AMERICAN WOOD COUNCIL

Sept. 2026

ADDENDUM

to the 2024 Edition of the

National Design Specification® (NDS®) for Wood Construction

(All print and electronic versions)

Due to changes in the ASTM D1990 standard related to how specific gravity (G) values are assigned for grouped species, the G value for Spruce-Pine-Fir (South) has been increased from 0.36 to 0.40. This will apply to the Spruce-Pine-Fir (South) G value in NDS Table 12.3.3A (see below), and in NDS Tables 12A through 12U.

Table 12.3.3A – Assigned Specific Gravities

Species Combination	Specific[1] Gravity, G	Species Combinations of MSR and MEL Lumber	Specific[1] Gravity, G
Spruce-Pine-Fir (South)	~~0.36~~ 0.40	**Spruce-Pine-Fir (South)**	
		E = 1,100,000 psi and lower grades of MSR	~~0.36~~ 0.40
		E = 1,200,000 psi to1,900,000 psi grades of MSR	0.42
		E = 2,000,000 psi and higher grades of MSR	0.50

[1] Specific gravity, G, based on weight and volume when oven-dry. Different specific gravities, G, are possible for different grades of MSR and MEL lumber (see Table 4C, Footnote 2).

AMERICAN WOOD COUNCIL

August 2026

ERRATA

to the 2024 *National Design Specification (NDS) for Wood Construction*

(All prior PDF and print versions)

Correct equation references in 3.4.3 and 3.4.4 as shown in red strike-out and underline below.

3.4.3 Shear Design Equations for Bending Members with Notches or Taper Cuts

$$V_r' = \left[\frac{2}{3}F_v' b d_n\right]\left[\frac{d_n}{d}\right]^2$$ ~~(Eq. 3.4-3)~~ (Eq. 3.4-4)

$$V_r' = \left[\frac{2}{3}F_v' A_n\right]\left[\frac{d_n}{d}\right]^2$$ ~~(Eq. 3.4-4)~~ (Eq. 3.4-5)

$$V_r' = \frac{2}{3}F_v' b\left[d - \left(\frac{d - d_n}{d_n}\right)e\right]$$ ~~(Eq. 3.4-5)~~ (Eq. 3.4-6)

$$V_r' = \frac{2F_v' b d_n}{3}$$ ~~(Eq. 3.4-6)~~ (Eq. 3.4-7)

3.4.4 Shear Design Equations for Connections in Bending Members

$$V_r' = \left[\frac{2}{3}F_v' b d_e\right]\left[\frac{d_e}{d}\right]^2$$ ~~(Eq. 3.4-6)~~ (Eq. 3.4-8)

$$V_r' = \frac{2}{3}F_v' b d_e$$ ~~(Eq. 3.4-7)~~ (Eq. 3.4-9)

Correct 4.3.10, 4.3.16, 5.4.1.2, 5.4.2.2, and 5.4.4.2 as shown in red strike-out and underline:

4.3.10 Column Stability Factor, C_P

Reference compression design values parallel to grain, ~~F_e~~ F_c, shall be multiplied by the column stability factor, C_P, specified in 3.7.

4.3.16 Time Effect Factor, λ (LRFD Only)

For LRFD, reference design values shall be multiplied by the time effect factor, λ, specified in Appendix in N.3.3.

5.4.1.2 Curved bending members with constant rectangular cross section shall be designed for shear strength in accordance with 3.4, except that the provisions of ~~3.4.3.1~~ 3.4.2.2 shall not apply. The shear reduction factor from 5.3.10 shall apply.

5.4.2.2 Double-tapered curved members shall be designed for shear strength in accordance with 3.4, except that the provisions of ~~3.4.3.1~~ 3.4.2.2 shall not apply. The shear reduction factor from 5.3.10 shall apply.

5.4.4.2 Tapered straight beams shall be designed for shear strength in accordance with 3.4, except that the provisions of ~~3.4.3.1~~ 3.4.2.2 shall not apply. The shear reduction factor from 5.3.10 shall apply.

Correct the following notation in the notation list for Equation 11.3-1:

where:

~~N~~ n = number of fasteners in a row

Correct the following table reference in 12.1.3.3 as shown in red strike-out and underline below.

12.1.3.3 A standard cut washer (Appendix Table ~~L6~~ L8), or metal plate or metal strap of equal or greater dimensions shall be provided between the wood and the bolt head and between the wood and the nut.

Add the following missing subsection number to the following section text which precedes Table 12.5.1G.

12.5.1.4 Where fasteners are installed in the narrow edge of cross-laminated timber panels and D ≥ 1/4", end distances, edge distances, and fastener spacing in a row shall not be less than the minimum values in Table 12.5.1G.

