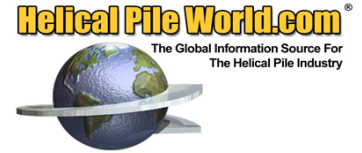| MPS - Civil Products Group Helical Piles, Tiebacks & Anchors		Ultimate Capacity Based Upon Torque (kips - kN) (1) (2)	Helix Bearing Plate Grade & Thickness (in - mm)	Section Coupling Method	Building Code Certifications
Round Corner Square Bar (RCS)					
Model D6	**1.50 in - 38.1 mm** ASTM A576, Grade 10V45 Yield Strength = 70 ksi (min)	Comp = 55 kips - 245 kN Ten = 55 kips - 245 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std 0.50 in - 12.7 mm opt	(1) 0.75 in - 19.1 mm Grd 5 Bolt	ICC-ES ESR-3032 LA RR 25629
Model D7	**1.50 in - 38.1 mm** ASTM A576, Grade 1530M Yield Strength = 90 ksi (min)	Comp = 70 kips - 311 kN Ten = 70 kips - 311 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std 0.50 in - 12.7 mm opt	(1) 0.75 in - 19.1 mm Grd 5 Bolt	none
Model D10	**1.75 in - 44.5 mm** ASTM A576, Grade 1530M Yield Strength = 90 ksi (min)	Comp = 100 kips - 445 kN Ten = 100 kips - 445 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.525 mm std 0.50 in - 12.7 mm opt	(1) 0.875 in - 22.2 mm Grd 5 Bolt	ICC-ES ESR-3032 LA RR 25629
Model D15	**2.00 in - 50.8 mm** ASTM A576, Grade 1530M Yield Strength = 90 ksi (min)	Comp = 150 kips - 667 kN Ten = 150 kips - 667 kN	AISI Grade 1011/1018 HSLA 55 0.50 in - 12.7 mm std	(1) 1.125 in - 28.6 mm Grd 5 Bolt	none
Round Shaft					
Model P28	**O.D. = 2.875 in - 73.0 mm** **Wall = 0.203 in - 5.2 mm** ASTM A500 Grade B Yield Strength = 50 ksi (min)	Comp = 60 kips - 267 kN Ten = 60 kips - 267 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std	Male - Female square engagement coupling system (2) 0.75 in - 19.1 mm Grd 5 Bolts	ICC-ES ESR-3032 LA RR 25629
Model P28H	**O.D. = 2.875 in - 73.0 mm** **Wall = 0.276 in - 7.1 mm** ASTM A500 Grade B or C Yield Strength = 50 ksi (min)	Comp = 72 kips - 320 kN Ten = 72 kips - 320 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std	Male - Female square engagement coupling system (2) 0.75 in - 19.1 mm Grd 5 Bolts	none
Model P35	**O.D. = 3.50 in - 88.9 mm** **Wall = 0.216 in - 5.5 mm** ASTM A500 Grade B or C Yield Strength = 50 ksi (min)	Comp = 80 kips - 356 kN Ten = 80 kips - 356 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std	Male - Female square engagement coupling system (2) 0.75 in - 19.1 mm Grd 5 Bolts	ICC-ES ESR-3032 LA RR 25629
Model P35H	**O.D. = 3.50 in - 88.9 mm** **Wall = 0.30 in - 7.6 mm** ASTM A500 Grade B Yield Strength = 50 ksi (min)	Comp = 105 kips - 467 kN Ten = 105 kips - 467 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std	Male - Female square engagement coupling system (2) 0.875 in - 22.2 mm Grd 5 Bolts	none
Model P45	**O.D. = 4.50 in - 114.3 mm** **Wall = 0.237 in - 6.0** ASTM A500 Grade B Yield Strength = 50 ksi (min)	Comp = 120 kips - 534 kN Ten = 120 kips - 534 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std	Male - Female square engagement coupling system (2) 0.875 in - 22.2 mm Grd 5 Bolts	none

MPS - Civil Products Group Helical Piles,Tiebacks & Anchors		Ultimate Capacity Based Upon Torque (kips - kN) (1) (2)	Helix Bearing Plate Grade & Thickness (in - mm)	Section Coupling Method	Building Code Certifications
Model P45H	O.D. = 4.50 in - 114.3 mm **Wall = 0.337 in - 8.6 mm** ASTM A500 Grade B Yield Strength = 50 ksi (min)	Comp = 156 kips - 694 kN Ten = 156 kips - 694 kN	AISI Grade 1011/1018 HSLA 55 0.375 in - 9.5 mm std	Male - Female square engagement coupling system (2) 0.875 in - 22.2 mm Grd 5 Bolts	none
Model P8 (transition pile from RCS lead to Round Shaft extension)	**1.75 in - 44.45 mm RCS Lead, or** **2.00 in - 50.8 mm RCS Lead** **O.D. = 8.625 in - 219.1 mm Extension** **Wall = 0.188 in - 4.8 mm** ASTM A53 & ASTM A500 Grade B Yield Strength = 50 ksi (min)	Comp = 200 kips - 890 kN Ten = 200 kips - 890 kN	AISI Grade 1011/1018 HSLA 55 0.50 in - 12.7 mm std	Socket with side penetrating ribs and cast steel reducer (1) 1.00 in - 25.4 mm Grd 5 Bolt	none

(1) The values shown only address torque correlated soil capacity. Other mechanical limit states of the pile/anchor, its couplers, and its connections to the structure (brackets) may also govern the design capacity. Refer to the manufacturer's technical manual for further information."

(2) Large diameter helical piles develop capacity by a combination of both end-bearing and skin friction. The ultimate pile capacity is calculated based on the site-specific soil profile on a case-by-case basis. Load tests are often recommended for larger shaft sizes to identify a site-specific torque correlation factor (Kt), to determine the pile displacement versus load, and to verify the helical pile configuration.