



Certified Installers/Exclusive Dealers - CA, NV, AZ

Helical Piles for New Construction

ECP Helical piles are ideal for new construction deep foundation applications where there is a need to resist both tension and axial compression forces. As a direct replacement for poured concrete piles, ECP helical anchors or piles provide a deep foundation element that is founded on soils below the active soil zones. With many advantages over concrete piers, such as, no spoils to remove, no waiting on concrete or concrete drying, immediate loading and all weather installation, helical piles are much more versatile.

Current uses for helical piles and anchors include underpinning foundations for commercial and residential structures, retaining walls, elevated walkways, numerous uses in the electric utility industry and of course new construction piers. Many times helical piles are the best solution for your foundation repair 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 piles have become especially popular where expansive clay soils are encountered. In these instances the helical pile is driven to a depth that exceeds the active soil zones and due to their slender shaft size the uplifting soils have little if any effect on the helical pile. Opposed to concrete piles that use skin friction to achieve their depth helical piles resist this friction and stay solidly in place as the soils move around them.

Torque Anchor™ Components

The ECP Torque Anchor™ consists of a shaft fabricated from either solid square steel bar or tubular steel. Welded to the shaft are one or more helical plates. The plates can vary in diameter from 6" to 16" and have a thickness of 3/8" or 1/2" depending upon the soil and the application. Typically the plate diameters increase from the bottom of the shaft upward and are spaced a distance of three times the diameter of the plate directly below, unless specified otherwise by the engineer. The standard thickness for all helix diameters is 3/8 inch, except the 16" diameter which is manufactured only in 1/2" thickness. In high load applications plate thickness of 1/2" may be specified for all plates. The pitch of the helical plate is three inches, which means that the anchor advances into the soil a distance of three inches during one revolution of the shaft.



Certified Installers/Exclusive Dealers - CA, NV, AZ



Certified Installers/Exclusive Dealers - CA, NV, AZ

The available lead shaft lengths are 10", 60", 84" and 120", however, other lengths may be specially fabricated. Because Helical piers are considered deep foundation elements; they are usually installed into the soil to a depth greater than just the length of the typical lead section. Extensions of various lengths are available and are supplied with couplings and hardware for attachment to the lead or other extensions allowing the Helical piers assembly to reach the desired depth.

Helical plates may also be installed on the extensions where the length of the lead is not sufficient to allow for the proper interval between plates. The number of the plates per ECP Helical Torque Anchor™ is limited only by the capacity of the shaft to transmit the torque required to advance the Helical screw anchor into the soil.

Helical piles may terminate with a pier cap that will be embedded into a concrete foundation footing. In other applications such as tieback anchors, a transition is made from the anchor shaft to a continuously threaded rod. Various beams, wall plates, etc. can be attached to the threaded bar for wall support, and to restore or to simply stabilize walls or other structure from overturning forces. In foundation restoration repair and stabilization applications, foundation brackets are available that attach between the helical pile and the foundation beam or footing.

Earth Contact Products recommends that only a registered engineer design and oversee the design and application of helical piles when used in new construction projects.



Certified Installers/Exclusive Dealers - CA, NV, AZ