



ERRATA
to the 2015 Edition of
the National Design Specification® (NDS®) for Wood Construction
(all versions)

Page Revision

165 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}' .