
10	6,750	6,950	7,060	8,440	8,690	8,830	17,900	18,920	19,520	21,970	23,160	23,850	24,380	25,550	26,220
11	5,800	5,950	6,040	7,250	7,440	7,550	15,940	16,760	17,230	19,490	20,430	20,970	21,700	22,640	23,190
12	5,030	5,150	5,220	6,290	6,440	6,530	14,240	14,900	15,280	17,350	18,110	18,530	19,400	20,160	20,600
13	4,400	4,500	4,550	5,500	5,620	5,698	12,770	13,310	13,610	15,520	16,120	16,480	17,420	18,050	18,410
14							11,500	11,940	12,200	13,930	14,440	14,720	15,720	16,240	16,540
15							10,400	10,770	10,980	12,570	12,980	13,220	14,240	14,670	14,930
16							9,440	9,750	9,930	11,380	11,740	11,930	12,950	13,320	13,530
17							8,600	8,860	9,010	10,350	10,650	10,820	11,820	12,140	12,320
18							7,860	8,090	8,220	9,450	9,710	9,850	10,830	11,110	11,270
19							7,220	7,410	7,520	8,660	8,880	9,010	9,960	10,200	10,340
20							6,640	6,810	6,910	7,960	8,160	8,260	9,190	9,390	9,510
21							6,130	6,280	6,370	7,340	7,510	7,610	8,580	8,780	8,900
22															
23															
24															

Column Length [ft]	6 3/4" Wide Column Allowable Axial Load (lb)						8 3/4" Wide Column Allowable Axial Load (lb)			Notes:
	6 3/4" x 6"			6 3/4" x 7 1/2"			8 3/4" x 9"			
	100%	115%	125%	100%	115%	125%	100%	115%	125%	
4										1) Table assumes that the column is braced at column ends only. Effective column length is equal to actual column length. 2) Allowable loads are based on one-piece column members used in dry service conditions. 3) Allowable loads are based on an eccentricity value equal to 0.167 multiplied by the column thickness or width (worst case). 4) Allowable loads are based on axial loading columns using the design provisions of the National Design Specification for Wood Construction (NDS), 2001 edition. For side or other combined bending and axial loads, use BC COLUMN software to analyze such conditions. 5) See below for allowable design stresses. 6) Load values are not shown for short lengths due to loads exceeding common connector capacities. Load values are not shown for longer lengths if the controlling slenderness ratio exceeds 50 (per NDS). 7) It may be possible to exceed the limitations of the table by analyzing a specific application with the BC COLUMN software.
5										
6										
7										
8										
9	35,920	38,870	40,620							
10	32,700	35,020	36,390							
11	29,620	31,470	32,540							
12	26,820	28,310	29,180	39,870	42,340	43,790				
13	24,310	25,530	26,240	36,390	38,420	39,600				
14	22,080	23,100	23,680	33,240	34,920	35,900				
15	20,100	20,960	21,460	30,410	31,830	32,640				
16	18,360	19,090	19,500	27,870	29,070	29,760				
17	16,820	17,440	17,800	25,620	26,650	27,230				
18	15,460	15,990	16,300	23,600	24,480	24,990				
19	14,250	14,710	14,970	21,800	22,570	23,000				
20	13,170	13,570	13,800	20,180	20,850	21,240				
21	12,200	12,550	12,750	18,730	19,320	19,650				
22	11,330	11,640	11,820	17,430	17,940	18,240	39,360	41,030	41,950	
23	10,550	10,820	10,980	16,250	16,710	16,970	36,940	38,400	39,250	
24	9,840	10,090	10,230	15,180	15,590	15,820	34,710	36,020	36,760	
25							32,660	33,830	34,510	
26							30,780	31,840	32,440	
27							29,060	30,010	30,560	
28							27,460	28,330	28,830	
29							26,000	26,780	27,240	
30							24,630	25,360	25,780	

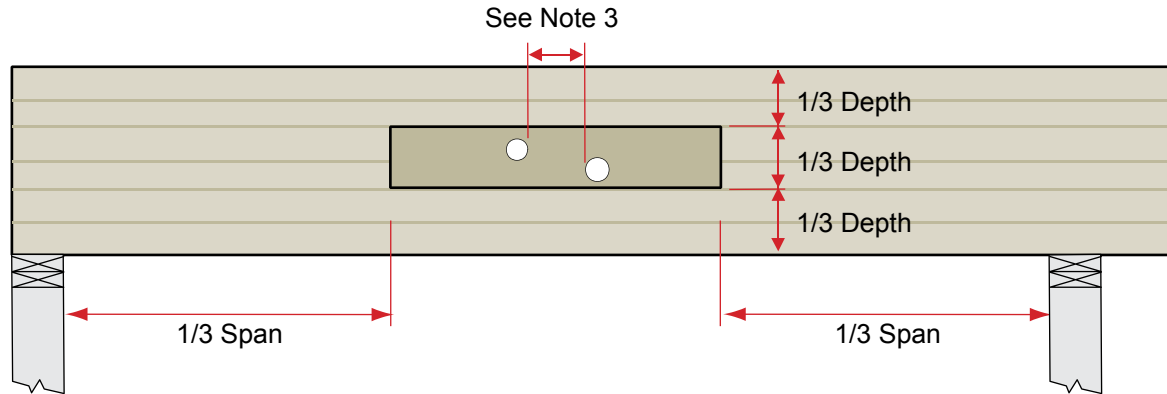
## BOISE GLULAM® Column Allowable Design Stresses Combination 3 Column Grade

Compression Parallel to Grain F <sub>c</sub> [psi]	Bending F <sub>b</sub> [psi]		Modulus of Elasticity E [psi]		Compression Perpendicular to Grain (limiting direction) F <sub>c</sub> [psi]	Tension Parallel to Grain F <sub>t</sub> [psi]
	Load Perpendicular to Gluelines	Load Parallel to Gluelines	Load Perpendicular to Gluelines	Load Parallel to Gluelines		
<b>2300</b>	 <b>2000</b>	 <b>2100</b>	 <b>1,900,000</b>	 <b>1,900,000</b>	<b>650</b>	<b>1450</b>

Equivalent specific gravity for fastener design: SG = 0.5.

