ERRATA

to the 2018 Edition of
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.

\[ F_t' = 825 \text{ psi} \]
\[ F_v' = 175 \text{ psi} \]
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, \( Z_{NT'} \):

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

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

\[ Z_{RT'} = \frac{n F_v' A_{critical}}{2} \]
\[ Z_{RT'} = [(2 \text{ connectors})(175 \text{ psi})/2](21.735 \text{ in.}^2) \]
\[ = 3,804 \text{ lbs} \]

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, \( Z_{NT'} \).