

**Table 4A Reference Design Values for Visually Graded Dimension Lumber (2" - 4" thick)<sup>1,2,3</sup>**

(All species except Southern Pine—see Table 4B) (Tabulated design values are for normal load duration and dry service conditions. See NDS 4.3 for a comprehensive description of design value adjustment factors.)

**USE WITH TABLE 4A ADJUSTMENT FACTORS**

Species and commercial grade	Size classification	Design values in pounds per square inch (psi)							Specific Gravity <sup>4</sup> G	Grading Rules Agency
		Bending F <sub>b</sub>	Tension parallel to grain F <sub>t</sub>	Shear parallel to grain F <sub>v</sub>	Compression perpendicular to grain F <sub>c⊥</sub>	Compression parallel to grain F <sub>c</sub>	Modulus of Elasticity			
							E	E <sub>min</sub>		
ALASKA CEDAR										
Select Structural	2" & wider	1,150	625	165	525	1,000	1,400,000	510,000	0.47	WCLIB
No. 1		975	525	165	525	900	1,300,000	470,000		
No. 2		800	425	165	525	750	1,200,000	440,000		
No. 3		450	250	165	525	425	1,100,000	400,000		
Stud	2" & wider	625	350	165	525	475	1,100,000	400,000		
Construction	2" - 4" wide	900	500	165	525	950	1,200,000	440,000		
Standard		500	275	165	525	775	1,100,000	400,000		
Utility		250	125	165	525	500	1,000,000	370,000		
ALASKA HEMLOCK										
Select Structural	2" & wider	1,300	825	185	440	1,200	1,700,000	620,000	0.46	WWPA
No. 1		900	550	185	440	1,100	1,600,000	580,000		
No. 2		825	475	185	440	1,050	1,500,000	550,000		
No. 3		475	275	185	440	600	1,400,000	510,000		
Stud	2" & wider	650	375	185	440	650	1,400,000	510,000		
Construction	2" - 4" wide	950	550	185	440	1,250	1,400,000	510,000		
Standard		525	300	185	440	1,050	1,300,000	470,000		
Utility		250	150	185	440	700	1,200,000	440,000		
ALASKA SPRUCE										
Select Structural	2" & wider	1,400	900	160	330	1,200	1,600,000	580,000	0.41	WWPA
No. 1		950	600	160	330	1,100	1,500,000	550,000		
No. 2		875	500	160	330	1,050	1,400,000	510,000		
No. 3		500	300	160	330	600	1,300,000	470,000		
Stud	2" & wider	675	400	160	330	675	1,300,000	470,000		
Construction	2" - 4" wide	1,000	575	160	330	1,250	1,300,000	470,000		
Standard		550	325	160	330	1,050	1,200,000	440,000		
Utility		275	150	160	330	700	1,100,000	400,000		
ALASKA YELLOW CEDAR										
Select Structural	2" & wider	1,350	800	225	510	1,200	1,500,000	550,000	0.46	WCLIB WWPA
No. 1		900	525	225	510	1,050	1,400,000	510,000		
No. 2		800	450	225	510	1,000	1,300,000	470,000		
No. 3		475	250	225	510	575	1,200,000	440,000		
Stud	2" & wider	625	350	225	510	625	1,200,000	440,000		
Construction	2" - 4" wide	925	500	225	510	1,250	1,300,000	470,000		
Standard		500	275	225	510	1,050	1,100,000	400,000		
Utility		250	125	225	510	675	1,100,000	400,000		
ASPEN										
Select Structural	2" & wider	875	500	120	265	725	1,100,000	400,000	0.39	NELMA WWPA
No. 1		625	375	120	265	600	1,100,000	400,000		
No. 2		600	350	120	265	450	1,000,000	370,000		
No. 3		350	200	120	265	275	900,000	330,000		
Stud	2" & wider	475	275	120	265	300	900,000	330,000		
Construction	2" - 4" wide	700	400	120	265	625	900,000	330,000		
Standard		375	225	120	265	475	900,000	330,000		
Utility		175	100	120	265	300	800,000	290,000		
BALDCYPRESS										
Select Structural	2" & wider	1,200	650	160	615	1,200	1,400,000	510,000	0.47	SPIB
No. 1		1,000	550	160	615	1,050	1,400,000	510,000		
No. 2		825	450	160	615	900	1,300,000	470,000		
No. 3		475	250	160	615	525	1,200,000	440,000		
Stud	2" & wider	650	350	160	615	575	1,200,000	440,000		
Construction	2" - 4" wide	925	500	160	615	1,100	1,200,000	440,000		
Standard		525	275	160	615	925	1,100,000	400,000		
Utility		250	125	160	615	600	1,000,000	370,000		