## Horizontal Holes

### Allowable Holes in Glulam Beams



#### Notes:

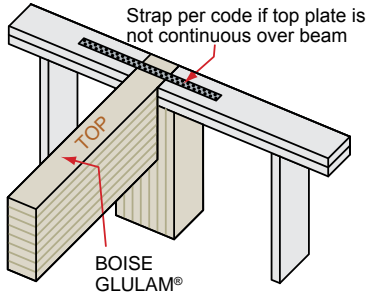
- 1) Square and rectangular holes are not permitted.
- 2) Round holes may be drilled or cut with a hole saw anywhere within the shaded area of the beam.
- 3) The horizontal distance between adjacent holes shall be at least two times the diameter of the larger hole.
- 4) Do not drill more than three access holes in any 4-foot long section of beam.
- 5) The maximum round hole diameter permitted is:
 

Beam Depth	6" & 7 $\frac{1}{2}$ "	9" & greater
Maximum Hole Diameter	1"	2"
- 6) These limitations apply to holes drilled for plumbing or wiring access only. The size and location of holes drilled for fasteners are governed by the provisions of the National Design Specification® for Wood Construction.
- 7) Beams deflect under load. Size holes to provide clearance where required.
- 8) This hole chart is valid for BOISE GLULAM® beams supporting uniform load only. For beams supporting concentrated loads or for beams with larger holes, contact Boise EWP Engineering.
- 9) For vertical holes, see page 28 for provisions with ridge beams or contact Boise EWP Engineering.