Correct footnote 2 in Table N3 as follows:

[2] Load combinations and load factors…

D = dead load, L = live load, L_r = roof live load, S = snow load, R = rain load, W = wind load, and E = earthquake load.

Correct the following equation in NDS Commentary Section C5.2.7:

$$E_{min} = \frac{E[1-1.645(COV_E)]\mathbf{[1.05]}}{1.66} \qquad = \frac{E[1-1.645(0.10)][1.05]}{1.66}$$

$$= 0.528$$

where:

E = reference modulus of elasticity

1.05 = adjustment factor to convert E values to a pure bending basis

1.66 = factor of safety

COV_E = coefficient of variation in modulus of elasticity (see NDS Appendix F)

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Replace references from 3.4.3.2 to 3.4.3.1 and from 3.4.3.3 to 3.4.4.1 as shown in red strike-out and underline below.

5.2.6 Shear Parallel to Grain, F_{vx}, F_{vy}

The reference shear design value parallel to grain, $\mathbf{F_{vx}}$ shall apply to members with shear loads causing bending about the x-x axis. The reference shear design value parallel to grain, $\mathbf{F_{vy}}$, shall apply to members with shear loads causing bending about the y-y axis.

The reference shear design values parallel to grain shall apply to prismatic members except those subject to impact or repetitive cyclic loads. For non-prismatic members and for all members subject to impact or repetitive cyclic loads, the reference shear design values parallel to grain shall be multiplied by the shear reduction factor specified in 5.3.10. This reduction shall also apply to the design of connections transferring loads through mechanical fasteners (see ~~3.4.3.3~~ 3.4.4.1, 11.1.2 and 11.2.2).

Prismatic members shall be defined as straight or cambered members with constant cross-section. Non-prismatic members include, but are not limited to arches, tapered beams, curved beams, and notched members.

The reference shear design value parallel to grain, $\mathbf{F_{vy}}$, is tabulated for members with four or more laminations. For members with two or three laminations, the reference design value shall be multiplied by 0.84 or 0.95, respectively.

5.3.10 Shear Reduction Factor, C_{vr}

The reference shear design values, F_{vx} and F_{vy}, shall be multiplied by the shear reduction factor, $C_{vr} = 0.72$ where any of the following conditions apply:

1. Design of non-prismatic members.
2. Design of members subject to impact or repetitive cyclic loading.
3. Design of members at notches (~~3.4.3.2~~ 3.4.3.1).
4. Design of members at connections (~~3.4.3.3~~ 3.4.4.1, 11.1.2, 11.2.2).

11.1.2 Stresses in Members at Connections

Structural members shall be checked for load carrying capacity at connections in accordance with all applicable provisions of this standard including 3.1.2, 3.1.3, and ~~3.4.3.3~~ 3.4.4.1. Local stresses in connections using multiple fasteners shall be checked in accordance with principles of engineering mechanics. One method for determining these stresses is provided in Appendix E.

13.3.3.2 Where split ring or shear plate connectors are installed in end grain, the members shall be designed for shear parallel to grain in accordance with ~~3.4.3.3~~ 3.4.4.1.

C12.5.1 Geometry Factor, C_Δ

Spacing Requirements for Fasteners in a Row:

… Evaluating the wood members for shear per NDS ~~3.4.3.3~~ 3.4.4.1 would also be advisable.

Edge Distance: Requirements in NDS Table

…For perpendicular-to-grain connections, the member is required to be checked for shear in accordance with ~~3.4.3.3~~ 3.4.4.1 of the Specification using a reduced depth, d_e, equivalent to the beam depth (d) less the distance from the unloaded edge of the beam to the center of the nearest fastener.

C13.3.3 Geometry Factor, C_Δ, for Split Ring and Shear Plate Connectors in End Grain

…C13.3.3.2 Shear capacity of members supported by connectors in end grain surfaces should be checked using provisions of NDS ~~3.4.3.3~~ 3.4.4.1. …

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(updated in Sept.2026)

ADDENDUM

to the 2024 Edition of the

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Replace values of specific gravity, G, for Hem-Fir(N) in Table 12.3.3A from 0.46 to 0.44 as shown below in red strike-out and underline.
This change will also apply to the tabulated reference lateral design values in NDS Tables 12A through 12U for Hem-Fir (North).

Table 12.3.3A Assigned Specific Gravities

Species Combination	Specific[1] Gravity, G	Species Combinations of MSR and MEL Lumber	Specific[1] Gravity, G
Hem-Fir (North)	~~0.46~~ 0.44	Hem-Fir (North)	
		E=1,000,000 psi and higher grades of MSR and MEL	~~0.46~~ 0.44

1. Specific gravity, G, based on weight and volume when oven-dry. Different specific gravities, G, are possible for different grades of MSR and MEL lumber (see Table 4C, Footnote 2).

