



Certified Installers/Exclusive Dealers - CA, NV, AZ

2-1/4" Square Shaft Helical Anchors

We are a top producer of 2-1/4" helical anchors for the electric utility industry. The 2-1/4" square shaft is employed on heavy duty guy applications as well as tower foundations. ECP's engineering, design and production capabilities of helical anchors, piles and guy anchors have become the standard in the industry.

2-1/4" RCSB Helical Anchors for many heavy duty applications including:

- 200,000# Capacity
- Guy Anchors
- Tower Support
- Tiebacks
- Shoring
- Tie Downs
- Substation Platforms



Square shaft helical anchors, also known as screw piles, screw anchors and torque anchors are ideal for applications where there is a need to resist both tension and axial compressive forces. Examples of these include expansive clay soils, metal buildings, telecommunication towers and canopies. 1-3/4" RCSB helical anchors are easy to install, can be installed in limited spaces and can be loaded or tested immediately upon installation making them very unique to the deep foundation industry.

1-3/4" helical anchors are the best solution for your project due to one of the following factors:

- Ease of Installation
- Little to No Vibration
- Immediate Load Transfer upon Installation
- Installed Torque Correlates to Capacity
- Easily Load Tested to Verify Capacity
- Installs Below Active Soils
- All Weather Installation
- Little to No Disturbance to Jobsite

Helical Ground Anchors are designed and sized to match load requirements, soil conditions and available site access. There may be one or multiple guy wires that can be resisted by one or multiple ECP Utility 1-3/4" square shaft guy wire anchors, dictated by design and load requirements. Helical guy anchors can be used to resist mast and tower loads which consist of lateral and compressive loads focused at the base of the structure. No matter the application ECP Helical Guy Anchors are the Designed and Engineered to Perform product of choice for the utility industry.

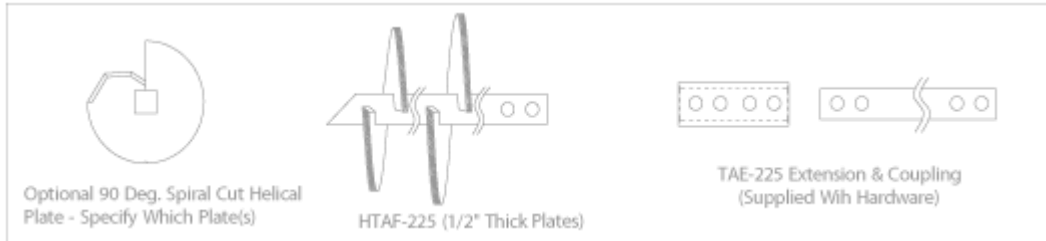


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The electric transmission industry has relied on helical anchors for guy anchors for many years. Being the largest consumer of helical anchors the electric power transmission industry has embraced 1-3/4” helical anchors for their many benefits and reliable performance.



Standard Torque Anchor Extensions			
Part Number			
36”	60”	84”	120”
TAE-225-36	TAE-225-60	TAE-225-84	TAE-225-120

Note: All 2-1/4” square bar products available as special order – Inquire for pricing and delivery
 See page 11 – “How to Specify Special Order Torque Anchors™ for information
 Helical plates are 1/2” thick and spaced at three times the diameter of the preceding plate.
 Extensions supplied with coupling and SAE J429 grade 8 bolts and nuts.
 Product hot dip galvanized per ASTM A123 grade 100.
 Shaft weight per foot – 17.2 lb.

