

Comparison Charts

#2 PT SYP Solid Sawn Column - #50 Combination Power Preserved Column (LDF = 1.00) Wet Use Tables

6" x 6" (actual 5 1/2" x 5 1/2")		3 1/2" x 5 1/2"	
Effecton Column Length	#2 PT SYP	Effecton Column Length	#50 Power Preserved Glulam
	Allowable Axial Load (lbs)		Allowable Axial Load (lbs)
6	10,500	6	13,160
8	9,560	8	9,200
10	8,420	10	6,630
12	7,230	12	4,970

6" x 6" (actual 5 1/2" x 5 1/2")		5 1/4" x 5 1/2"	
Effecton Column Length	#2 PT SYP	Effecton Column Length	#50 Power Preserved Glulam
	Allowable Axial Load (lbs)		Allowable Axial Load (lbs)
6	10,500	6	24,500
8	9,560	8	20,650
10	8,420	10	16,660
12	7,230	12	13,330
14	6,120	14	10,790
16	5,170	16	8,860
18	4,390	18	7,380
20	3,750	20	6,210

8" x 8" (actual 7 1/2" x 7 1/2")		5 1/4" x 6 7/8"	
Effecton Column Length	#2 PT SYP	Effecton Column Length	#50 Power Preserved Glulam
	Allowable Axial Load (lbs)		Allowable Axial Load (lbs)
8	19,630	8	27,120
10	18,410	10	21,520
12	16,960	12	17,010
14	15,370	14	13,630
16	13,730	16	11,120

8" x 8" (actual 7 1/2" x 7 1/2")		6 3/4" x 6 7/8"	
Effecton Column Length	#2 PT SYP	Effecton Column Length	#50 Power Preserved Glulam
	Allowable Axial Load (lbs)		Allowable Axial Load (lbs)
8	19,630	8	38,360
10	18,410	10	33,440
12	16,960	12	28,340
14	15,370	14	23,770
16	13,730	16	20,000
18	12,170	18	16,970
20	10,750	20	14,540
22	9,500	22	12,570
24	8,420	24	10,960

10" x 10" (actual 9 1/2" x 9 1/2")		8 3/4" x 8 1/4"	
Effecton Column Length	#2 PT SYP	Effecton Column Length	#50 Power Preserved Glulam
	Allowable Axial Load (lbs)		Allowable Axial Load (lbs)
8	32,810	8	65,290
10	31,580	10	60,160
12	30,090	12	54,390
14	28,360	14	48,050
16	26,430	16	42,000
18	24,380	18	36,590
20	22,310	20	31,910
22	20,300	22	27,970
24	18,410	24	24,670

Notes: #2 PT SYP

- The tabulated allowable loads apply only to one-piece solid-sawn SYP #2 columns.
- Applicable service conditions = wet
- The tabulated allowable loads are based on simply axially loaded columns subjected to a maximum eccentricity of either 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
- The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
- Design properties for normal load duration and wet-use service conditions:
Compression parallel to grain ($F_{c||}$) = 525 psi
Modulus of elasticity (E) = 1.2×10^6 psi
Flexural stress (F_b) = 850 psi

Notes: #50 Power Preserved Column

- The tabulated allowable loads apply only to one-piece glulam members made with all N1D14 laminations (Combination 50) without special tension laminations.
- Applicable service conditions = wet
- 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
- The column is assumed to be unbraced, except at the column ends, and the effective column length is equal to the actual column length.
- Design properties for normal load duration and wet-use service conditions:
Compression parallel to grain ($F_{c||}$) = 0.73 x 2,300 psi for 4 or more lams, or 0.73 x 1,700 psi for 2 or 3 lams.
Modulus of elasticity (E) = $0.833 \times 1.9 \times 10^6$ psi
Flexural stress when loaded parallel to wide faces of lamination ($F_{b||}$) = 0.8 x 2,300 psi for 4 or more lams, or 0.8 x 2,100 psi for 3 lams
Flexural stress when loaded perpendicular to wide faces of lamination ($F_{b\perp}$) = 0.8 x 2,100 psi for 2 lams to 15 in. deep without special tension laminations.
Volume factor for $F_{b\perp}$ is in accordance with 2005 NDS.
Size factor for $F_{b\perp}$ is $(12/d)^{1/9}$, where d is equal to the lamination width in inches.

12" x 12" (actual 11 1/2" x 11 1/2")		8 3/4" x 8 1/4"	
Effecton Column Length	#2 PT SYP	Effecton Column Length	#50 Power Preserved Glulam
	Allowable Axial Load (lbs)		Allowable Axial Load (lbs)
8	49,080	8	65,290
10	47,860	10	60,160
12	46,360	12	54,290
14	44,600	14	48,050
16	42,580	16	42,000
18	40,350	18	36,590
20	37,960	20	31,910
22	35,470	22	27,970
24	32,950	24	24,670

General Notes:

- You may substitute any glulam column for any #2 SYP provided the glulam axial load is equal or higher than solid sawn column.
- PT (assumes pressure treatment with water-borne preservatives)

