Axial Factored Resistances for 2.0E or 2.2E Parallam® PSL Columns

Column Bearing Type	Effective Column Length	Column Size			
		3½″ x 9 ¼″	3½″ x 9½″	3½″ x 11¼″	3½″ x 11⅞″
On Column Base	8′	34,855	35,745	41,930	44,100
	9′	28,830	29,600	34,860	36,665
	10′	23,435	24,060	28,420	29,960
	11′	19,160	19,675	23,235	24,495
	12′	15,780	16,200	19,130	20,165
On SPF Wood Plate	8′	19,910[1]	20,455[1]	24,215[1]	25,560[1]
	9′				
	10′				
	11′	19,160	19,675	23,235	24,495
	12′	15,780	16,200	19,130	20,165

Column Bearing Type	Effective Column Length	Column Size			
		5¼″ x 9¼″	5¼″ x 9½″	5¼″ x 11¼″	5¼″ x 11⅞″
On Column Base	8′	79,185	81,245	95,615	100,000
	9′	72,390	74,280	87,465	92,155
	10′	65,435	67,150	79,115	83,370
	11′	58,135	59,745	70,410	74,150
	12′	50,485	51,880	61,390	64,805
On SPF Wood Plate	8′	29,865[1]	30,670[1]	36,320[1]	38,340[1]
	9′				
	10′				
	11′				
	12′				

[1]   Allowable axial load is controlled by wood plate bearing capacity.

General Notes

- Table is based on:
  – Solid, one-piece column members used in dry-service conditions.
  – Bracing in both directions at column ends.
  – *CSA O86, Engineering design in wood* (CSA O86).
  – Simple columns with axial loads only. For side loads or other combined bending and axial loads, see the CSA O86 provisions.
  – K_D = 1.0, where the specified snow or live load is greater than the specified dead load.
- Refer to TJ-9500 or TJ-9505 for additional design and installation guidance.
- Columns must remain straight to within $5L^2/4608$ [in.] of true alignment where L is column length [ft].

- Factored resistances have been adjusted to accommodate the worst case of the following eccentric conditions:
  – $e_1 = 1/6$ of column depth (second dimension).
  – $e_2 = 1/6$ of column thickness (first dimension) $+ 5L^2/4608$ where L is column length [ft].
- Factored resistances for "On Column Base" is based on the strength of the column material; design of supporting structure (e.g. foundation) has not been performed.
- Factored resistances for "On Wood Plate" are based on Spruce-Pine-Fir specified strength in compression perpendicular to grain (f_{cp} = 5.3 MPa ≈ 769 psi).

If you have any questions, please contact your Weyerhaeuser representative.