**Table 4A Reference Design Values for Visually Graded Dimension Lumber (2" - 4" thick)<sup>1,2,3</sup>**

(All species except Southern Pine—see Table 4B) (Tabulated design values are for normal load duration and dry service conditions. See NDS 4.3 for a comprehensive description of design value adjustment factors.)

**USE WITH TABLE 4A ADJUSTMENT FACTORS**

Species and commercial grade	Size classification	Design values in pounds per square inch (psi)							Specific Gravity <sup>4</sup> G	Grading Rules Agency		
		Bending F <sub>b</sub>	Tension parallel to grain F <sub>t</sub>	Shear parallel to grain F <sub>v</sub>	Compression perpendicular to grain F <sub>c⊥</sub>	Compression parallel to grain F <sub>c</sub>	Modulus of Elasticity					
							E	E <sub>min</sub>				
BEECH-BIRCH-HICKORY												
Select Structural	2" & wider	1,450	850	195	715	1,200	1,700,000	620,000	0.71	NELMA		
No. 1		1,050	600	195	715	950	1,600,000	580,000				
No. 2		1,000	600	195	715	750	1,500,000	550,000				
No. 3		575	350	195	715	425	1,300,000	470,000				
Stud	2" & wider	775	450	195	715	475	1,300,000	470,000				
Construction	2" - 4" wide	1,150	675	195	715	1,000	1,400,000	510,000				
Standard		650	375	195	715	775	1,300,000	470,000				
Utility		300	175	195	715	500	1,200,000	440,000				
COAST SITKA SPRUCE												
Select Structural	2" & wider	1300	950	125	455	1200	1,700,000	620,000	0.43	NLGA		
No. 1/ No. 2		925	550	125	455	1100	1,500,000	550,000				
No. 3		525	325	125	455	625	1,400,000	510,000				
Stud		2" & wider	725	450	125	455	675	1,400,000			510,000	
Construction	2" - 4" wide	1050	650	125	455	1300	1,400,000	510,000				
Standard		600	350	125	455	1100	1,300,000	470,000				
Utility		275	175	125	455	725	1,200,000	440,000				
COTTONWOOD												
Select Structural	2" & wider	875	525	125	320	775	1,200,000	440,000	0.41	NELMA		
No. 1		625	375	125	320	625	1,200,000	440,000				
No. 2		625	350	125	320	475	1,100,000	400,000				
No. 3		350	200	125	320	275	1,000,000	370,000				
Stud	2" & wider	475	275	125	320	300	1,000,000	370,000				
Construction	2" - 4" wide	700	400	125	320	650	1,000,000	370,000				
Standard		400	225	125	320	500	900,000	330,000				
Utility		175	100	125	320	325	900,000	330,000				
DOUGLAS FIR-LARCH												
Select Structural	2" & wider	1,500	1,000	180	625	1,700	1,900,000	690,000	0.50	WCLIB WWPA		
No. 1 & Btr		1,200	800	180	625	1,550	1,800,000	660,000				
No. 1		1,000	675	180	625	1,500	1,700,000	620,000				
No. 2		900	575	180	625	1,350	1,600,000	580,000				
No. 3		525	325	180	625	775	1,400,000	510,000				
Stud	2" & wider	700	450	180	625	850	1,400,000	510,000				
Construction	2" - 4" wide	1,000	650	180	625	1,650	1,500,000	550,000				
Standard		575	375	180	625	1,400	1,400,000	510,000				
Utility		275	175	180	625	900	1,300,000	470,000				
DOUGLAS FIR-LARCH (NORTH)												
Select Structural	2" & wider	1,350	825	180	625	1,900	1,900,000	690,000	0.49	NLGA		
No. 1 & Btr		1,150	750	180	625	1,800	1,800,000	660,000				
No. 1/ No. 2		850	500	180	625	1,400	1,600,000	580,000				
No. 3		475	300	180	625	825	1,400,000	510,000				
Stud	2" & wider	650	400	180	625	900	1,400,000	510,000				
Construction	2" - 4" wide	950	575	180	625	1,800	1,500,000	550,000				
Standard		525	325	180	625	1,450	1,400,000	510,000				
Utility		250	150	180	625	950	1,300,000	470,000				
DOUGLAS FIR-SOUTH												
Select Structural	2" & wider	1,350	900	180	520	1,600	1,400,000	510,000	0.46	WWPA		
No. 1		925	600	180	520	1,450	1,300,000	470,000				
No. 2		850	525	180	520	1,350	1,200,000	440,000				
No. 3		500	300	180	520	775	1,100,000	400,000				
Stud	2" & wider	675	425	180	520	850	1,100,000	400,000				
Construction	2" - 4" wide	975	600	180	520	1,650	1,200,000	440,000				
Standard		550	350	180	520	1,400	1,100,000	400,000				
Utility		250	150	180	520	900	1,000,000	370,000				



