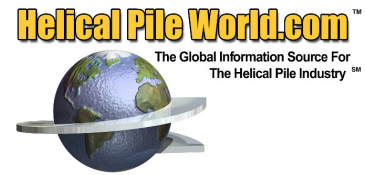
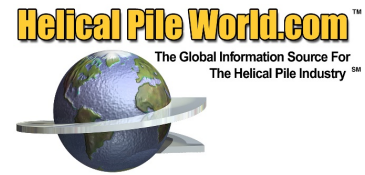


IDEAL Group Helical Piles, Tiebacks & Anchors		Ultimate Capacity Based Upon Torque (1) (2)	Helix Bearing Plate Grade & Thickness (in - mm)	Section Coupling Method	Building Code Certifications
<b>Round Corner Square Bar (RCS)</b>					
Model SQ150	1.50 in - 38.1 mm ASTM A576, Grade 15V-30M Yield Strength = 90 ksi (min)	Comp = 70 kips - 311 kN Ten = 60 kips - 267 kN	ASTM A1018 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(1) 0.75 in - 19.05 mm ASTM A325 Bolt	None
Model SQ175	1.75 in - 44.5 mm ASTM A576 Grade 15V-30M Yield Strength = 90 ksi (min)	Comp = 110 kips - 489 kN Ten = 95 kips - 423 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(1) 0.875 in - 22.23 mm ASTM A325 Bolt	None
<b>Square Tube</b>					
Model SQ300250	3.00 in - 76.2 mm x .250 in - 6.35 mm	Comp = 110 kips - 489 kN Ten = 93.5 kips - 416 kN	ASTM A572 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(1) 0.875 in - 19.05 mm ASTM A325 Bolt	None
Model SQ300313	3.00 in - 76.2 mm x .313 in - 7.95 mm	Comp = 150 kips - 667 kN Ten = 93.5 kips - 416 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(1) 0.875 in - 22.23 mm Grade B7	None
<b>Round Shaft</b>					
Model 238190	O.D. = 2.375 in - 60.3 mm Wall = .190 in - 4.8 mm Yield Strength = 80 ksi (min)	Comp = 50 kips - 222 kN Ten = 50 kips - 222 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm	(2) 0.75 in - 19.1 mm ASTM A325 Bolts	None
Model 278203	O.D. = 2.875 in - 73.0 mm Wall = 0.203 in - 5.17 mm ASTM A500 Yield Strength = 80 ksi (min)	Comp = 72 kips - 320 kN Ten = 56 kips - 250 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(2) 0.75 in - 19.1 mm ASTM A325 Bolts	ICC ESR-3750
Model 278276	O.D. = 2.875 in - 73.0 mm Wall = 0.276 in - 7.0 mm ASTM A500 Yield Strength = 80 ksi (min)	Comp = 90 kips - 400 kN Ten = 70 kips - 311 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(2) 0.75 in - 19.1 mm ASTM A325 Bolts	ICC ESR-3750
Model 312216	O.D. = 3.50 in - 88.9 mm Wall = 0.216 in - 5.5 mm ASTM A500 Yield Strength = 80 ksi (min)	Comp = 91 kips - 405 kN Ten = 85 kips - 378 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm	(2) 0.75 in - 19.1 mm ASTM A325 Bolts	ICC ESR-3750
Model 312300	O.D. = 3.50 in - 88.9 mm Wall = 0.30 in - 7.62 mm ASTM A500 Yield Strength = 80 ksi (min)	Comp = 120 kips - 534 kN Ten = 102 kips - 454 kN	ASTM A572 Grade 50 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm	(2) 0.75 in - 19.1 mm ASTM A325 Bolts	ICC ESR-3750
Model 412290-2	O.D. = 4.50 in - 114.3 mm Wall = 0.290 in - 7.4 mm (2) Bolts	Comp = 159 kips - 707 kN Ten = 132 kips - 587 kN	ASTM A572 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm	(2) 1.00 in - 25.4 mm ASTM A325 bolts	None
Model 412290-3	O.D. = 4.50 in - 114.3 mm Wall = 0.290 in - 7.4 mm (3) Bolts	Comp = 201 kips - 894 kN Ten = 167 kips - 743 kN	ASTM A572 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm	(3) 1.00 in - 25.4 mm ASTM A325 bolts	None