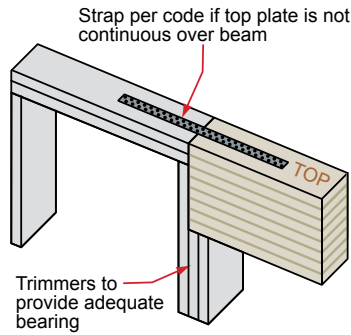


## Common Details

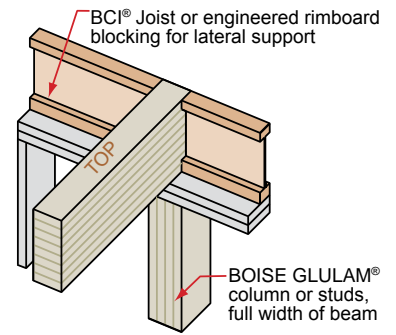
G1 Beam Framing to Wall



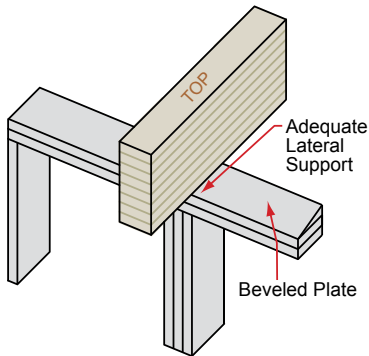
G2 Beam Bearing for Header



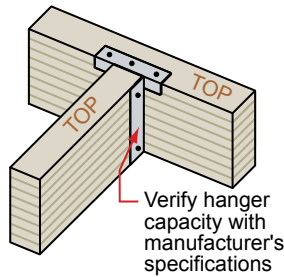
G3 Beam to Wall with Lateral Support



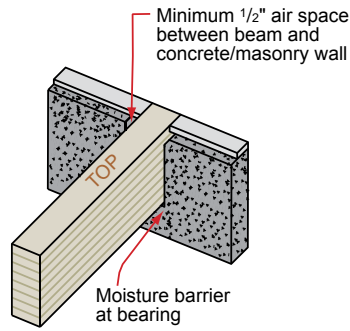
G4 End Wall Bevel Plate



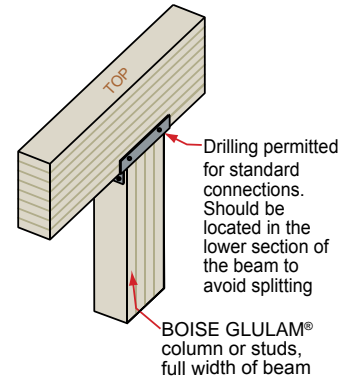
G5 Beam to Beam Connection



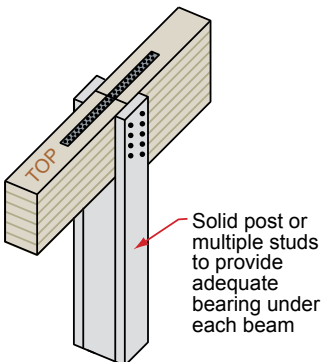
G6 Beam to Concrete / Masonry Wall



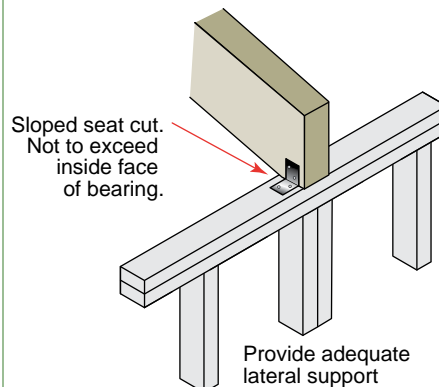
G7 Beam to Column Connection



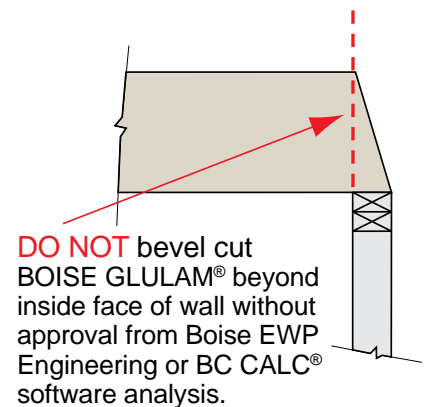
G8 Beam Depth Change at Intermediate Support



G9 Sloped Seat Cut



G10 Bevel Cutting



# BOISE GLULAM® Beams Floor Load Tables

## Architectural Appearance Beams

### 3 1/8" Floor Load Tables – 100%

Span [ft]	24F-V4 Grade – 100% Load Duration In pounds per lineal foot (PLF)									
	Span Type	6"	7.5"	9"	10.5"	12"	13.5"	15"	16.5"	18"
6	Simple	829	1296	1868	2544	3303	3965	4721	5593	6611
	Multiple	638	998	1438	1959	2400	2829	3301	3823	4403
	Min. Bearing	1.5 / 3	1.9 / 3.7	2.8 / 5.3	3.8 / 7.3	4.9 / 8.9	5.9 / 10.5	7 / 12.2	8.3 / 14.2	9.8 / 16.3
8	Simple	362	710	1048	1428	1866	2363	2918	3458	3961
	Multiple	357	559	806	1099	1436	1819	2197	2500	2826
	Min. Bearing	1.5 / 3	1.5 / 3	2.1 / 4	2.8 / 5.4	3.7 / 7.1	4.7 / 9	5.8 / 10.9	6.8 / 12.4	7.8 / 14
10	Simple	183	361	626	911	1191	1508	1864	2256	2686
	Multiple	227	356	513	700	916	1160	1434	1736	2068
	Min. Bearing	1.5 / 3	1.5 / 3	1.6 / 3.2	2.3 / 4.4	3 / 5.7	3.7 / 7.2	4.6 / 8.9	5.6 / 10.8	6.6 / 12.8
12	Simple	104	206	359	574	824	1044	1291	1563	1861
	Multiple	138	245	354	484	633	803	992	1202	1432
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 3.6	2.5 / 4.7	3.1 / 6	3.8 / 7.4	4.7 / 9	5.5 / 10.7
14	Simple	64	128	224	358	538	765	945	1145	1364
	Multiple	85	170	259	353	463	587	726	880	1048
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.1	2.7 / 5.1	3.3 / 6.4	4 / 7.7	4.7 / 9.1
16	Simple	-	84	148	237	357	511	704	874	1041
	Multiple	-	112	196	269	352	447	553	671	799
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 4.5	2.8 / 5.6	3.5 / 6.7	4.2 / 8