**Table 4A Reference Design Values for Visually Graded Dimension Lumber (2" - 4" thick)<sup>1,2,3</sup>**

(All species except Southern Pine—see Table 4B) (Tabulated design values are for normal load duration and dry service conditions. See NDS 4.3 for a comprehensive description of design value adjustment factors.)

**USE WITH TABLE 4A ADJUSTMENT FACTORS**

Species and commercial grade	Size classification	Design values in pounds per square inch (psi)							Specific Gravity <sup>A</sup>	Grading Rules Agency		
		Bending $F_b$	Tension parallel to grain $F_t$	Shear parallel to grain $F_v$	Compression perpendicular to grain $F_{c\perp}$	Compression parallel to grain $F_c$	Modulus of Elasticity					
							E	$E_{min}$				
EASTERN HEMLOCK-BALSAM FIR												
Select Structural	2" & wider	1,250	575	140	335	1,200	1,200,000	440,000	0.36	NELMA		
No. 1		775	350	140	335	1,000	1,100,000	400,000				
No. 2		575	275	140	335	825	1,100,000	400,000				
No. 3		350	150	140	335	475	900,000	330,000				
Stud	2" & wider	450	200	140	335	525	900,000	330,000				
Construction	2" - 4" wide	675	300	140	335	1,050	1,000,000	370,000				
Standard		375	175	140	335	850	900,000	330,000				
Utility		175	75	140	335	550	800,000	290,000				
EASTERN HEMLOCK-TAMARACK												
Select Structural	2" & wider	1,250	575	170	555	1,200	1,200,000	440,000	0.41	NELMA		
No. 1		775	350	170	555	1,000	1,100,000	400,000				
No. 2		575	275	170	555	825	1,100,000	400,000				
No. 3		350	150	170	555	475	900,000	330,000				
Stud	2" & wider	450	200	170	555	525	900,000	330,000				
Construction	2" - 4" wide	675	300	170	555	1,050	1,000,000	370,000				
Standard		375	175	170	555	850	900,000	330,000				
Utility		175	75	170	555	550	800,000	290,000				
EASTERN SOFTWOODS												
Select Structural	2" & wider	1,250	575	140	335	1,200	1,200,000	440,000	0.36	NELMA		
No. 1		775	350	140	335	1,000	1,100,000	400,000				
No. 2		575	275	140	335	825	1,100,000	400,000				
No. 3		350	150	140	335	475	900,000	330,000				
Stud	2" & wider	450	200	140	335	525	900,000	330,000				