IDEAL Group Helical Piles, Tiebacks & Anchors		Ultimate Capacity Based Upon Torque (1) (2)	Helix Bearing Plate Grade & Thickness (in - mm)	Section Coupling Method	Building Code Certifications
Model 412337-2	O.D. = 4.50 in - 114.3 mm Wall = 0.337 in - 8.6 mm (2) Bolts	Comp = 159 kips - 707 kN Ten = 132 kips - 587 kN	ASTM A572 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm	(2) 1.00 in - 25.4 mm ASTM A325 bolts	None
Model 412337-3	O.D. = 4.50 in - 114.3 mm Wall = 0.337 in - 8.6 mm (3) Bolts	Comp = 225 kips - 1001 kN Ten = 187 kips - 832 kN	ASTM A572 0.375 in - 9.5 mm 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm	(3) 1.00 in - 25.4 mm ASTM A325 bolts	None
Model 512361	O.D. = 5.50 in - 139.7 mm Wall = 0.361 in - 9.14 mm Yield Strength = 80 ksi (min)	(2)	ASTM A572 Grade 50 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm	Project Specific	Not applicable
Model 512415	O.D. = 5.50 in - 139.7 mm Wall = 0.415 in - 10.54 mm Yield Strength = 80 ksi (min)	(2)	ASTM A572 Grade 50 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm	Project Specific	Not applicable
Model 700408	O.D. = 7.00 in - 177.8 mm Wall = 0.408 in - 10.4 mm Yield Strength = 80 ksi (min)	(2)	ASTM A572 Grade 50 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm	Project Specific	Not applicable
Model 700453	O.D. = 7.00 in - 177.8 mm Wall = 0.453 in - 11.5 mm Yield Strength = 80 ksi (min)	(2)	ASTM A572 Grade 50 0.500 in - 12.7 mm 0.625 in - 15.9 mm 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm	Project Specific	Not applicable
Model 858	O.D. = 8.625 in - 219.1 mm Wall = Dependent on Availability Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 0.625 in - 15.9 mm 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm 1.250 in - 31.8 mm	Project Specific	Not applicable
Model 958	O.D. = 9.625 in - 273.1 mm Wall = Dependent on Availability Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm	Project Specific	Not applicable
Model 1034	O.D. = 10.75 in - 273.1 mm Wall = Dependent on Availability Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm	Project Specific	Not applicable



<b>IDEAL Group</b> Helical Piles, Tiebacks & Anchors		<b>Ultimate Capacity</b> <b>Based Upon Torque</b> (1) (2)	<b>Helix Bearing</b> <b>Plate Grade &amp; Thickness</b> (in - mm)	<b>Section Coupling</b> <b>Method</b>	<b>Building Code</b> <b>Certifications</b>
<b>Model 1234</b>	<b>O.D. = 12.75 in - 323.9 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 0.750 in - 19.1 mm 0.875 in - 22.2 mm 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm	Project Specific	Not applicable
<b>Model 1600</b>	<b>O.D. = 16.00 in - 406.4 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 0.875 in - 22.2 mm 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm 1.750 in - 44.5 mm	Project Specific	Not applicable
<b>Model 1800</b>	<b>O.D. = 18.00 in - 457.2 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm 1.750 in - 44.5 mm	Project Specific	Not applicable
<b>Model 2000</b>	<b>O.D. = 20.00 in - 508.0 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm 1.750 in - 44.5 mm	Project Specific	Not applicable
<b>Model 2400</b>	<b>O.D. = 24.00 in - 609.6 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm 1.750 in - 44.5 mm 2.000 in - 50.8 mm	Project Specific	Not applicable
<b>Model 3000</b>	<b>O.D. = 30.00 in - 762.0 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm 1.750 in - 44.5 mm 2.000 in - 50.8 mm	Project Specific	Not applicable
<b>Model 3600</b>	<b>O.D. = 36.00 in - 914.4 mm</b> <b>Wall = Dependent on Availability</b> Yield Strength = 50 ksi (min)	(2)	ASTM A572 Grade 50 1.000 in - 25.4 mm 1.250 in - 31.8 mm 1.500 in - 38.1 mm 1.750 in - 44.5 mm 2.000 in - 50.8 mm	Project Specific	Not applicable

(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