



2900 Commonwealth Ave NE
 Warren, OH 44483
 800-FX-STRUT (800-397-8788)
 Fax 330-372-3666
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12-inch FS-9319 and FS-9401 Design Loads

@ 5" Edge Distance - Using a (2) bolt connection – 3-1/2" min. bolt spacing		
Safety Factor	3	
Pull-out	6250 lb	
Shear	6170 lb	
Fc	4000 psi NWT	
Edge Distance	5"	
End Distance	8" min.	
@ 2-3/4" Edge Distance - Using a (2) bolt connection – 3-1/2" min. bolt spacing		
Safety Factor	3	
Pull-out	6000 lb	
Shear	2635 lb	
Fc	4000 psi NWT	
Edge Distance	2-3/4"	
End Distance	8" min.	
Allowable Single Channel Nut Loads (S.F. = 3.0)		
Using a single bolt connection – 5" min. edge distance - centered on embed		
Size	Tension (lb)	Shear (lb)
1/2"-M	4000	3580 (Grade 5 bolt)
5/8"	4000	4970 (Grade 5 bolt)
3/4"	4000	4418
7/8"	2200	4970
Allowable 2-Bolt Channel Nut Loads (S.F. = 3.0)		
Using a (2) bolt connection – 2-3/4" min. edge distance - 3-1/2" min. bolt spacing – centered on embed		
Size	Tension (lb)	Shear (lb)
1/2"-M; 5/8", 3/4"	6250	2635
7/8"	4400	2635



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Allowable Single Channel Nut Slip Loads (S.F. = 3.0)			
Size	Grade	Torque (ft-lb)	Slip Load (lb)
1/2"-M	5	75	1550
5/8"; 3/4"	ASTM A 307 / Grade 5	97	1800
7/8"	ASTM A 307	75	1550
Allowable 2-Bolt Channel Nut Slip Loads (S.F. = 3.0) Using a (2) bolt connection			
Size	Grade	Torque (ft-lb)	Slip Load (lb)
1/2"-M	5	75	2640
5/8"; 3/4"	ASTM A 307 / Grade 5	97	3000
7/8"	ASTM A 307	75	2640
Allowable Single Bolt Loads (AAMA TIR-A9)			
Size	Grade	Tension (lb)	Shear (lb)
1/2"	5	6811	3580
5/8"	ASTM A 307	6136	3068
5/8"	5	12149	6259
3/4"	ASTM A 307	8836	4418
7/8"	ASTM A 307	12026	6013

* End distance is the required distance from the end of the insert channel to the end of the slab.