

# American Institute of Timber Construction

## Glued Laminated Timber Columns with Eccentric End Loads\*

Combination 2\*\* (DF L2)

Duration of Load ( $C_D$ ) = 1.00

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	11220	16430	20570	31260	40100	41380	53290	64870	84460	4
5	9460	13480	19040	29600	38100	39370	51570	63270	82630	5
6	7780	10880	17270	27590	34880	37000	49490	61310	80420	6
7	6380	8840	15370	25090	31360	34350	47090	57890	77860	7
8	5290	7290	13480	22230	27790	31510	44380	54010	74980	8
9	4440	6090	11770	19550	24440	28600	41410	49880	71790	9
10	3770	5150	10290	17190	21490	25780	38040	45650	68350	10
11	3240	4410	9040	15160	18950	23180	34610	41530	64700	11
12	2810	3820	7980	13430	16790	20860	31400	37680	60900	12
13	2450	3330	7090	11960	14950	18810	28490	34190	57040	13
14	--	--	6330	10700	13380	17020	25900	31080	53230	14
15	--	--	5680	9620	12030	15440	23590	28310	49570	15
16	--	--	5130	8700	10870	14070	21550	25860	46120	16
17	--	--	4650	7890	9860	12850	19740	23690	42920	17
18	--	--	4230	7190	8990	11780	18140	21770	39920	18
19	--	--	--	6580	8220	10840	16720	20060	37160	19
20	--	--	--	6040	7550	10000	15450	18530	34660	20
21	--	--	--	5560	6950	9250	14310	17170	32370	21
22	--	--	--	--	--	8580	13290	15940	30290	22
23	--	--	--	--	--	7980	12370	14820	28390	23
24	--	--	--	--	--	7430	11540	13820	26630	24
25	--	--	--	--	--	6940	10790	12920	25020	25
26	--	--	--	--	--	--	10110	12100	23540	26
27	--	--	--	--	--	--	9490	11350	22190	27
28	--	--	--	--	--	--	8920	10670	20940	28
29	--	--	--	--	--	--	--	--	19800	29
30	--	--	--	--	--	--	--	--	18740	30
31	--	--	--	--	--	--	--	--	17770	31
32	--	--	--	--	--	--	--	--	16860	32
33	--	--	--	--	--	--	--	--	16030	33
34	--	--	--	--	--	--	--	--	15270	34
35	--	--	--	--	--	--	--	--	14530	35
36	--	--	--	--	--	--	--	--	13850	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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