18	Simple	-	57	102	164	248	356	491	656	820
	Multiple	-	77	136	211	276	351	435	527	629
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2.2 / 4.9	3 / 6	3.7 / 7.1
20	Simple	-	-	72	118	178	257	355	475	619
	Multiple	-	-	97	157	222	282	350	425	507
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.8 / 4.4	2.4 / 5.4	3.1 / 6.4
22	Simple	-	-	53	86	132	190	264	354	462
	Multiple	-	-	71	116	176	232	287	349	416
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 4	2 / 4.9	2.6 / 5.8
24	Simple	-	-	-	65	99	144	201	270	353
	Multiple	-	-	-	88	134	193	240	291	346
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.7 / 4.5	2.2 / 5.3
26	Simple	-	-	-	-	76	111	155	209	274
	Multiple	-	-	-	-	103	150	202	245	290
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 4.1	1.8 / 4.9
28	Simple	-	-	-	-	59	87	122	165	217
	Multiple	-	-	-	-	81	118	164	208	247
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.8	1.6 / 4.5
30	Simple	-	-	-	-	-	69	97	132	174
	Multiple	-	-	-	-	-	94	131	177	211
	Min. Bearing	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 4.2
32	Simple	-	-	-	-	-	55	78	106	141
	Multiple	-	-	-	-	-	75	106	144	183
	Min. Bearing	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.9
34	Simple	-	-	-	-	-	-	63	87	115
	Multiple	-	-	-	-	-	-	87	118	156
	Min. Bearing	-	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3.5
36	Simple	-	-	-	-	-	-	51	71	95
	Multiple	-	-	-	-	-	-	71	97	129
	Min. Bearing	-	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3.2
38	Simple	-	-	-	-	-	-	-	59	79
	Multiple	-	-	-	-	-	-	-	81	108
	Min. Bearing	-	-	-	-	-	-	-	1.5 / 3	1.5 / 3
40	Simple	-	-	-	-	-	-	-	-	65
	Multiple	-	-	-	-	-	-	-	-	90
	Min. Bearing	-	-	-	-	-	-	-	-	1.5 / 3

- Both Architectural and Industrial appearance grade BOISE GLULAMS™ have the same structural grade, 24F-V4. Appearance grade does not affect the beam's load capacity.
- Uniform PLF load values are limited by shear, moment, total load deflection limited to L/240 and live load deflection limited to L/360.
- Live load is equal to 0.8 of total load (residential loading).
- Span is measured center to center of the supports.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.

- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

# BOISE GLULAM® Beams Floor Load Tables

## Architectural Appearance Beams 5 1/8" Floor Load Tables – 100%

Span [ft]	24F-V4 Grade – 100% Load Duration In pounds per lineal foot (PLF)													
	Span Type	6"	7.5"	9"	10.5"	12"	13.5"	15"	16.5"	18"	19.5"	21"	22.5"	24"
6	Simple	1359	2126	3064	4172	5418	6502	7742	9173	10843	12816			
	Multiple	1046	1637	2359	3213	3936	4640	5414	6270	7221	8284			
	Min. Bearing	1.5 / 3	1.9 / 3.7	2.8 / 5.3	3.8 / 7.3	4.9 / 8.9	5.9 / 10.5	7 / 12.2	8.3 / 14.2	9.8 / 16.3	11.6 / 18.7			
8	Simple	593	1164	1718	2341	3060	3875	4786	5671	6497	7410	8424	9559	
	Multiple	585	917	1322	1802	2355	2983	3603	4101	4634	5207	5824	6491	
	Min. Bearing	1.5 / 3	1.5 / 3	2.1 / 4	2.8 / 5.4	3.7 / 7.1	4.7 / 9	5.8 / 10.9	6.8 / 12.4	7.8 / 14	8.9 / 15.7	10.1 / 17.6	11.5 / 19.6	
10	Simple	300	591	1027	1494	1953	2474	3056	3700	4406	5172	5824	6491	7213
	Multiple	372	583	842	1148	1502	1903	2352	2848	3391	3793	4199	4628	5083
	Min. Bearing	1.5 / 3	1.5 / 3	1.6 / 3.2	2.3 / 4.4	3 / 5.7	3.7 / 7.2	4.6 / 8.9	5.6 / 10.8	6.6 / 12.8	7.8 / 14.3	8.8 / 15.9	9.8 / 17.5	10.9 / 19.2
12	Simple	170	338	589	941	1352	1713	2117	2563	3053	3585	4159	4744	5364
	Multiple	227	402	581	793	1039	1316	1627	1971	2348	2758	3200	3594	3921
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 3.6	2.5 / 4.7	3.1 / 6	3.8 / 7.4	4.7 / 9	5.5 / 10.7	6.5 / 12.5	7.5 / 14.5	8.6 / 16.3	9.7 / 17.8
14	Simple	105	210	367	588	882	1254	1550	1878	2237	2606	3002	3424	3873
	Multiple	140	279	424	579	759	963	1191	1443	1719	2003	2308	2633	2978
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.1	2.7 / 5.1	3.3 / 6.4	4 / 7.7	4.7 / 9.1	5.5 / 10.7	6.4 / 12.3	7.3 / 14	8.2 / 15.8
16	Simple	68	137	242	389	586	838	1154	1426	1684	1963	2261	2580	2918
	Multiple	91	184	322	441	578	733	907	1095	1293	1507	1737	1982	2243
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 4.5	2.8 / 5.6	3.5 / 6.7	4.1 / 7.9	4.8 / 9.2	5.5 / 10.6	6.3 / 12.1	7.1 / 13.6
18	Simple	-	94	167	270	407	584	805	1076	1310	1527	1760	2008	2272
	Multiple	-	126	223	345	453	576	708	850	1005	1172	1351	1542	1745
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2.2 / 4.9	3 / 5.9	3.6 / 6.9	4.2 / 8.1	4.8 / 9.3	5.5 / 10.6	6.2 / 12
20	Simple	-	66	119	193	293	421	582	779	1015	1219	1406	1604	1815
	Multiple	-	89	159	258	364	460	564	677	801	934	1077	1230	1392
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.8 / 4.4	2.4 / 5.2	3.1 / 6.2	3.7 / 7.2	4.3 / 8.3	4.9 / 9.4	5.5 / 10.7
22	Simple	-	-	86	142	216	312	433	580	757	967	1146	1308	1481
	Multiple	-	-	117	190	289	373	458	551	652	760	877	1002	1134
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.9	2 / 4.7	2.6 / 5.6	3.3 / 6.5	3.9 / 7.5	4.4 / 8.5	5 / 9.6
24	Simple	-	-	64	106	163	237	329	442	578	739	928	1085	1228
	Multiple	-	-	88	144	219	308	378	455	539	629	726	830	940
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.7 / 4.3	2.2 / 5.1	2.8 / 5.9	3.4 / 6.8	4 / 7.7	4.5 / 8.7
26	Simple	-	-	-	81	125	182	255	343	450	576	724	895	1034
	Multiple	-	-	-	110	169	245	317	382	452	528	610	697	790
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.9	1.8 / 4.6	2.3 / 5.4	2.9 / 6.2	3.6 / 7.1	4.2 / 8
28	Simple	-	-	-	62	97	143	200	271	356	457	574	711	867
	Multiple	-	-	-	86	132	193	269	324	384	449	518	593	672
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.6 / 4.3	2 / 5	2.5 / 5.7	3.1 / 6.5	3.8 / 7.4
30	Simple	-	-	-	76	113	159	216	285	367	462	573	699	
	Multiple	-	-	-	105	154	215	277	329	385	445	509	577	
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 4	1.8 / 4.6	2.2 / 5.3	2.7 / 6	3.3 / 6.8	
32	Simple	-	-	-	60	90	128	175	231	298	376	467	571	
	Multiple	-	-	-	84	124	174	236	284	333	385	441	500	
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.7	1.5 / 4.3	1.9 / 4.9	2.4 / 5.6	2.9 / 6.4	
34	Simple	-	-	-	-	72	104	142	189	244	309	385	471	
	Multiple	-	-	-	-	100	142	193	248	290	336	385	437	
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 4	1.7 / 4.6	2.1 / 5.3	2.6 / 6	
36	Simple	-	-	-	-	58	84	117	156	202	256	320	392	
	Multiple	-	-	-	-	82	117	160	212	255	295	338	384	
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.8	1.5 / 4.3	1.9 / 4.9	2.3 / 5.6	
38	Simple	-	-	-	-	69	96	129	168	214	267	329		
	Multiple	-	-	-	-	96	133	177	225	261	299	340		
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 4.1	1.7 / 4.7	2 / 5.3		
40	Simple	-	-	-	-	56	79	107	141	180	225	278		
	Multiple	-	-	-	-	80	111	148	193	231	265	302		
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.9	1.5 / 4.4	1.8 / 5		