AMERICAN WOOD COUNCIL

March 2025

ERRATA

to the 2024 *National Design Specification (NDS) for Wood Construction*

(All print versions and prior PDF versions)

Table 12.3.3A is revised as shown below in red underline to include original text that was omitted during typesetting.

Table 12.3.3A – Assigned Specific Gravities

Species Combination	Specific[1] Gravity, G	Species Combinations of MSR and MEL Lumber	Specific[1] Gravity, G
Alaska Cedar	0.47	**Douglas Fir-Larch**	
Alaska Hemlock	0.46	E = 1,900,000 psi and lower grades of MSR	0.50
Alaska Spruce	0.41	E = 2,000,000 psi grades of MSR	0.51
Alaska Yellow Cedar	0.46	E = 2,100,000 psi grades of MSR	0.52
Aspen	0.39	E = 2,200,000 psi grades of MSR	0.53
Balsam Fir	0.36	E = 2,300,000 psi grades of MSR	0.54
Beech-Birch-Hickory	0.71	E = 2,400,000 psi grades of MSR	0.55
Coast Sitka Spruce	0.39	**Douglas Fir-Larch (North)**	
Cottonwood	0.41	E = 1,900,000 psi and lower grades of MSR and MEL	0.49
Douglas Fir-Larch	0.50	E = 2,000,000 psi to 2,200,000 psi grades of MSR and MEL	0.53
Douglas Fir-Larch (North)	0.49	E = 2,300,000 psi and higher grades of MSR and MEL	0.57
Douglas Fir-South	0.46	**Douglas Fir-Larch (South)**	
Eastern Hemlock	0.41	E = 1,000,000 psi and higher grades of MSR	0.46
Eastern Hemlock-Balsam Fir	0.36	**Engelmann Spruce-Lodgepole Pine**	
Eastern Hemlock-Tamarack	0.41	E = 1,400,000 psi and lower grades of MSR	0.38
Eastern Hemlock-Tamarack (North)	0.47	E = 1,500,000 psi and higher grades of MSR	0.46
Eastern Softwoods	0.36	**Hem-Fir**	
Eastern Spruce	0.41	E = 1,500,000 psi and lower grades of MSR	0.43
Eastern White Pine	0.36	E = 1,600,000 psi grades of MSR	0.44
Engelmann Spruce-Lodgepole Pine	0.38	E = 1,700,000 psi grades of MSR	0.45
Hem-Fir	0.43	E = 1,800,000 psi grades of MSR	0.46
Hem-Fir (North)	0.46	E = 1,900,000 psi grades of MSR	0.47
Mixed Maple	0.55	E = 2,000,000 psi grades of MSR	0.48
Mixed Oak	0.68	E = 2,100,000 psi grades of MSR	0.49
Mixed Southern Pine	0.51	E = 2,200,000 psi grades of MSR	0.50
Mountain Hemlock	0.47	E = 2,300,000 psi grades of MSR	0.51
Northern Pine	0.42	E = 2,400,000 psi grades of MSR	0.52
Northern Red Oak	0.68	**Hem-Fir (North)**	
Northern Species	0.35	E = 1,000,000 psi and higher grades of MSR and MEL	0.46
Northern White Cedar	0.31	**Southern Pine**	
Ponderosa Pine	0.43	E = 1,700,000 psi and lower grades of MSR and MEL	0.55
Red Maple	0.58	E = 1,800,000 psi and higher grades of MSR and MEL	0.57
Red Oak	0.67	**Spruce-Pine-Fir**	
Red Pine	0.44	E = 1,700,000 psi and lower grades of MSR and MEL	0.42
Redwood	0.37	E = 1,800,000 psi and 1,900,000 grades of MSR and MEL	0.46
Sitka Spruce	0.43	E = 2,000,000 psi and higher grades of MSR and MEL	0.50
Southern Pine	0.55	**Spruce-Pine-Fir (South)**	
Spruce-Pine-Fir	0.42	E = 1,100,000 psi and lower grades of MSR	0.36
Spruce-Pine-Fir (South)	0.36	E = 1,200,000 psi to1,900,000 psi grades of MSR	0.42
Western Cedars	0.36	E = 2,000,000 psi and higher grades of MSR	0.50
Western Cedars (North)	0.35	**Western Cedars**	
Western Hemlock	0.47	E = 1,000,000 psi and higher grades of MSR	0.36
Western Hemlock (North)	0.46	**Western Woods**	
Western White Pine	0.40	E = 1,000,000 psi and higher grades of MSR	0.36
Western Woods	0.36		
White Oak	0.73		
Yellow Poplar	0.43		

1 Specific gravity, G, based on weight and volume when oven-dry. Different specific gravities, G, are possible for different grades of MSR and MEL lumber (see Table 4C, Footnote 2).

