Cross Recess Rear Panel Wafer Head Zinc

Specialty Fasteners

SPAX® ENGINEERED FASTENERS

PERFORMANCE SPECIFICATIONS

DrJ TER No. 2010-02
Construction Screw Properties

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H)[1,2,3,4]					
	SOUTHERN PINE (SG=0.55)		DOUGLAS-FIR (SG=0.50)		HEM FIR & SPRUCE-PINE-FIR (SG=0.42)	
	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)
#8	175	335	133	297	127	268

DIAMETER	ALLOWABLE WITHDRAWAL (W) AND HEAD PULL-THROUGH (W_H)[1,2]											
	PLYWOOD 15/32" (0.39)		PLYWOOD 19/32" (0.39)		PLYWOOD 23/32" (0.50)		OSB 15/32" (0.50)		OSB 19/32" (0.50)		OSB 23/32" (0.50)	
	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)	WITHDRAWAL W (lbs./inch)	HEAD PULL-THROUGH W_H (lbs.)
#8	51	146	83	190	162	319	36	86	48	110	52	131

1. Tabulated withdrawal and head pull-through design values (W) and (W_H) are shown at a C_D = 1.0. Tabulated withdrawal and head pull-through values shall be adjusted by all applicable adjustment factors per *NDS Table 11.3.1*.
2. Full withdrawal strength is calculated by multiplying the length of thread embedded in the main member by the tabulated reference withdrawal values.
3. Head pull-through values for #8 diameter and larger in Southern Pine, Douglas-Fir, Hem-Fir and Spruce-Pine-Fir are minimum 1.5" side member thickness.
4. For wood species with an assigned specific gravity between 0.42 and 0.50, use the tabulated values for specific gravity of 0.42. For wood species with an assigned specific gravity between 0.50 and 0.55, use the tabulated values for specific gravity of 0.50. For wood species with an assigned specific gravity greater than or equal to 0.55, use the tabulated values for specific gravity of 0.55.

DIAMETER	BENDING YIELD STRENGTH[1] , f_{yb} (psi)	ALLOWABLE STEEL STRENGTH (lbs)	
		TENSILE	SHEAR[2]
#8	187,000	460	345

1. Bending yield strength, f_{yb}, is determined in accordance with *ASTM F1575* using minor thread diameter when fastener is tested in thread section.
2. Shear strength is determined in accordance with *AISI S904* using minor thread diameter when fastener is tested in threaded section.

DIAMETER	REFERENCE LATERAL SHEAR VALUE, Z (lbf)			
	MINIMUM MAIN MEMBER PENETRATION[1] (in)	MINIMUM SIDE MEMBER THICKNESS (in)	REFERENCE LATERAL SHEAR VALUE[1,3,4], Z (lbf)	
			OSB[5] (0.50)	PLYWOOD[5] (0.39)
#8 x 1-1/4"	13/16"	7/16"	40	-
#8 x 1-1/4"	25/32"	15/32"	40	33
#8 x 1-1/4"	21/32"	19/32"	42	32

SI: 1 in = 25.4 mm, 1 lbf = 4.45 N

1. Reference lateral design values apply to two-member single shear connections where the side member is OSB or plywood, the main member is SPF (SG = 0.42), and the fastener is installed in the face of the member and oriented perpendicular to the grain. The underside of the fastener head shall be installed flush with the surface of the side member.
2. Penetration depth includes the length of the tapered tip.
3. Lateral design values apply to both perpendicular to grain ($Z_{\perp}$) and parallel to grain ($Z_{\parallel}$) orientations.
4. Tabulated lateral design values shall be adjusted by all appplicable adjustment factors per *NDS Table 11.3.1*.
5. OSB shall comply with *DOC PS 2* and have a minimum specific gravity of 0.50. Plywood shall comply with *DOC PS 1* and have a minimum specific gravity of 0.39.