BOISE GLULAM® Column Reference Design Values

The following are reference design values for stocked BOISE GLULAM column grades per ICC-ES evaluation report ESR-6004. Other grades may be possible per custom order.

Species & Grade	Bending F_b [lb/in^2]		Modulus of Elasticity E [lb/in^2] (apparent)	Modulus of Elasticity E_t [lb/in^2] (true - shear free)	Modulus of Elasticity E_{min} [lb/in^2] (for stability calculations)	Tension Parallel to Grain F_t [lb/in^2]	Compression Parallel to Grain F_c [lb/in^2]	Compression Perp to Grain F_c [lb/in^2]
	Loading Parallel to Wide Faces of Laminations(2)	Loading Perpendicular to Wide Faces of Laminations						
DF Comb. 3 3" depth - 2 lam Dry Use	1550	2000	1,900,000	2,000,000	1,000,000	1450	1900	650
DF Comb. 3 4.5" depth - 3 lam Dry Use	1850	2000	1,900,000	2,000,000	1,000,000	1450	1900	650
DF Comb. 3 4+ lam Dry Use	2100	2000	1,900,000	2,000,000	1,000,000	1450	2300	650
AYC Comb. 70 3" depth - 2 lam Dry Use	1000	1350	1,300,000	1,400,000	690,000	975	1450	470
AYC Comb. 70 3" depth - 2 lam Wet Use(3)	800	1080	1,082,900	1,166,200	574,770	780	1059	249
AYC Comb. 70 4.5" depth - 3 lam Dry Use	1250	1350	1,300,000	1,400,000	690,000	975	1450	470
AYC Comb. 70 4.5" depth - 3 lam Wet Use(3)	1000	1080	1,082,900	1,166,200	574,770	780	1059	249
AYC Comb. 70 4 lam + Dry Use	1400	1350	1,300,000	1,400,000	690,000	975	1450	470
AYC Comb. 70 4 lam + Wet Use(3)	1120	1080	1,082,900	1,166,200	574,770	780	1059	249

Notes

(1) Tabluated allowable design values are for normal duration of loading. Bending, tension, compression parallel to grain values may be increased per appropriate load duration values per NDS.

(2) For depths less than 12 inches, value may be increase by multiplying by the flat use factor, $(12/d)^{1/9}$, where d is the beam depth in inches.

(3) For wet use conditions, allowable design values have been reduced per factors shown below

Wet-Use Reduction Factors (2024 NDS)	
Design Value	Reduction Factor
Bending	0.8
Shear	0.875
Modulus of Elasticity	0.833
Tension	0.8
Compression Par. to Grain	0.73
Compression Perp to Grain	0.53

© 2026 Boise Cascade Wood Products, L.L.C.