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AMERICAN WOOD COUNCIL

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In 15.2.3.3, add “K_x” in the equation for F_{cE} as shown below.

$$F_{cE} = \frac{0.822\ \underline{K_x}\ E_{min}'}{(\ell_e/d)^2}$$

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The term "10D" in the second equation for K_D in Table 12.3.1B is incorrectly depicted as "10_D" and is corrected as shown below.

Table 12.3.1B – Reduction Term, R_d

Fastener Size	Yield Mode	Reduction Term, R_d
$0.25" \le D \le 1"$	I_m, I_s	$4\ K_\theta$
	II	$3.6\ K_\theta$
	III_m, III_s, IV	$3.2\ K_\theta$
$D < 0.25"$	I_m, I_s, II, III_m, III_s, IV	K_D[1]

Notes:

$K_\theta = 1 + 0.25(\theta/90)$

θ = maximum angle between the direction of load and the direction of grain ($0° \le \theta \le 90°$) for any member in a connection

D = diameter, in. (see 12.3.7)

$K_D = 2.2$ for $D \le 0.17"$

$K_D = \boxed{10_D} + 0.5$ for $0.17" < D < 0.25"$

[1] For threaded fasteners where nominal diameter (see Appendix L) is greater than or equal to 0.25" and root diameter is less than 0.25", $R_d = K_D K_\theta$.

should be 10D

The term "$D^{1.5}$" in the equations for γ in 11.3.6.1 is incorrectly depicted as "$D_{1.5}$" and is corrected as shown below.

11.3.6 Group Action Factors, C_g

11.3.6.1 Reference lateral design values for split ring connectors, shear plate connectors, or dowel-type fasteners with $D \leq 1"$ in a row shall be multiplied by the following group action factor, C_g:

$$C_g = \left[\frac{m(1-m^{2n})}{n\left[\left(1+R_{EA}m^n\right)(1+m)-1+m^{2n}\right]}\right]\left[\frac{1+R_{EA}}{1-m}\right] \quad \text{(Eq. 11.3-1)}$$

where:

C_g = 1.0 for dowel type fasteners with $D < 1/4"$

N = number of fasteners in a row

R_{EA} = the lesser of $\frac{E_sA_s}{E_mA_m}$ or $\frac{E_mA_m}{E_sA_s}$

E_m = modulus of elasticity of main member, psi

E_s = modulus of elasticity of side members, psi

A_m = gross cross-sectional area of main member, in.^{2}

A_s = sum of gross cross-sectional areas of side members, in^2

m = $u-\sqrt{u^2-1}$

u = $1+\gamma\frac{s}{2}\left[\frac{1}{E_mA_m}+\frac{1}{E_sA_s}\right]$

s = center to center spacing between adjacent fasteners in a row, in.

γ = load/slip modulus for a connection, lbs/in.

= 500,000 lbs/in. for 4" split ring or shear plate connectors

= 400,000 lbs/in. for 2-1/2" split ring or 2-5/8" shear plate connectors

= $(180{,}000)\boxed{(D_{1.5})}$ for dowel-type fasteners in wood-to-wood connections

= $(270{,}000)\boxed{(D_{1.5})}$ for dowel-type fasteners in wood-to-metal connections

D = diameter of dowel-type fastener, in.

should be $D^{1.5}$

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(All prior PDF and print versions)

Table 14.2.2A is revised as shown below in red underline. Prior values were based on S_q=1-1/4" rather than S_q=1-1/2".

Table 14.2.2A Values of q_w (lbs) Perpendicular to Grain for Timber Rivets

$s_p = 1"$

s_q in.	Rivets per row	Number of rows 2	4	6	8	10
1	2	776	809	927	1089	1255
	3	768	806	910	1056	1202
	4	821	870	963	1098	1232
	5	874	923	1013	1147	1284
	6	959	1007	1094	1228	1371
	7	1048	1082	1163	1297	1436
	8	1173	1184	1256	1391	1525
	9	1237	1277	1345	1467	1624
	10	1318	1397	1460	1563	1752
	11	1420	1486	1536	1663	1850
	12	1548	1597	1628	1786	1970
	13	1711	1690	1741	1882	2062
1-1/2	2	1136	1097	1221	1414	1630
	3	1124	1093	1199	1371	1561
	4	1202	1180	1268	1426	1601
	5	1280	1251	1334	1490	1668
	6	1404	1366	1442	1595	1780
	7	1534	1467	1532	1685	1865
	8	1717	1606	1654	1806	1980
	9	1811	1731	1772	1905	2110

Figure 5F is revised as shown on the following page - to be consistent with NDS provisions for compression side notching of structural glued-laminated timber in 5.4.5.2, which states that "Compression side end-notches shall not extend into the middle 1/3 of the span nor more than $3d_n$ from the end of the member."

Figure 5F – Compression Face Notch and Taper Cut Limitations for Glulam Beams