Construction	2" - 4" wide	675	300	140	335	1,050	1,000,000	370,000				
Standard		375	175	140	335	850	900,000	330,000				
Utility		175	75	140	335	550	800,000	290,000				
EASTERN WHITE PINE												
Select Structural	2" & wider	1,250	575	135	350	1,200	1,200,000	440,000	0.36	NELMA		
No. 1		775	350	135	350	1,000	1,100,000	400,000				
No. 2		575	275	135	350	825	1,100,000	400,000				
No. 3		350	150	135	350	475	900,000	330,000				
Stud	2" & wider	450	200	135	350	525	900,000	330,000				
Construction	2" - 4" wide	675	300	135	350	1,050	1,000,000	370,000				
Standard		375	175	135	350	850	900,000	330,000				
Utility		175	75	135	350	550	800,000	290,000				
HEM-FIR												
Select Structural	2" & wider	1,400	925	150	405	1,500	1,600,000	580,000	0.43	WCLIB WWPA		
No. 1 & Btr		1,100	725	150	405	1,350	1,500,000	550,000				
No. 1		975	625	150	405	1,350	1,500,000	550,000				
No. 2		850	525	150	405	1,300	1,300,000	470,000				
No. 3		500	300	150	405	725	1,200,000	440,000				
Stud	2" & wider	675	400	150	405	800	1,200,000	440,000				
Construction	2" - 4" wide	975	600	150	405	1,550	1,300,000	470,000				
Standard		550	325	150	405	1,300	1,200,000	440,000				
Utility		250	150	150	405	850	1,100,000	400,000				
HEM-FIR (NORTH)												
Select Structural	2" & wider	1,300	775	145	405	1,700	1,700,000	620,000	0.46	NLGA		
No. 1 & Btr		1,200	725	145	405	1,550	1,700,000	620,000				
No. 1/ No. 2		1,000	575	145	405	1,450	1,600,000	580,000				
No. 3		575	325	145	405	850	1,400,000	510,000				
Stud	2" & wider	775	450	145	405	925	1,400,000	510,000				
Construction	2" - 4" wide	1,150	650	145	405	1,750	1,500,000	550,000				
Standard		650	350	145	405	1,500	1,400,000	510,000				
Utility		300	175	145	405	975	1,300,000	470,000				

**Table 4A Reference Design Values for Visually Graded Dimension Lumber (2" - 4" thick)<sup>1,2,3</sup>**  
**(Cont.)**

(All species except Southern Pine—see Table 4B) (Tabulated design values are for normal load duration and dry service conditions. See NDS 4.3 for a comprehensive description of design value adjustment factors.)

