



AMERICAN WOOD COUNCIL

January 2024

ERRATA
to the 2018 Edition of Commentary for the
National Design Specification (NDS) for Wood Construction

(All prior PDF and print versions)

Page **Revision**

256 Revise equation C12.2.2-2 as shown in red below:

$$K_w = 1.2 \left(\frac{14250}{6} \right) \quad (\text{C12.2.2-2})$$



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to the 2018 and Prior Editions of
the National Design Specification® (NDS®) for Wood Construction

Page **Revision**

91 Revise footnote 1 in Table 12.5.1D as follows:

1. The ℓ/D ratio used to determine the minimum ~~edge distance~~ spacing between rows shall be the lesser of:
 - (a) length of fastener in wood main member/ $D = \ell_m/D$
 - (b) total length of fastener in wood side member(s)/ $D = \ell_s /D$



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Page Revision

166 Clarifies that the following calculations in Example E.7 Sample Solution of Row of Bolts is intended for a single-row bolted connection with a 3-1/2" thick main member and 1-1/2" thick side member:

E.7 Sample Solution of Row of Bolts

Calculate the net section area tension and row tear-out adjusted ASD design capacities for the single-shear single-row bolted connection represented in Figure E2.

Main and Side Members:

#2 grade Hem-Fir ~~2x4~~ lumber. See *NDS Supplement* Table 4A – Visually Graded Dimension Lumber for reference design values. Adjustment factors C_D , C_T , C_M , and C_i are assumed to equal 1.0 in this example for calculation of adjusted design values.

$$F_t' = 525 \text{ psi } (C_F) = 525(1.5) = 788 \text{ psi}$$

$$F_v' = 150 \text{ psi}$$

Connection Details:

Bolt diameter, D : 1/2 in.

Bolt hole diameter, D_h : 0.5625 in.

Adjusted ASD bolt design value, $Z_{||}'$: 550 lbs

(See NDS Table 12A for 3-1/2" main member thickness and 1-1/2" side member thickness. For this trial design, the group action factor, C_g , is taken as 1.0).

Adjusted ASD Connection Capacity, $n Z_{||}'$:

$$nZ_{||}' = (3 \text{ bolts})(550 \text{ lbs}) = 1,650 \text{ lbs}$$

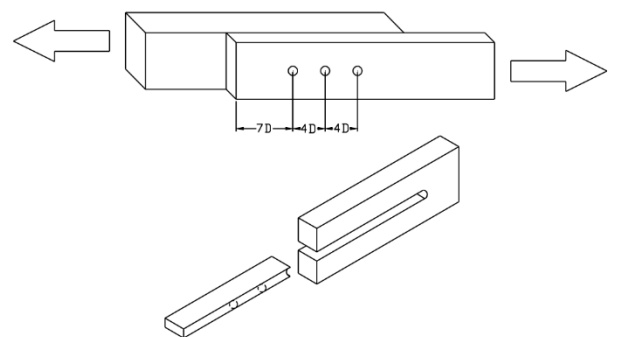
Adjusted For side member, adjusted ASD Net

Section Area Tension Capacity, Z_{NT}' :

$$Z_{NT}' = F_t' t [w - n_{row} D_h]$$

$$Z_{NT}' = (788 \text{ psi})(1.5'')[3.5'' - 1(0.5625'')] = 3,470 \text{ lbs}$$

Figure E2 Single Row of Bolts



Adjusted For side member, adjusted ASD Row Tear-Out Capacity, Z_{RT}' :

$$Z_{RTi}' = n_i F_v' t_{critical}$$

$$Z_{RT1}' = 3(150 \text{ psi})(1.5'')(2'') = 1,350 \text{ lbs}$$

In this sample calculation, the adjusted ASD connection capacity is limited to 1,350 pounds by row tear-out, Z_{RT}' .



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the National Design Specification® (NDS®) for Wood Construction
(all versions)

Page Revision

167 Revise the following calculations in Example E.8 Sample Solution of Row of Split Rings (remainder of example is unchanged):

E.8 Sample Solution of Row of Split Rings

Calculate the net section area tension and row tear-out adjusted ASD design capacities for the single-shear single- row split ring connection represented in Figure E3.

Main and Side Members:

#2 grade Southern Pine 2x4 lumber. See *NDS Supplement* Table 4B – Visually Graded Southern Pine Dimension Lumber for reference design values. Adjustment factors C_D , C_T , C_M , and C_i are assumed to equal 1.0 in this example for calculation of adjusted design values.

$$F_t' = 825 \text{ 675 psi}$$

$$F_v' = 175 \text{ psi}$$

Main member thickness, t_m : 1.5 in.

Side member thickness, t_s : 1.5 in.

Main and side member width, w : 3.5 in.

Connection Details:

Split ring diameter, D : 2.5 in. (see Appendix K for connector dimensions)

Adjusted ASD split ring design value, P' : 2,730 lbs (see Table 13.2A. For this trial design, the group action factor, C_g , is taken as 1.0).

Adjusted ASD Connection Capacity, nP' :

$$nP' = (2 \text{ split rings})(2,730 \text{ lbs}) = 5,460 \text{ lbs}$$

Adjusted ASD Net Section Area Tension Capacity, Z_{NT}' :

$$Z_{NT}' = F_t' A_{net}$$

$$Z_{NT}' = F_t' [A_{2x4} - A_{bolt-hole} - A_{split \text{ ring projected area}}]$$

$$Z_{NT}' = (825 \text{ 675 psi})[5.25 \text{ in.}^2 - 1.5" (0.5625") - 1.1 \text{ in.}^2] \\ = 2,728 \text{ 2,232 lbs}$$

Adjusted ASD Row Tear-Out Capacity, Z_{RT}' :

$$Z_{RT}' = n_1 \frac{F_v' A_{critical}}{2}$$

$$Z_{RT1}' = [(2 \text{ connectors})(175 \text{ psi})/2](21.735 \text{ in.}^2) \\ = 3,804 \text{ lbs}$$

where:

$$A_{critical} = 21.735 \text{ in.}^2 \text{ (See Figures E4 and E5)}$$

In this sample calculation, the adjusted ASD connection capacity is limited to 2,728 2,232 pounds by net section area tension capacity, Z_{NT}' .



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to the 2018 Edition of
the National Design Specification® (NDS®) for Wood Construction
(web version dated 11-17)

Page **Revision**

40 Revise K_{rs} as described in Equation (5.4-3) as follows (replace d_e with d_c):

$$\begin{aligned} K_{rs} &= \text{empirical radial stress factor} \\ &= 0.29(\cancel{d_e}d_c/R_m) + 0.32 \tan^{1.2} \phi_T \end{aligned}$$