

Table 8.4.1.1.4-1 Reference Design Values for Visually Graded Sawn Lumber.

Species and Commercial Grade	Size Classification	Design Values (ksi)						Grading Rules Agency
		Bending	Tension parallel to grain	Shear parallel to grain	Compression perpendicular to grain	Compression parallel to grain	Modulus of Elasticity	
		F_{bo}	F_{to}	F_{vo}	F_{cpo}	F_{co}	E_o	
Douglas Fir-Larch								
Select Structural	Dimension ≥ 2 in. Wide	1.50	1.00	0.18	0.625	1.70	1,900	WCLIB WWPA
No. 1 & Btr		1.20	0.80	0.18	0.625	1.55	1,800	
No. 1		1.00	0.675	0.18	0.625	1.50	1,700	
No. 2		0.90	0.575	0.18	0.625	1.35	1,600	
Dense Select Structural	Beams and Stringers	1.90	1.10	0.17	0.73	1.30	1,700	WCLIB
Select Structural		1.60	0.95	0.17	0.625	1.10	1,600	
Dense No. 1		1.55	0.775	0.17	0.73	1.10	1,700	
No. 1		1.35	0.675	0.17	0.625	0.92	1,600	
No. 2	Posts and Timbers	0.875	0.425	0.17	0.625	0.60	1,300	
Dense Select Structural		1.75	1.15	0.17	0.73	1.35	1,700	
Select Structural		1.50	1.00	0.17	0.625	1.15	1,600	
Dense No. 1		1.40	0.95	0.17	0.73	1.20	1,700	
No. 1	Beams and Stringers	1.20	0.825	0.17	0.625	1.00	1,600	WWPA
No. 2		0.75	0.475	0.17	0.625	0.70	1,300	
Dense Select Structural		1.90	1.10	0.17	0.73	1.30	1,700	
Select Structural		1.60	0.95	0.17	0.625	1.10	1,600	
Dense No. 1	1.55	0.775	0.17	0.73	1.10	1,700		
No. 1	1.35	0.675	0.17	0.625	0.925	1,600		
No. 2 Dense	1.00	0.50	0.17	0.73	0.70	1,400		
No. 2	0.875	0.425	0.17	0.625	0.60	1,300		
Dense Select Structural	Posts and Timbers	1.75	1.15	0.17	0.73	1.35	1,700	
Select Structural		1.50	1.00	0.17	0.625	1.15	1,600	
Dense No. 1		1.40	0.95	0.17	0.73	1.20	1,700	
No. 1		1.20	0.825	0.17	0.625	1.00	1,600	
No. 2 Dense		0.85	0.55	0.17	0.73	0.825	1,400	
No. 2		0.75	0.475	0.17	0.625	0.70	1,300	
Eastern Softwoods								
Select Structural	Dimension ≥ 2 in. Wide	1.25	0.575	0.14	0.335	1.20	1,200	NELMA NSLB
No. 1		0.775	0.35	0.14	0.335	1.00	1,100	
No. 2		0.575	0.275	0.14	0.335	0.825	1,100	
Hem-Fir								
Select Structural	Dimension ≥ 2 in. Wide	1.40	0.925	0.15	0.405	1.50	1,600	WCLIB WWPA
No. 1 & Btr		1.10	0.725	0.15	0.405	1.35	1,500	
No. 1		0.975	0.625	0.15	0.405	1.35	1,500	
No. 2		0.85	0.525	0.15	0.405	1.30	1,300	
Select Structural	Beams and Stringers	1.30	0.75	0.14	0.405	0.925	1,300	
No. 1		1.05	0.525	0.14	0.405	0.75	1,300	
No. 2		0.675	0.35	0.14	0.405	0.50	1,100	
Select Structural		1.20	0.80	0.14	0.405	0.975	1,300	
No. 1	Posts and Timbers	0.975	0.65	0.14	0.405	0.85	1,300	
No. 2		0.575	0.375	0.14	0.405	0.575	1,100	
Mixed Southern Pine								
Select Structural	Dimension 2 in.-4 in. Wide	2.05	1.20	0.175	0.565	1.80	1,600	SPIB
No. 1		1.45	0.875	0.175	0.565	1.65	1,500	
No. 2		1.30	0.775	0.175	0.565	1.65	1,400	
Select Structural	Dimension 5 in.-6 in. Wide	1.85	1.10	0.175	0.565	1.70	1,600	
No. 1		1.30	0.75	0.175	0.565	1.55	1,500	
No. 2		1.15	0.675	0.175	0.565	1.55	1,400	
Select Structural	Dimension 8 in. Wide	1.75	1.00	0.175	0.565	1.60	1,600	
No. 1		1.20	0.70	0.175	0.565	1.45	1,500	
No. 2		1.05	0.625	0.175	0.565	1.45	1,400	