**USE WITH TABLE 4A ADJUSTMENT FACTORS**

Species and commercial grade	Size classification	Design values in pounds per square inch (psi)							Specific Gravity <sup>4</sup> G	Grading Rules Agency		
		Bending F <sub>b</sub>	Tension parallel to grain F <sub>t</sub>	Shear parallel to grain F <sub>v</sub>	Compression perpendicular to grain F <sub>c⊥</sub>	Compression parallel to grain F <sub>c</sub>	Modulus of Elasticity					
							E	E <sub>min</sub>				
MIXED MAPLE												
Select Structural	2" & wider	1,000	600	195	620	875	1,300,000	470,000	0.55	NELMA		
No. 1		725	425	195	620	700	1,200,000	440,000				
No. 2		700	425	195	620	550	1,100,000	400,000				
No. 3	400	250	195	620	325	1,000,000	370,000					
Stud	2" & wider	550	325	195	620	350	1,000,000	370,000				
Construction	2" - 4" wide	800	475	195	620	725	1,100,000	400,000				
Standard		450	275	195	620	575	1,000,000	370,000				
Utility		225	125	195	620	375	900,000	330,000				
MIXED OAK												
Select Structural	2" & wider	1,150	675	170	800	1,000	1,100,000	400,000	0.68	NELMA		
No. 1		825	500	170	800	825	1,000,000	370,000				
No. 2		800	475	170	800	625	900,000	330,000				
No. 3	475	275	170	800	375	800,000	290,000					
Stud	2" & wider	625	375	170	800	400	800,000	290,000				
Construction	2" - 4" wide	925	550	170	800	850	900,000	330,000				
Standard		525	300	170	800	650	800,000	290,000				
Utility		250	150	170	800	425	800,000	290,000				
NORTHERN RED OAK												
Select Structural	2" & wider	1,400	800	220	885	1,150	1,400,000	510,000	0.68	NELMA		
No. 1		1,000	575	220	885	925	1,400,000	510,000				
No. 2		975	575	220	885	725	1,300,000	470,000				
No. 3	550	325	220	885	425	1,200,000	440,000					
Stud	2" & wider	750	450	220	885	450	1,200,000	440,000				
Construction	2" - 4" wide	1,100	650	220	885	975	1,200,000	440,000				
Standard		625	350	220	885	750	1,100,000	400,000				
Utility		300	175	220	885	500	1,000,000	370,000				
NORTHERN SPECIES												
Select Structural	2" & wider	975	425	110	350	1,100	1,100,000	400,000	0.35	NLGA		
No. 1/ No. 2		625	275	110	350	850	1,100,000	400,000				
No. 3		350	150	110	350	500	1,000,000	370,000				
Stud	2" & wider	475	225	110	350	550	1,000,000	370,000				
Construction	2" - 4" wide	700	325	110	350	1,050	1,000,000	370,000				
Standard		400	175	110	350	875	900,000	330,000				
Utility		175	75	110	350	575	900,000	330,000				
NORTHERN WHITE CEDAR												
Select Structural	2" & wider	775	450	120	370	750	800,000	290,000			0.31	NELMA
No. 1		575	325	120	370	600	700,000	260,000				
No. 2		550	325	120	370	475	700,000	260,000				
No. 3	325	175	120	370	275	600,000	220,000					
Stud	2" & wider	425	250	120	370	300	600,000	220,000				
Construction	2" - 4" wide	625	375	120	370	625	700,000	260,000				
Standard		350	200	120	370	475	600,000	220,000				
Utility		175	100	120	370	325	600,000	220,000				
RED MAPLE												
Select Structural	2" & wider	1,300	750	210	615	1,100	1,700,000	620,000	0.58	NELMA		
No. 1		925	550	210	615	900	1,600,000	580,000				
No. 2		900	525	210	615	700	1,500,000	550,000				
No. 3	525	300	210	615	400	1,300,000	470,000					
Stud	2" & wider	700	425	210	615	450	1,300,000	470,000				
Construction	2" - 4" wide	1,050	600	210	615	925	1,400,000	510,000				
Standard		575	325	210	615	725	1,300,000	470,000				
Utility		275	150	210	615	475	1,200,000	440,000				



**Table 4A** Reference Design Values for Visually Graded Dimension Lumber  
(Cont.) (2" - 4" thick)<sup>1,2,3</sup>

(All species except Southern Pine—see Table 4B) (Tabulated design values are for normal load duration and dry service conditions. See NDS 4.3 for a comprehensive description of design value adjustment factors.)

