Grip-Tite®
Foundation Systems

PRODUCT CATALOG

Email Orders To:
orders@griptite.com

Call: 1-800-474-7848

Fax: 515-462-3465

PRODUCT PROPERTIES TECHNICAL KEY

Grip-Tite has been manufacturing high-quality, earth anchoring and foundation repair products in Winterset, IA continuously since 1921. We can proudly state that all of our products are “Made in the USA”. Certified welders, constant quality improvement programs and exacting quality control procedures ensures the highest quality products with proven performance for over 90 years.

A network of certified installers/dealers, effectively cover all 50 states, Canada and Mexico. These installers undergo an extensive, in-house training and certification in order to provide safe and effective product installations. Those products are tested in-house, at third party, independent, certified laboratories and in the field before they are put into production. You can be assured of a pre-engineered, reliable solution to your earth anchoring and foundation repair needs with Grip-Tite.

Grip-Tite has obtained, and maintained, ICC Legacy Evaluation Service Reports and IAPMO Evaluation reports for both Helical & Push Pier Systems. We have also tested both products in accordance with ICC Test Criteria AC358 through an ICC certified laboratory.

Our support staff provides engineering, product and customer support to the dealer network and the engineering and building communities. Our field support includes job site and installation oversight, load tests and product development. We look forward to the opportunity to serve your earth anchoring and foundation repair needs.

Grip-Tite performance…..over 90 years and counting!

Grip-Tite® Foundation Helical Pier Properties

Standard and Heavy Duty Series

Helical piers (aka helical piles) are either square or round shafts with one or more helix bearing plates welded to the shaft. Helical piers are hydraulically "screwed" into load bearing soils. Grip-Tite's helical piers have a true helix, meaning, the second and/or third helical plate follows the same path as the first when "screwed" into the soil. This minimizes the disruption of soil.

Helical piers can are used to repair an existing structure or for new construction as an alternative to micropiles, caissons, geopiers or other deep foundation systems. They can also be used instead of an over-excavation and soil replacement. The helical pier can be both time and cost effective.

When helical piers are used to repair an existing structure, they are "screwed" into the soil until a pre-determined torque is reached. A bracket is then placed on the steel shaft and positioned under the footing of the structure, transferring the load of the structure to the helical piers. The structure can then be stabilized or lifted back level.

Helical Piers have been in use for almost 200 years, and more recently have become more popular with engineers and contractors and used often in place of more costly alternatives.

Retrofit (Standard Duty) Bracket

Retrofit (Heavy Duty) Bracket

New Construction Bracket

Advantages

* Lead sections and extensions can be configured to achieve design depth and capacity
* Lead sections available in 2, 5 and 7-foot lengths
* Extensions available in 3, 5 and 7-foot length
* Helical piers available with single, double and triple helix lead sections
* Helix blade diameters of 8, 10, 12 and 14 inches
* Available with hot-dipped galvanized coating for added corrosion resistance

Retrofit

* Lead sections of pier can be configured to achieve design depths and capacities
* Minimal excavation required around foundation area
* Installs quickly with lightweight or portable equipment
* Vibration-free installation
* No wait – piers installed in any or all weather
* Installs in areas with limited or tight access (without generating spoils)
* Pier system installed below grade – not visible once installation is complete
* Cost-effective (gets a structure back on solid ground)
* Permanent solution – prevents further vertical movement

New Construction

* All-weather installation
* Can be installed with either portable or "small" equipment
* Can be installed in areas of limited or tight access
* Foundation concrete can be poured immediately following installation
* Lead sections can be configured to achieve design depth and capacity
* Cost-competitive versus other deep foundation alternatives
* Vibration-free installation
* Installs quickly without generating spoils

Grip-Tite® Foundation Pier System

GTRDS2875-0262 SERIES ROUND SHAFT HELICAL PILES

85 kips Ultimate Capacity From Torque
New Construction and Retrofit Construction

STEEL SPECIFICATIONS

Shaft (ASTM A500)	HSS 2.875" OD x 0.262" wall F_y = 50 ksi min; F_u = 58 ksi min.
Cross section area, $A_{nominal}$	2.01 in^2
Moment of intertia, I	1.76 in^4
Sectional Modulus, S	1.22 in^3
Circumference, c	9.032 in
Radius of Gyration	0.929 in
Coupling (ASTM A500)	3.5" OD x 7" x 0.300" wall
Bolts (Zinc plated ASTM B633) Grade 8	3 - 3/4" diam. ASTM354
Helices (ASTM A36)	Thickness - 0.375"; 8", 10", 12", 14" Diam.
Coating	Hot-Dip Galvanization to ASTM A123 Optional

