AMERICAN WOOD COUNCIL

March 2025

ADDENDUM

to the 2024 Edition of the *Design Values for Wood Construction*

(a supplement to the *National Design Specification® (NDS®) for Wood Construction*)

(All print and electronic versions)

Replace reference design values for Hem-Fir(N) in Table 4A, specific gravity for Hem-Fir(N) in Footnote 2 of Table 4C, and reference design values for HF/HF(N) HF/HF-N in Table 4G with those values as shown below in red underline:

Table 4A (Cont.) **Reference Design Values for Visually Graded Dimension Lumber (2" - 4" thick)[1,2,3]**

(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[4]	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	Modulus of Elasticity E_{min}	G	
HEM-FIR (NORTH)										
Select Structural	2" & wider	1,200	750	145	405	1,650	1,600,000	580,000	0.44	NLGA
~~No. 1 & Btr~~		~~1,200~~	~~725~~	~~145~~	~~405~~	~~1,550~~	~~1,700,000~~	~~620,000~~		
No. 1/ No. 2		1,000	500	145	405	1,400	1,500,000	550,000		
No. 3		575	275	145	405	825	1,300,000	470,000		
Stud	2" & wider	775	375	145	405	900	1,300,000	470,000		
Construction	2" - 4" wide	1,150	550	145	405	1,700	1,400,000	510,000		
Standard		625	300	145	405	1,450	1,300,000	470,000		
Utility		300	150	145	405	950	1,200,000	440,000		

Table 4C Footnotes

2. **SPECIFIC GRAVITY, G, SHEAR PARALLEL TO GRAIN, F_v, AND COMPRESSION PERPENDICULAR TO GRAIN, $F_{c\perp}$.** Values for specific gravity, G, shear parallel to grain, F_v, and compression perpendicular to grain, $F_{c\perp}$, are provided below for MSR and MEL lumber. For species or species groups not shown below, the G, F_v, and $F_{c\perp}$ values for visually graded lumber may be used. Higher G values may be claimed when (a) specifically assigned by the rules writing agency or (b) when qualified by test, quality controlled for G and provided for on the grade stamp. When a different G value is provided on the grade stamp, higher F_v and $F_{c\perp}$ design values may be calculated in accordance with the grading rule requirements.

Species	Modulus of Elasticity E ($x10^6$) psi	Specific Gravity G	Design values in pounds per square inch (psi)		Grading Rules Agency
			Shear parallel to grain F_v	Compression perpendicular to grain $F_{c\perp}$	
Hem-Fir (N)	1.0 and higher	0.44	145	405	NLGA

Table 4G (Cont.) Reference Design Values for Multi-Species and Country Grademarked Visually Graded Dimension Lumber (2"-4" thick)[1,2,3]

(Tabulated design values are for normal load duration and dry service conditions. See NDS 5.3 for a comprehensive description of design value adjustment factors.)

USE WITH TABLE 4G ADJUSTMENT FACTORS

Multi-Species and Country Label	Commercial Grade	Size Classification	Design values in pounds per square inch (psi)							Specific Gravity[4]	Grade Stamping Agency
			Bending	Tension parallel to grain	Shear parallel to grain	Compression perpendicular to grain	Compression parallel to grain	Modulus of Elasticity			
			F_b	F_t	F_v	$F_{c\perp}$	F_c	E	E_{min}	G	
HF/HF(N)			HEM-FIR & HEM-FIR (NORTH) from NORTH AMERICA								**PLIB, WWPA**
HF/HF-N			HEM-FIR & HEM-FIR (NORTH) from NORTH AMERICA								**TP**
Tabulated design values are the minimum values for the following species and commercial grades in Table 4A: HEM-FIR; HEM-FIR (NORTH)	Select Structural	2" & wider	1200	750	145	405	1500	1.6	0.58	0.43	
	No. 1 & Btr		1100	725	145	405	1350	1.5	0.55		
	No. 1		975	500	145	405	1350	1.5	0.55		
	No. 2		850	500	145	405	1300	1.3	0.47		
	No. 3		500	275	145	405	725	1.2	0.44		
	Stud	2" & wider	675	375	145	405	800	1.2	0.44		
	Construction	2" - 4" wide	975	550	145	405	1550	1.3	0.47		
	Standard		550	300	145	405	1300	1.2	0.44		
	Utility		250	150	145	405	850	1.1	0.40		

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(a supplement to the *National Design Specification® (NDS®) for Wood Construction*)
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Modify Section 2.1 as follows:

2.1 List of Sawn Lumber Species Combinations

Species or Species Combination	Species That May Be Included in Combination	Grading Rules Agencies	Design Values Provided in Tables
Red Alder		WWPA	4A

Add the following species and commercial grades to Table 4A:

Table 4A Reference Design Values for Visually Graded Dimension Lumber (2" - 4" thick)[1,2,3]

(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[4]	Grading Rules Agency
		Bending	Tension parallel to grain	Shear parallel to grain	Compression perpendicular to grain	Compression parallel to grain	Modulus of Elasticity			
		F_b	F_t	F_v	$F_{c\perp}$	F_c	E	E_{min}	G	
RED ALDER										
Select Structural	2" & wider	1,100	650	140	395	1,050	1,400,000	510,000	0.41	WWPA
No. 1		800	475	140	395	825	1,300,000	470,000		
No. 2		775	450	140	395	650	1,300,000	470,000		
No. 3		450	250	140	395	375	1,100,000	400,000		
Stud	2" & wider	600	350	140	395	400	1,100,000	400,000		
Construction	2" - 4" wide	875	500	140	395	875	1,200,000	440,000		
Standard		450	275	140	395	675	1,100,000	400,000		
Utility		225	125	140	395	425	1,000,000	370,000		