## USE WITH TABLE 4A ADJUSTMENT FACTORS

Species and commercial grade	Size classification	Design values in pounds per square inch (psi)							Specific Gravity <sup>A</sup>	Grading Rules Agency
		Bending F <sub>b</sub>	Tension parallel to grain F <sub>t</sub>	Shear parallel to grain F <sub>v</sub>	Compression perpendicular to grain F <sub>c⊥</sub>	Compression parallel to grain F <sub>c</sub>	Modulus of Elasticity			
							E	E <sub>min</sub>		
RED OAK										
Select Structural	2" & wider	1,150	675	170	820	1,000	1,400,000	510,000	0.67	NELMA
No. 1		825	500	170	820	825	1,300,000	470,000		
No. 2		800	475	170	820	625	1,200,000	440,000		
No. 3		475	275	170	820	375	1,100,000	400,000		
Stud	2" & wider	625	375	170	820	400	1,100,000	400,000		
Construction	2" - 4" wide	925	550	170	820	850	1,200,000	440,000		
Standard		525	300	170	820	650	1,100,000	400,000		
Utility		250	150	170	820	425	1,000,000	370,000		
REDWOOD										
Select Structural	2" & wider	1,100	625	160	425	1,100	1,100,000	400,000	0.37	RIS
No. 1		775	450	160	425	900	1,100,000	400,000		
No. 2		725	425	160	425	700	1,000,000	370,000		
No. 3		425	250	160	425	400	900,000	330,000		
Stud	2" & wider	575	325	160	425	450	900,000	330,000		
Construction	2" - 4" wide	825	475	160	425	925	900,000	330,000		
Standard		450	275	160	425	725	900,000	330,000		
Utility		225	125	160	425	475	800,000	290,000		
SPRUCE-PINE-FIR										
Select Structural	2" & wider	1,250	700	135	425	1,400	1,500,000	550,000	0.42	NLGA
No. 1/ No. 2		875	450	135	425	1,150	1,400,000	510,000		
No. 3		500	250	135	425	650	1,200,000	440,000		
Stud	2" & wider	675	350	135	425	725	1,200,000	440,000		
Construction	2" - 4" wide	1,000	500	135	425	1,400	1,300,000	470,000		
Standard		550	275	135	425	1,150	1,200,000	440,000		
Utility		275	125	135	425	750	1,100,000	400,000		
SPRUCE-PINE-FIR (SOUTH)										
Select Structural	2" & wider	1,300	575	135	335	1,200	1,300,000	470,000	0.36	NELMA WCLIB WWPA
No. 1		875	400	135	335	1,050	1,200,000	440,000		
No. 2		775	350	135	335	1,000	1,100,000	400,000		
No. 3		450	200	135	335	575	1,000,000	370,000		
Stud	2" & wider	600	275	135	335	625	1,000,000	370,000		
Construction	2" - 4" wide	875	400	135	335	1,200	1,000,000	370,000		
Standard		500	225	135	335	1,000	900,000	330,000		
Utility		225	100	135	335	675	900,000	330,000		
WESTERN CEDARS										
Select Structural	2" & wider	1,000	600	155	425	1,000	1,100,000	400,000	0.36	WCLIB WWPA
No. 1		725	425	155	425	825	1,000,000	370,000		
No. 2		700	425	155	425	650	1,000,000	370,000		
No. 3		400	250	155	425	375	900,000	330,000		
Stud	2" & wider	550	325	155	425	400	900,000	330,000		
Construction	2" - 4" wide	800	475	155	425	850	900,000	330,000		
Standard		450	275	155	425	650	800,000	290,000		
Utility		225	125	155	425	425	800,000	290,000		
WESTERN WOODS										
Select Structural	2" & wider	900	400	135	335	1,050	1,200,000	440,000	0.36	WCLIB WWPA
No. 1		675	300	135	335	950	1,100,000	400,000		
No. 2		675	300	135	335	900	1,000,000	370,000		
No. 3		375	175	135	335	525	900,000	330,000		
Stud	2" & wider	525	225	135	335	575	900,000	330,000		
Construction	2" - 4" wide	775	350	135	335	1,100	1,000,000	370,000		
Standard		425	200	135	335	925	900,000	330,000		
Utility		200	100	135	335	600	800,000	290,000		

**Table 4A**      **Reference Design Values for Visually Graded Dimension Lumber**  
**(Cont.)**      **(2" - 4" thick)<sup>1,2,3</sup>**

(All species except Southern Pine—see Table 4B) (Tabulated design values are for normal load duration and dry service conditions. See NDS 4.3 for a comprehensive description of design value adjustment factors.)