CAPACITIES

Ultimate Capacity-to-Torque Ratio, K	Compression 9 ft^{-1}, Tension 7 ft^{-1}
Recommended Torsional Strength, T	9,485 ft-lbs
Ultimate Mechanical Compression Capacity	100 kips (1)
Allowable Mechanical Compression Capacity	50 kips (1)

COMPRESSION AND TENSION CAPACITIES BY TORQUE

Ultimate Capacity - Compression and Tension	Compression 85 kips, Tension 66 kips
Allowable Capacity - Compression and Tension	Compression 42.5 kips, Tension 33 kips

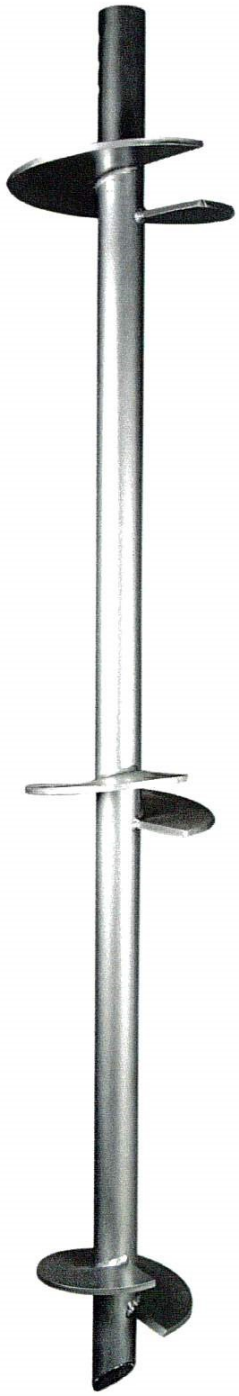
(1) Load test required to verify actual geotechnical capacities. A factor of safety greater than 2 may be necessary to meet project settlement tolerances.

HELIX DIAMETER (in)	NET AREA (ft^2)
8	0.30
10	0.50
12	0.75
14	1.0

GTRDS2875-0203 SERIES
ROUND SHAFT HELICAL PILES

50 kips Ultimate Compressive Capacity From Torque

New Construction and Retrofit Construction



STEEL SPECIFICATIONS

Shaft (ASTM A500)	HSS 2.875" OD x 0.203" wall (73mm OD x 5.1mm Wall) F_y = 50 ksi min., F_u = 58 ksi min.
Cross section area, A	1.70 in^2 (110 mm^2)
Moment of intertia, I	1.17 in^4 (49 cm^4)
Sectional modulus, S	0.82 in^3 (13.4 cm^3)
Circumference, c	9.0 in (228.6 mm)
Radius of gyration, r	0.95 in (24.1 mm)
Coupling (ASTM A500)	3.5" OD x 7" x 0.300" wall F_y = 50 ksi min., F_u = 58 ksi min.
Bolts (Zinc plated ASTM B633) Grade 8	3 - 3/4" diam. ASTM A354 or A490 F_y = 130 ksi min., F_u = 150 ksi min.
Helices (ASTM A36)	Thickness - 0.375"; 8", 10", 12", 14" Diam. F_y = 36 ksi min., F_u = 58 ksi min.
Coating	Hot-Dip Galvanization to ASTM A123 Optional

COMPRESSION AND TENSION CAPACITIES

MIN 50 YEAR DESIGN LIFE - Not Galvanized

Ultimate Capacity-to-Torque Ratio, K_t	Compression 9 ft^{-1}, Tension 7 ft^{-1}
Recommended Torsional Strength, T	4,800ft-lbs (7,500 N-m)
Ultimate Mechanical Compression Capacity	90 kips (1) (400 kN)
Allowable Mechanical Compression Capacity	35 kips (1)(2) (155 kN)

Ultimate Capacity - By Torque Compression and Tension	Compression 50 kips, Tension 38 kips (1)(2) (220 kN) (170 kN)
Allowable Capacity - By Torque Compression and Tension	Compression 25 kips, Tension 19 kips (1)(2) (110 kN) (85 kN)

HELIX DIAMETER (in)	NET HELIX AREA (ft^2)
8	0.30
10	0.50
12	0.75
14	1.0

(1) Load test may be required to verify actual geotechnical capacities. A factor of safety greater than 2 may be necessary to meet project settlement tolerances. Settlements are estimated to be less than 1/2 inch for helical piles designed using the above allowable capacities.