- Both Architectural and Industrial appearance grade BOISE GLULAMS have the same structural grade, 24F-V4. Appearance grade does not affect the beam's load capacity.
- Uniform PLF load values are limited by shear, moment, total load deflection limited to L/240 and live load deflection limited to L/360.
- Live load is equal to 0.8 of total load (residential loading).
- Span is measured center to center of the supports.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

# BOISE GLULAM® Beams Floor Load Tables

## Architectural Appearance Beams 6¾" Floor Load Tables – 100%

### 24F-V4 Grade – 100% Load Duration In pounds per lineal foot (PLF)

Span [ft]	Span Type	24F-V4 Grade – 100% Load Duration In pounds per lineal foot (PLF)											
		7.5"	9"	10.5"	12"	13.5"	15"	16.5"	18"	19.5"	21"	22.5"	24"
6	Simple	2800	4035	5495	7135	8564	10197	12081	14280	16880			
	Multiple	2156	3107	4232	5184	6111	7130	8258	9510	10911			
	Min. Bearing	1.9 / 3.7	2.8 / 5.3	3.8 / 7.3	4.9 / 8.9	5.9 / 10.5	7 / 12.2	8.3 / 14.2	9.8 / 16.3	11.6 / 18.7			
8	Simple	1533	2263	3084	4030	5104	6304	7469	8556	9759	11096	12590	
	Multiple	1207	1741	2373	3102	3929	4745	5401	6103	6858	7671	8549	
	Min. Bearing	1.5 / 3	2.1 / 4	2.8 / 5.4	3.7 / 7.1	4.7 / 9	5.8 / 10.9	6.8 / 12.4	7.8 / 14	8.9 / 15.7	10.1 / 17.6	11.5 / 19.6	
10	Simple	779	1352	1967	2572	3258	4025	4873	5802	6800	7671	8549	9501
	Multiple	768	1109	1512	1978	2507	3097	3750	4466	4996	5531	6096	6695
	Min. Bearing	1.5 / 3	1.6 / 3.2	2.3 / 4.4	3 / 5.7	3.7 / 7.2	4.6 / 8.9	5.6 / 10.8	6.6 / 12.8	7.8 / 14.3	8.8 / 15.9	9.8 / 17.5	10.9 / 19.2
12	Simple	445	776	1239	1780	2256	2788	3364	3972	4626	5328	6077	6872
	Multiple	530	766	1045	1368	1734	2143	2587	3055	3559	4099	4676	5164
	Min. Bearing	1.5 / 3	1.5 / 3	1.7 / 3.6	2.5 / 4.7	3.1 / 6	3.8 / 7.4	4.6 / 8.9	5.5 / 10.5	6.4 / 12.3	7.3 / 14.1	8.4 / 16.1	9.5 / 17.8
14	Simple	276	483	774	1161	1652	2023	2427	2865	3338	3845	4386	4961
	Multiple	367	559	763	1000	1268	1553	1864	2202	2566	2956	3373	3815
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.1	2.7 / 5.1	3.3 / 6.3	3.9 / 7.5	4.6 / 8.9	5.4 / 10.4	6.2 / 11.9	7.1 / 13.6	8 / 15.4
16	Simple	181	319	513	771	1104	1520	1827	2157	2514	2897	3305	3738
	Multiple	242	424	580	761	954	1168	1402	1656	1931	2225	2539	2872
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 4.4	2.8 / 5.4	3.4 / 6.5	4 / 7.7	4.6 / 8.9	5.3 / 10.3	6.1 / 11.7	6.9 / 13.3
18	Simple	123	220	355	536	769	1060	1417	1678	1956	2254	2572	2910
	Multiple	166	293	455	590	740	906	1089	1287	1501	1730	1974	2234
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.6 / 3.9	2.2 / 4.8	3 / 5.7	3.5 / 6.8	4.1 / 7.9	4.7 / 9	5.4 / 10.3	6.1 / 11.7
20	Simple	87	156	254	385	555	766	1026	1337	1562	1800	2054	2325
	Multiple	118	210	340	469	589	722	867	1026	1196	1380	1575	1783
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.8 / 4.3	2.4 / 5.1	3.1 / 6	3.6 / 7	4.2 / 8.1	4.8 / 9.2	5.4 / 10.4
22	Simple	62	114	187	285	411	570	764	997	1272	1467	1675	1896
	Multiple	85	154	251	380	478	586	705	834	974	1123	1283	1452
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.8	2 / 4.6	2.6 / 5.4	3.3 / 6.3	3.8 / 7.3	4.3 / 8.3	4.9 / 9.4
24	Simple	-	84	140	215	312	433	582	761	974	1216	1389	1573
	Multiple	-	115	189	289	394	484	583	690	806	930	1062	1203
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.7 / 4.2	2.2 / 4.9	2.8 / 5.7	3.4 / 6.6	3.9 / 7.5	4.4 / 8.5
26	Simple	-	63	106	165	240	335	452	593	759	954	1169	1323
	Multiple	-	88	145	223	323	405	488	579	676	781	892	1011
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.8	1.8 / 4.5	2.3 / 5.2	2.9 / 6	3.6 / 6.9	4 / 7.8
28	Simple	-	-	82	128	188	264	357	469	601	757	936	1127
	Multiple	-	-	113	174	254	343	414	491	574	663	758	860
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.6 / 4.2	2 / 4.8	2.5 / 5.6	3.1 / 6.3	3.7 / 7.2
30	Simple	-	-	63	100	149	210	285	375	483	609	754	921
	Multiple	-	-	89	138	203	284	355	421	492	569	651	738
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.8	1.8 / 4.5	2.2 / 5.2	2.7 / 5.9	3.3 / 6.6
32	Simple	-	-	-	79	119	169	230	304	392	495	615	752
	Multiple	-	-	-	110	163	229	306	364	426	493	564	640
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.5 / 4.2	1.9 / 4.8	2.4 / 5.5	2.9 / 6.2
34	Simple	-	-	-	63	95	136	187	249	322	407	506	620
	Multiple	-	-	-	89	132	187	255	317	371	430	492	559
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 3.9	1.7 / 4.5	2.1 / 5.1	2.6 / 5.8
36	Simple	-	-	-	-	77	111	153	205	266	338	421	516
	Multiple	-	-	-	-	108	154	210	278	325	377	432	491
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.7	1.5 / 4.2	1.9 / 4.8	2.3 / 5.4
38	Simple	-	-	-	-	62	91	126	170	221	282	352	433
	Multiple	-	-	-	-	88	127	175	233	287	333	382	434
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 4	1.7 / 4.5	2 / 5.1
40	Simple	-	-	-	-	-	74	105	141	185	237	297	366
	Multiple	-	-	-	-	-	105	146	195	254	295	339	386
	Min. Bearing	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.8	1.5 / 4.3	1.8 / 4.8

