PERFORMANCE SPECIFICATIONS

DrJ TER No. 1912-07
Structural Wood Fastener Properties

DIAMETER	LENGTH	ALLOWABLE WITHDRAWAL (W), HEAD PULL-THROUGH (W_H), LATERAL SHEAR PARALLEL TO GRAIN ($Z_{||}$), AND LATERAL SHEAR PERPENDICULAR TO GRAIN ($Z_{\perp}$) VALUES[1,2,3,4,5,6,7]											
		SOUTHERN PINE (G=0.55)				DOUGLAS-FIR (G=0.50)				HEM FIR & SPRUCE-PINE-FIR (G=0.42)			
		WITHDRAWAL	HEAD PULL-THROUGH	LATERAL SHEAR		WITHDRAWAL	HEAD PULL-THROUGH	LATERAL SHEAR		WITHDRAWAL	HEAD PULL-THROUGH	LATERAL SHEAR	
		(W)	(W_H)	$Z_{||}$	$Z_{\perp}$	(W)	(W_H)	$Z_{||}$	$Z_{\perp}$	(W)	(W_H)	$Z_{||}$	$Z_{\perp}$
		(lbs./inch)	(lbs.)	(lbf.)	(lbf.)	(lbs./inch)	(lbs.)	(lbf.)	(lbf.)	(lbs./inch)	(lbs.)	(lbf.)	(lbf.)
1/4"	< 3"	375	700	305	285	310	640	265	235	245	455	250	225
	3.5"			390	370			360	340			315	285
	ALL OTHER LENGTHS			400	370			360	335			350	310
5/16"	< 3"	415	755	340	305	300	680	310	280	250	500	265	230
	3.5"			400	380			360	340			325	300
	ALL OTHER LENGTHS			440	405			405	375			380	355
3/8"	ALL	465	985	530	485	300	825	475	440	280	575	445	405
1/2"	ALL	445	1185	585	475	275	970	550	400	275	865	500	370

1. "Withdrawal", "Head Pull-Through", and "Lateral Shear" design values shall be adjusted by all applicable adjustment factors per *NDS* Table 11.3.1.
2. "Withdrawal" design values are to be multiplied by the length of the thread penetration into the side grain of the main member. Length includes tip.
3. "Withdrawal" design values are from the main member, and "Head Pull-Through" design values are based on a minimum of 1-1/2" side member thickness.
4. Tabulated "Withdrawal" and "Head Pull-Through" design values are for the wood species with the listed assigned specific gravities. Where the wood species assigned specific gravity is not listed, use the next lower assigned specific gravity values.
5. Tabulated "Lateral Shear" design values are for the wood species with the listed assigned specific gravities applied to both the main and side members. Where the members are different assigned specific gravities, use the lower of the two.
6. Tabulated "Lateral Shear" design values require fasteners must be oriented perpendicular to the side grain, and the underside of the fastener head be installed flush with the surface of the side member.
7. Tabulated "Lateral Shear" design values require a minimum fastener penetration into the main member of 1.375" for fasteners less than 4" and 2.375" for all other lengths.