**USE WITH TABLE 4A ADJUSTMENT FACTORS**

Species and commercial grade	Size classification	Design values in pounds per square inch (psi)							Specific Gravity <sup>4</sup> G	Grading Rules Agency
		Bending F <sub>b</sub>	Tension parallel to grain F <sub>t</sub>	Shear parallel to grain F <sub>v</sub>	Compression perpendicular to grain F <sub>c⊥</sub>	Compression parallel to grain F <sub>c</sub>	Modulus of Elasticity			
							E	E <sub>min</sub>		
WHITE OAK										
Select Structural	2" & wider	1,200	700	220	800	1,100	1,100,000	400,000	0.73	NELMA
No. 1		875	500	220	800	900	1,000,000	370,000		
No. 2		850	500	220	800	700	900,000	330,000		
No. 3		475	275	220	800	400	800,000	290,000		
Stud	2" & wider	650	375	220	800	450	800,000	290,000		
Construction	2" - 4" wide	950	550	220	800	925	900,000	330,000		
Standard		525	325	220	800	725	800,000	290,000		
Utility		250	150	220	800	475	800,000	290,000		
YELLOW CEDAR										
Select Structural	2" & wider	1200	725	175	540	1200	1,600,000	580,000	0.46	NLGA
No. 1/ No. 2		800	475	175	540	1000	1,400,000	510,000		
No. 3		475	275	175	540	575	1,200,000	440,000		
Stud		2" & wider	625	375	175	540	650	1,200,000		
Construction	2" - 4" wide	925	550	175	540	1200	1,300,000	470,000		
Standard		525	300	175	540	1050	1,200,000	440,000		
Utility		250	150	175	540	675	1,100,000	400,000		
YELLOW POPLAR										
Select Structural	2" & wider	1,000	575	145	420	900	1,500,000	550,000	0.43	NELMA
No. 1		725	425	145	420	725	1,400,000	510,000		
No. 2		700	400	145	420	575	1,300,000	470,000		
No. 3		400	225	145	420	325	1,200,000	440,000		
Stud	2" & wider	550	325	145	420	350	1,200,000	440,000		
Construction	2" - 4" wide	800	475	145	420	750	1,300,000	470,000		
Standard		450	250	145	420	575	1,100,000	400,000		
Utility		200	125	145	420	375	1,100,000	400,000		

- 1. LUMBER DIMENSIONS.** Tabulated design values are applicable to lumber that will be used under dry conditions such as in most covered structures. For 2" to 4" thick lumber the DRY dressed sizes shall be used (see Table 1A) regardless of the moisture content at the time of manufacture or use. In calculating design values, the natural gain in strength and stiffness that occurs as lumber dries has been taken into consideration as well as the reduction in size that occurs when unseasoned lumber shrinks. The gain in load carrying capacity due to increased strength and stiffness resulting from drying more than offsets the design effect of size reductions due to shrinkage.
- 2. STRESS-RATED BOARDS.** Stress-rated boards of nominal 1", 1-1/4" and 1-1/2" thickness, 2" and wider, of most species, are permitted to use the design values shown for Select Structural, No. 1 & Btr, No. 1, No. 2, No. 3, Stud, Construction, Standard, and Utility grades as shown in the 2" to 4" thick categories herein, when graded in accordance with the stress-rated board provisions in the applicable grading rules. Information on stress-rated board grades applicable to the various species is available from the respective grading rules agencies. Information on additional design values may also be available from the respective grading rules agencies.
- When individual species or species groups are combined, the design values to be used for the combination shall be the lowest design values for each individual species or species group for each design property.
- Specific gravity, G, based on weight and volume when oven-dry.