- Both Architectural and Industrial appearance grade BOISE GLULAMS have the same structural grade, 24F-V4. Appearance grade does not affect the beam's load capacity.
- Uniform PLF load values are limited by shear, moment, total load deflection limited to L/240 and live load deflection limited to L/360.
- Live load is equal to 0.8 of total load (residential loading).
- Span is measured center to center of the supports.
- Table values assume that lateral support is provided at each support and continuously along the compression edge of the beam.
- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain and the load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
- This table was designed to apply to a broad range of applications. It may be possible to exceed the limitations of this table by analyzing a specific application with the BC CALC® software.

# BOISE GLULAM® Beams Floor Load Tables

## Architectural Appearance Beams 8¾" Floor Load Tables – 100%

Span [ft]	24F-V4 Grade – 100% Load Duration In pounds per lineal foot (PLF)											
	Span Type	9"	10.5"	12"	13.5"	15"	16.5"	18"	19.5"	21"	22.5"	24"
6	Simple	5231	7124	9249	11101	13218	15661	18512	21881	25925	30869	37049
	Multiple	4028	5486	6720	7921	9243	10704	12328	14144	16187	18502	21149
	Min. Bearing	2.8 / 5.3	3.8 / 7.3	4.9 / 8.9	5.9 / 10.5	7 / 12.2	8.3 / 14.2	9.8 / 16.3	11.6 / 18.7	13.7 / 21.4	16.3 / 24.5	19.6 / 28
8	Simple	2934	3997	5224	6616	8171	9682	11092	12651	14383	16320	18499
	Multiple	2257	3076	4021	5093	6151	7001	7912	8890	9944	11082	12316
	Min. Bearing	2.1 / 4	2.8 / 5.4	3.7 / 7.1	4.7 / 9	5.8 / 10.9	6.8 / 12.4	7.8 / 14	8.9 / 15.7	10.1 / 17.6	11.5 / 19.6	13 / 21.7
10	Simple	1753	2550	3334	4224	5210	6247	7373	8587	9889	11082	12316
	Multiple	1438	1961	2564	3249	4008	4807	5675	6476	7169	7902	8678
	Min. Bearing	1.6 / 3.2	2.3 / 4.4	3 / 5.7	3.7 / 7.2	4.6 / 8.9	5.5 / 10.6	6.5 / 12.6	7.6 / 14.3	8.7 / 15.9	9.8 / 17.5	10.9 / 19.2
12	Simple	1006	1606	2308	2897	3542	4249	5016	5842	6729	7675	8679
	Multiple	993	1355	1773	2227	2723	3267	3857	4494	5177	5905	6678
	Min. Bearing	1.5 / 3	1.7 / 3.6	2.5 / 4.7	3.1 / 5.9	3.8 / 7.3	4.5 / 8.7	5.3 / 10.3	6.2 / 12	7.1 / 13.8	8.1 / 15.7	9.2 / 17.7
14	Simple	627	1003	1505	2088	2554	3064	3618	4215	4856	5539	6265
	Multiple	724	989	1279	1603	1961	2354	2780	3240	3733	4259	4817
	Min. Bearing	1.5 / 3	1.5 / 3.1	1.9 / 4	2.6 / 5	3.2 / 6.1	3.8 / 7.4	4.5 / 8.7	5.2 / 10.1	6 / 11.6	6.9 / 13.3	7.8 / 15
16	Simple	413	665	1000	1431	1922	2306	2724	3174	3657	4173	4720
	Multiple	550	742	960	1204	1474	1770	2091	2437	2809	3206	3627
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3.5	2.1 / 4.3	2.7 / 5.3	3.3 / 6.3	3.9 / 7.5	4.5 / 8.7	5.2 / 10	5.9 / 11.4	6.7 / 12.9
18	Simple	285	460	695	997	1375	1793	2119	2470	2846	3248	3675
	Multiple	380	575	744	934	1144	1374	1624	1894	2184	2493	2821
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.8	2.2 / 4.7	2.9 / 5.6	3.4 / 6.6	4 / 7.7	4.6 / 8.8	5.2 / 10.1	5.9 / 11.4
20	Simple	202	329	499	719	993	1330	1691	1971	2272	2594	2935
	Multiple	272	440	591	743	911	1094	1294	1510	1741	1988	2251
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.8 / 4.1	2.4 / 5	3 / 5.9	3.5 / 6.8	4.1 / 7.9	4.6 / 9	5.3 / 10.1
22	Simple	147	242	369	533	738	990	1293	1606	1852	2115	2394
	Multiple	200	325	479	603	740	890	1053	1229	1417	1619	1833
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.7	2 / 4.5	2.6 / 5.3	3.2 / 6.1	3.7 / 7.1	4.2 / 8.1	4.7 / 9.1
24	Simple	109	181	278	404	561	755	987	1262	1535	1753	1985
	Multiple	149	245	374	497	611	735	870	1016	1173	1341	1519
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.7 / 4.1	2.2 / 4.8	2.8 / 5.6	3.3 / 6.4	3.8 / 7.3	4.3 / 8.3
26	Simple	82	138	213	312	435	586	768	984	1236	1475	1670
	Multiple	113	188	289	416	511	616	730	853	985	1126	1276
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.7	1.8 / 4.4	2.3 / 5.1	2.9 / 5.9	3.5 / 6.7	3.9 / 7.6
28	Simple	62	106	166	244	342	462	607	780	981	1213	1422
	Multiple	87	146	226	330	433	522	619	724	836	957	1085
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.6 / 4	2 / 4.7	2.5 / 5.4	3.1 / 6.2	3.6 / 7
30	Simple	-	82	130	193	272	369	487	626	789	978	1193
	Multiple	-	115	179	263	368	447	530	621	718	821	931
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.7	1.8 / 4.4	2.2 / 5	2.7 / 5.7	3.3 / 6.5
32	Simple	-	64	103	154	218	298	394	509	642	797	974
	Multiple	-	91	143	211	297	386	458	537	621	711	807
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.5	1.5 / 4.1	1.9 / 4.7	2.4 / 5.3	2.9 / 6
34	Simple	-	-	81	123	177	243	322	417	528	657	804
	Multiple	-	-	115	171	243	330	399	468	541	620	704
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 3.8	1.7 / 4.4	2.1 / 5	2.6 / 5.6
36	Simple	-	-	64	99	144	199	266	345	438	546	669
	Multiple	-	-	93	140	199	273	350	410	475	545	619
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.5 / 3.6	1.5 / 4.1	1.9 / 4.7	2.3 / 5.3
38	Simple	-	-	51	80	118	164	220	287	366	457	561
	Multiple	-	-	75	115	165	227	301	362	419	481	547
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 3.9	1.7 / 4.4	2 / 5
40	Simple	-	-	-	65	96	136	183	240	307	385	474
	Multiple	-	-	-	94	137	189	253	320	372	427	486
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.7	1.5 / 4.2	1.8 / 4.7

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- Table values for Minimum Required Bearing Lengths are based on the allowable compression design value perpendicular to grain for the beam and the load value shown. Other design considerations, such as a weaker support material, may warrant longer bearing lengths. Table values assume that support is provided across the full width of the beam.
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# BOISE GLULAM® Beams Floor Load Tables