(2) Minimum factor of safety of 2 is recommended.

GTRDS3500-0300 SERIES ROUND SHAFT HELICAL PILES

95 KIPS ULTIMATE CAPACITY FROM TORQUE

STEEL SPECIFICATIONS

Shaft (ASTM A500)	HSS 3.500" OD x 0.300" wall F_y = 50 ksi min; F_u = 58 ksi min.
Cross section area, $A_{nominal}$	2.82 in^2
Moment of intertia, I	3.69 in^4
Sectional Modulus, S	2.11 in^3
Circumference, c	10.996 in
Radius of Gyration, r	1.14 in
Coupling (ASTM A500)	4.25" OD x 7" x 0.334" wall
Bolts (Zinc plated ASTM B633) Grade 8	3 - 3/4" diam. ASTM354,
Helices (ASTM A36)	Thickness - 0.375"; 8", 10", 12", 14" Diam.
Coating	Hot-Dip Galvanization to ASTM A123 Optional

CAPACITIES

Ultimate Capacity-to-Torque Ratio, K	Compression 7 ft^{-1}, Tension $6ft^{-1}$
Recommended Torsional Strength, T	13,500 ft-lbs
Ultimate Mechanical Compression Capacity	150 kips (1)
Allowable Mechanical Compression Capacity	75 kips (1)

COMPRESSION AND TENSION CAPACITIES BY TORQUE

Ultimate Capacity - Compression and Tension	Compression 95 kips, Tension 80 kips
Allowable Capacity - Compression and Tension	Compression 47 kips, Tension 40 kips

(1) Load test required to verify actual geotechnical capacities. A factor of safety greater than 2 may be necessary to meet project settlement tolerances.

HELIX DIAMETER (in)	NET AREA (ft^2)
8	0.30
10	0.50
12	0.75
14	1.0

Grip-Tite® Foundation Pier System

GTRDS4500-0337 SERIES
ROUND SHAFT HELICAL PILES

150 KIPS ULTIMATE CAPACITY FROM TORQUE

STEEL SPECIFICATIONS

Shaft (ASTM A500)	HSS 4.500" OD x 0.337" wall F_y = 50 ksi min; F_u = 58 ksi min.
Cross section area, $A_{nominal}$	4.12 in^2
Moment of intertia, I	9.08 in^4
Sectional Modulus, S	4.04 in^3
Circumference, c	14.137 in
Radius of Gyration, r	1.48 in
Coupling (ASTM A500)	5.25" OD x 0.337" wall
Bolts (Zinc Plated ASTM B633) Grade 8	4 -7/8" diam. ASTM354
Helices (ASTM A36)	Thickness - 0.375"; 8", 10", 12", 14" Diam.
Coating	Hot-Dip Galvanization to ASTM A123 Optional

CAPACITIES

Ultimate Capacity-to-Torque Ratio, K	Compression 6 ft^{-1}, Tension 5 ft^{-1}
Recommended Torsional Strength, T	25,000 ft-lbs
Ultimate Mechanical Compression Capacity	200 kips (1)
Allowable Mechanical Compression Capacity	100 kips (1)

COMPRESSION AND TENSION CAPACITIES BY TORQUE

Ultimate Capacity - Compression and Tension	Compression 150 kips, Tension 125 kips
Allowable Capacity - Compression and Tension	Compression 75 kips, Tension 62 kips

(1) Load test required to verify actual geotechnical capacities. A factor of safety greater than 2 may be necessary to meet project settlement tolerances.

HELIX DIAMETER (in)	NET AREA (ft^2)
8	0.25
10	0.40
12	0.65
14	0.95