

Power Preserved Column™ & PSL Comparison Tables

Allowable Axial Loads (lbs)

1/1/2009

Effective Column Length (ft)	Size	3 1/2" x 3 1/2"		3 1/2" x 5 1/2"	
		100%	100%	100%	100%
		PPC	PSL	PPC	PSL ¹
6		7,210	7,056	13,160	10,580
8		5,330	5,035	9,200	7,550
10		3,930	3,658	6,630	4,125
12		2,990	2,753	4,970	3,205
14		2,340	2,139	3,850	3,205
Effective Column Length (ft)	Size	5 1/4" x 5 1/2"		6 3/4" x 6 7/8"	
		PPC	PSL ²	PPC	PSL ³
6		24,500	20,330		
8		20,650	17,285	38,360	35,685
10		16,660	14,005	33,440	31,785
12		13,330	11,185	28,340	27,470
14		10,790	9,020	23,770	23,300
16		8,860	7,385	20,000	19,705
18		7,380	6,140	16,970	16,760
20		6,210	5,175	14,540	14,375

Notes

1. Womanized® Parallam® PSL design and technical information can be found in the TJ-7102 Specifier's Guide. The PSL columns are assumed to be used in Service Level 2 or 3 conditions. Allowable design for columns are: MOE = 1.314×10^6 , $F_b = 1,512$ psi, and $F_{c-L} = 1,300$ psi. PSL columns footnotes will indicate actual PSL sizes. ¹3 1/2" x 5 1/4"; ²5 1/4" x 5 1/4" and ³7" x 7".
2. Applicable service conditions = wet for PPC and applicable values in note 5.
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 wet-use service conditions for PPC:
Compression parallel to grain (F_c) = $0.73 \times 2,300$ psi for 4 or more lams, or $0.73 \times 1,700$ 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_{by}) = $0.8 \times 2,300$ psi for 4 or more lams, or $0.8 \times 2,100$ psi for 3 lams.
Flexural stress when loaded perpendicular to wide faces of lamination (F_{bx}) = $0.8 \times 2,100$ 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.
6. Consult hanger manufacturers literature for proper column caps and bases.
7. For loading and other conditions outside the scope of this table, contact your local retail yard or AFP sales person.