Shaft Size	Installation Torque Factor (k)	Axial Compression Load Limit	Ultimate-Limit Tension Strength	Useable Torsional Strength	Practical Load Limit Based Torsional Strength
1-1/2” Square Bar	9 - 11	70,000 lb.	70,000 lb.	7,500 ft-lb	Load limited to the rated capacity of the attachments and the lateral soil strength against the shaft
1-3/4” Square Bar	9 - 11	100,000 lb.	100,000 lb.	10,000 ft-lb	
2-1/4” Square Bar	10 - 12	200,000 lb.	200,000 lb.	23,000 ft-lb	
2-7/8” Tubular – 0.262” Wall	8 - 9	100,000 lb.	100,000 lb.	9,500 ft-lb	80,000 lb
3-1/2” Tubular – 0.300” Wall	7 - 8	115,000 lb.	120,000 lb.	13,000 ft-lb	97,000 lb
4-1/2” Tubular – 0.337” Wall	6 - 7	160,000 lb.	160,000 lb.	22,000 ft-lb	143,000 lb

The designer should select a product that provides adequate additional torsional capacity for the specific project and soil conditions.



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IMPORTANT NOTES:

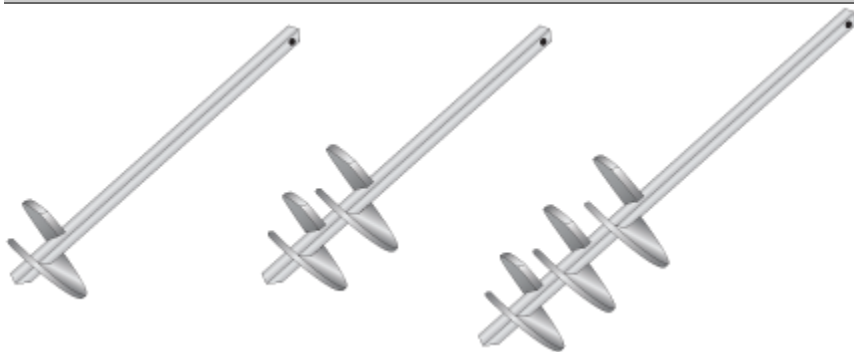
The capacities listed for Axial Compression, Tension and Torsion in Table 2 are mechanical ratings. One must understand that the actual installed load capacities for the product are dependent upon the actual soil conditions on a specific job site. The shaft “Useable Torsional Strengths” given here are the maximum values that should be applied to the product.

Furthermore, these torsional ratings assume homogeneous soil conditions and proper alignment of the drive motor to the shaft. In homogeneous soils it might be possible to achieve up to 95% or more of the “Useable Torsional Strength” shown in Table 2. In obstruction-laden soils, torsion spikes experienced by the shaft may cause impact fractures of the couplings or other components. Where impact loading is expected, reduce shaft torsion by 30% or more from “Useable Torsional Strength” depending upon site soil conditions to reduce chance of fracture or damage.

Another advantage of selecting a torsional rating below the values shown in Table 2 is that one may be able to drive the pile slightly deeper after the torsional requirements have been met, thus eliminating the need to cut the pile shaft in the field.

The load transfer attachment capacity must be verified for the design. Standard attachments and ratings are shown on the following pages. Special configurations to fit your project can be fabricated to your specifications upon request.

2-1/4" 200,000# Tension Helical Anchors				
Part #	Size	Length	# Helix	Helix Diameter
Leads				
TAF-225-60 (8,10)	1-3/4"	60"	2	8",10"
TAF-225-60 (10,12)	1-3/4"	60"	2	10",12"
TAF-225-84 (8,10,12)	1-3/4"	84"	3	8",10",12"
TAF-225-84 (10,12,14)	1-3/4"	84"	3	10",12",14"



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2-1/4" Helical Extensions				
Part #	Size	Length	# Helix	Helix Diameter
Extensions				
TAE-225-36	1-3/4"	36"	0	NA
TAE-225-60	1-3/4"	60"	0	NA
TAE-225-84	1-3/4"	84"	0	NA
TAE-225-36 (14)	1-3/4"	36"	1	14"
TAE-225-36 (14)	1-3/4"	60"	1	14"
TAE-225-60 (12,14)	1-3/4"	60"	2	12",14"



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