Column Capacity Comparison Chart

COLUMN AXIAL FACTORED RESISTANCE (LBS)

Column Material	Column Size		Effective Column Length															
			8′-0″				9′-0″				10′-0″				12′-0″			
			Not Braced		Braced[1]		Not Braced		Braced[1]		Not Braced		Braced[1]		Not Braced		Braced[1]	
			$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$	$E_T=T/6$ $E_D=0$	$E_D=D/6$ $E_T=0$
#1/#2 SPF	2x4	2-ply	1,670	3,195	5,800	5,840	1,360	2,515	4,910	4,860	1,125	1,985	4,115	4,050	800	1,275	2,865	2,830
		3-ply	2,420	7,885	7,625	8,760	1,990	6,825	6,610	7,295	1,660	5,885	5,650	6,075	1,200	4,245	4,050	4,245
		4-ply	3,055	11,680	8,965	11,680	2,535	9,725	7,940	9,725	2,130	8,105	6,915	8,105	1,550	5,660	5,100	5,660
	2x6	2-ply	2,550	5,030	10,710	12,605	2,080	3,955	10,710	12,210	1,725	3,125	10,270	11,295	1,235	2,000	8,750	9,110
		3-ply	3,660	12,945	13,065	18,915	3,030	11,285	13,065	18,320	2,545	9,765	12,665	16,945	1,850	7,210	11,185	13,665
		4-ply	4,580	20,410	14,490	25,220	3,835	18,765	14,490	24,430	3,245	17,135	14,155	22,590	2,390	14,060	12,855	18,225
1.3E TimberStrand® LSL	3½″ x 3½″		9,595		9,595		7,845		7,845		6,420		6,420		4,340		4,345	
	3½″ x 5½″		15,080		24,630		12,325		22,635		10,090		20,545		6,825		16,130	
1.8E Parallam® PSL	3½″ x 3½″		13,305		13,375		10,875		10,925		8,900		8,935		6,015		6,030	
	3½″ x 5¼″		19,955		31,925		16,315		29,020		13,350		25,990		9,025		19,945	
	5¼″ x 5¼″		47,425		47,425		43,155		43,155		38,740		38,770		29,760		29,920	

[1] Columns required to be braced by wall sheathing in the weak [narrow] or built-up axis. Attachment of sheathing to column as per minimum code requirements. See Figure 2.

General Notes:

- Table is based on:
  - Column members used in dry-service conditions only.
  - Bracing in both directions at column ends.
  - Standard term load duration.
  - System Factor of 1.1 in strong axis bending; for built-up members only.
- 1.3E TimberStrand® LSL and 1.8E Parallam® PSL columns are solid, one-piece members only.
- All TimberStrand® LSL and Parallam® PSL factored resistances have been adjusted to accommodate worst case eccentricity of either 1/6 of the column thickness or 1/6 of the column depth. See Figure 1.
- Factored resistances are applicable to simple axially loaded columns using the design provisions of *CSA O86, Engineering design in wood* (CSA O86-19).
- SPF columns are nailed built-up columns only. Attachment of plies per CSA O86-19.
- Compressive resistance of wood plate column support may limit the above capacities. For wood plates, consult CSA O86-19 for species bearing capacities and adjustment factors.

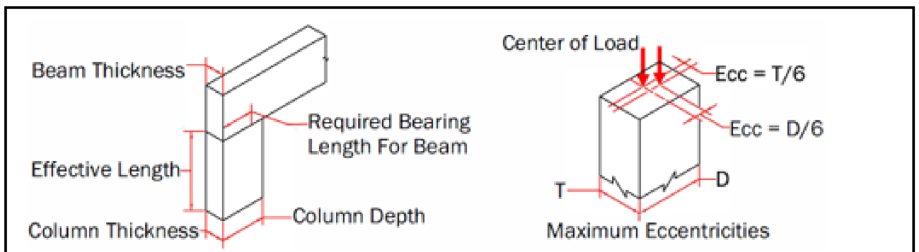

Figure 1: Beam and Column Dimensions and Maximum Eccentricites.

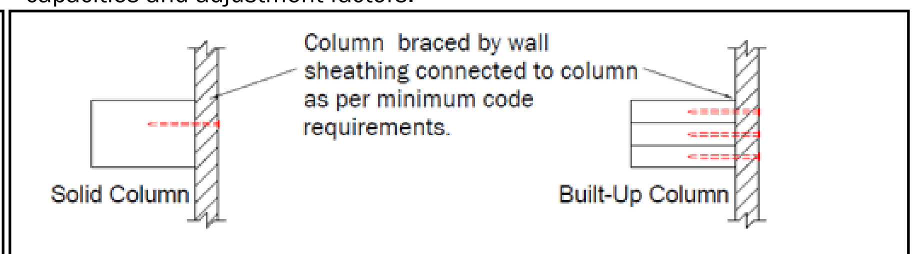

Figure 2: Sheathing to Column Connection.

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