Power Preserved Column™ Dry Use

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Columns

Effective Column Length (ft)	Lamination Net Width = 3-1/2"					
	Net Depth = 3-1/2" (3 lams)			Net Depth = 5-1/2" (4 lams)		
	Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25
4	11,710	13,070	13,920	22,620	24,960	26,380
6	9,050	9,710	10,090	16,080	17,010	17,550
8	6,510	6,820	6,990	11,060	11,500	11,750
10	4,760	4,920	5,020	7,920	8,160	8,300
12	3,590	3,700	3,750	5,920	6,060	6,150
14	2,800	2,870	2,900	4,580	4,670	4,720

Effective Column Length (ft)	Lamination Net Width = 5-1/4"					
	Net Depth = 5-1/2" (4 lams)			Net Depth = 6-7/8" (5 lams)		
	Load Duration Factor			Load Duration Factor		
	1.00	1.15	1.25	1.00	1.15	1.25
6	31,220	34,620	36,710	41,620	46,070	48,750
8	25,780	27,780	28,960	33,820	36,260	37,680
10	20,480	21,650	22,320	26,420	27,790	28,570
12	16,280	17,010	17,430	20,740	21,580	22,070
14	13,120	13,620	13,900	16,570	17,130	17,450
16	10,760	11,100	11,280	13,490	13,880	14,100
18	8,940	9,160	9,290	11,170	11,450	11,620
20	7,510	7,680	7,780	9,390	9,600	9,720

Effective Column Length (ft)	Lamination Net Width = 6-3/4"		
	Net Depth = 6-7/8" (5 lams)		
	Load Duration Factor		
	1.00	1.15	1.25
8	48,470	53,460	56,510
10	41,450	44,710	46,620
12	34,580	36,680	37,900
14	28,750	30,170	31,000
16	24,070	25,080	25,670
18	20,360	21,100	21,530
20	17,400	17,960	18,290
22	15,010	15,450	15,700
24	13,070	13,420	13,620

Effective Column Length (ft)	Lamination Net Width = 8-3/4"		
	Net Depth = 8-1/4" (6 lams)		
	Load Duration Factor		
	1.00	1.15	1.25
8	83,960	94,950	100,730
10	76,510	85,580	89,580
12	68,180	75,210	77,610
14	59,620	64,910	66,240
16	51,680	55,720	56,440
18	44,790	47,970	48,330
20	38,930	41,490	41,640
22	34,060	36,150	36,180
24	29,980	31,730	31,680

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Power Preserved Column™
Dry Use

Allowable Axial Loads (Pounds) for Combination No. 50 Glulam Columns

Effective Column Length (ft)	Lamination Net Width = 10 3/4" Net Depth = 10 3/4" (8 lams) Load Duration Factor			Effective Column Length (ft)	Lamination Net Width = 10 3/4" Net Depth = 10 3/4" (8 lams) Load Duration Factor		
	1.00	1.15	1.25		1.00	1.15	1.25
8	143,640	162,870	175,360	26	61,850	64,630	66,240
10	136,170	153,110	163,930	28	55,810	58,120	59,450
12	127,200	141,530	150,480	30	50,560	52,490	53,600
14	117,040	128,630	135,650	32	45,970	47,600	48,550
16	106,390	115,400	120,720	34	41,950	43,350	44,150
18	95,770	102,670	106,690	36	38,420	39,620	40,310
20	85,770	91,110	94,210	38	35,300	36,340	36,930
22	76,740	80,960	83,410	40	32,530	33,440	33,960
24	68,780	72,190	74,160	42	30,070	30,870	31,320
				44	27,870	28,570	28,980

Notes:
1. The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
2. Applicable service conditions = dry.
3. The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 1/6 column width or 1/6 column depth, whichever is worse. For side loads, other eccentric end loads, or other combined axial and flexural loads, see 2005 NDS.
4. The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
5. Design properties for normal load duration and dry-use service conditions:
   Compression parallel to grain (F_c) = 2,300 psi for 4 or more lams, or 1,700 psi for 2 or 3 lams.

   Modulus of elasticity (E) = 1.9×10^6 psi

   Flexural stress when loaded parallel to wide faces of lamination (F_{by}) = 2,300 psi for 4 or more lams, or 2,100 psi for 3 lams.

   Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = 2,100 psi for 2 lams to 15 in. deep without special tension laminations.

   Volume factor for F_{bx} is in accordance with 2005 NDS. Size factor for F_{by} is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.