

American Institute of Timber Construction

Glued Laminated Timber Columns with Eccentric End Loads*

Combination 2 (DF L2)**

Duration of Load (C_D) = 1.25

Lamination Thickness = 1-1/2 in.

Dry Conditions of Use

Width (in)	3 1/8	3 1/8	5 1/8	5 1/8	5 1/8	6 3/4	6 3/4	6 3/4	8 3/4	Width (in)
Depth (in)	4 1/2	6	4 1/2	6	7 1/2	6	7 1/2	9	9	Depth (in)
Length (ft)	Column Capacity (lb)									Length (ft)
4	13010	18790	24850	38140	49230	50590	65640	80190	104550	4
5	10550	14850	22520	35560	45310	47500	62970	77680	101700	5
6	8450	11730	19910	32410	40510	43930	59770	73690	98290	6
7	6830	9410	17250	28400	35500	40010	56080	68380	94360	7
8	5600	7680	14820	24620	30770	35940	51960	62640	89960	8
9	4670	6370	12760	21320	26650	32000	47280	56740	85150	9
10	3940	5370	11040	18530	23160	28420	42510	51020	80020	10
11	3370	4580	9620	16200	20260	25270	38130	45750	74670	11
12	2910	3950	8450	14260	17830	22540	34220	41060	69290	12
13	2540	3440	7460	12630	15790	20180	30790	36940	64050	13
14	--	--	6640	11250	14070	18150	27790	33350	59100	14
15	--	--	5940	10080	12600	16390	25170	30210	54530	15
16	--	--	5340	9080	11350	14870	22890	27470	50350	16
17	--	--	4830	8220	10270	13540	20880	25060	46560	17
18	--	--	4380	7470	9340	12370	19120	22940	43090	18
19	--	--	--	6820	8520	11340	17560	21080	39930	19
20	--	--	--	6250	7810	10440	16180	19420	37090	20
21	--	--	--	5740	7180	9630	14960	17950	34510	21
22	--	--	--	--	--	8920	13860	16620	32150	22
23	--	--	--	--	--	8280	12880	15430	30010	23
24	--	--	--	--	--	7700	11990	14360	28070	24
25	--	--	--	--	--	7180	11190	13400	26310	25
26	--	--	--	--	--	--	10470	12530	24710	26
27	--	--	--	--	--	--	9810	11740	23240	27
28	--	--	--	--	--	--	9210	11030	21900	28
29	--	--	--	--	--	--	--	--	20670	29
30	--	--	--	--	--	--	--	--	19540	30
31	--	--	--	--	--	--	--	--	18490	31
32	--	--	--	--	--	--	--	--	17530	32
33	--	--	--	--	--	--	--	--	16640	33
34	--	--	--	--	--	--	--	--	15820	34
35	--	--	--	--	--	--	--	--	15050	35
36	--	--	--	--	--	--	--	--	14340	36

Table Specifications: The tabulated capacities are for glued laminated timber columns of constant cross section under dry conditions of use.

Capacities have been rounded to nearest 10 lb.

Columns are limited to a maximum effective length/least dimension (l_e/d) of 50.

End Conditions: Capacities are based on column ends being supported to prevent translation.

The effective buckling length factor used is $K_e = 1.00$.

*** Eccentricity:** End loads are limited to a maximum eccentricity of 1/6 of either cross sectional dimension.

**** Design Properties:** AITC 117-93 Design

$F_C = 1900$ psi for 4 or more lams, 1600 psi for 3 lams.

$E = 1.7 \times 10^6$ psi

$F_{by} = 1800$ psi for 4 or more lams, 1600 psi for 3 lams.

$F_{bx} = 1700$ psi.

While these capacity tables have been prepared in accordance with recognized engineering principles and are based on the most accurate and reliable technical data available, these tables should not be used or relied upon for any general or specific application without competent professional examination and verification of their accuracy, suitability, and applicability by a licensed professional engineer, designer, or architect.

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