## Industrial Appearance Headers 3 1/2" and 5 1/2" Floor Load Tables – 100%

**24F-V4 Grade – 100% Load Duration**  
In pounds per lineal foot (PLF)

Span [ft]	Span Type	3 1/2"										5 1/2"				
		4.5"	6"	7.5"	9"	10.5"	12"	13.5"	15"	9"	10.5"	12"	13.5"	15"		
		6	Simple	406	928	1452	2092	2849	3700	4441	5287	3288	4478	5814	6978	8309
	Multiple	401	714	1118	1611	2194	2688	3169	3697	2532	3448	4224	4979	5810		
	Min. Bearing	1.5 / 3	1.5 / 3	1.9 / 3.7	2.8 / 5.3	3.8 / 7.3	4.9 / 8.9	5.9 / 10.5	7 / 12.2	2.8 / 5.3	3.8 / 7.3	4.9 / 8.9	5.9 / 10.5	7 / 12.2		
8	Simple	169	405	795	1174	1599	2090	2646	3268	1844	2513	3284	4159	5136		
	Multiple	224	400	626	903	1230	1609	2037	2461	1419	1934	2528	3201	3867		
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	2.1 / 4	2.8 / 5.4	3.7 / 7.1	4.7 / 9	5.8 / 10.9	2.1 / 4	2.8 / 5.4	3.7 / 7.1	4.7 / 9	5.8 / 10.9		
10	Simple	85	205	404	701	1020	1334	1690	2087	1102	1603	2096	2655	3280		
	Multiple	113	254	398	575	784	1026	1300	1606	904	1232	1612	2042	2524		
	Min. Bearing	1.5 / 3	1.5 / 3	1.5 / 3	1.6 / 3.2	2.3 / 4.4	3 / 5.7	3.7 / 7.2	4.6 / 8.9	1.6 / 3.2	2.3 / 4.4	3 / 5.7	3.7 / 7.2	4.6 / 8.9		
12	Simple	-	116	231	403	642	923	1170	1446	633	1009	1451	1838	2272		
	Multiple	-	155	275	397	542	709	899	1111	624	852	1115	1413	1746		
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.7 / 3.6	2.5 / 4.7	3.1 / 6	3.8 / 7.4	1.5 / 3	1.7 / 3.6	2.5 / 4.7	3.1 / 6	3.8 / 7.4		
14	Simple	-	71	143	251	401	602	856	1059	394	630	946	1346	1664		
	Multiple	-	96	190	290	396	518	657	813	455	622	815	1033	1278		
	Min. Bearing	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.1	1.9 / 4.1	2.7 / 5.1	3.3 / 6.4	1.5 / 3	1.5 / 3.1	1.9 / 4.1	2.7 / 5.1	3.3 / 6.4		
16	Simple	-	-	94	165	266	400	573	788	260	418	628	900	1239		
	Multiple	-	-	125	220	301	394	501	620	346	473	620	787	971		
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 4.5	2.8 / 5.6	1.5 / 3	1.5 / 3	1.5 / 3.6	2.1 / 4.5	2.8 / 5.5		
18	Simple	-	-	64	114	184	278	399	550	179	289	437	626	864		
	Multiple	-	-	86	152	236	310	393	487	239	371	486	616	754		
	Min. Bearing	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2.2 / 4.9	1.5 / 3	1.5 / 3	1.5 / 3.2	1.6 / 4	2.2 / 4.9		
20	Simple	-	-	-	81	132	200	288	397	127	207	314	452	624		
	Multiple	-	-	-	109	176	249	316	392	171	277	390	490	600		
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.8 / 4.4	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6	1.8 / 4.3		
22	Simple	-	-	-	59	97	148	213	295	93	152	232	335	464		
	Multiple	-	-	-	80	130	197	259	322	126	204	310	398	488		
	Min. Bearing	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3	1.5 / 4	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.2	1.5 / 3.9		
24	Simple	-	-	-	-	72	111	162	225	69	114	175	254	353		
	Multiple	-	-	-	-	98	150	216	268	94	154	235	328	403		
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.7	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.6		
26	Simple	-	-	-	-	55	85	125	174	51	87	134	196	273		
	Multiple	-	-	-	-	75	116	168	225	71	118	182	263	338		
	Min. Bearing	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.4	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3.3		
28	Simple	-	-	-	-	-	66	97	137	-	67	104	153	215		
	Multiple	-	-	-	-	-	90	132	184	-	92	142	207	286		
	Min. Bearing	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3		
30	Simple	-	-	-	-	-	52	77	109	-	51	82	121	171		
	Multiple	-	-	-	-	-	72	105	147	-	72	113	165	231		
	Min. Bearing	-	-	-	-	-	1.5 / 3	1.5 / 3	1.5 / 3	-	1.5 / 3	1.5 / 3	1.5 / 3	1.5 / 3		
32	Simple	-	-	-	-	-	-	62	87	-	-	65	97	137		
	Multiple	-	-	-	-	-	-	85	119	-	-	90	133	187		
	Min. Bearing	-	-	-	-	-	-	1.5 / 3	1.5 / 3	-	-	1.5 / 3	1.5 / 3	1.5 / 3		
34	Simple	-	-	-	-	-	-	-	71	-	-	51	78	111		
	Multiple	-	-	-	-	-	-	-	97	-	-	72	108	152		
	Min. Bearing	-	-	-	-	-	-	-	1.5 / 3	-	-	1.5 / 3	1.5 / 3	1.5 / 3		
36	Simple	-	-	-	-	-	-	-	58	-	-	-	63	90		
	Multiple	-	-	-	-	-	-	-	80	-	-	-	88	125		
	Min. Bearing	-	-	-	-	-	-	-	1.5 / 3	-	-	-	1.5 / 3	1.5 / 3		
38	Simple	-	-	-	-	-	-	-	-	-	-	-	50	74		
	Multiple	-	-	-	-	-	-	-	-	-	-	-	72	104		
	Min. Bearing	-	-	-	-	-	-	-	-	-	-	-	1.5 / 3	1.5 / 3		
40	Simple	-	-	-	-	-	-	-	-	-	-	-	-	61		
	Multiple	-	-	-	-	-	-	-	-	-	-	-	-	86		
	Min. Bearing	-	-	-	-	-	-	-	-	-	-	-	-	1.5 / 3		

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