



DEEP FOUNDATION SOLUTIONS

HELICAL PILES
ENGINEERING SERVICES
INSTALLATION EQUIPMENT

WHERE PROVEN TECHNOLOGY AND INNOVATION MEET

Helical piles have been used since the 1800's to provide structures with a solid foundation. Our innovation enhances this technology, providing optimized designs, efficient installation methods, and quality materials. Together, we deliver superior foundation solutions to exceed our customers expectations.

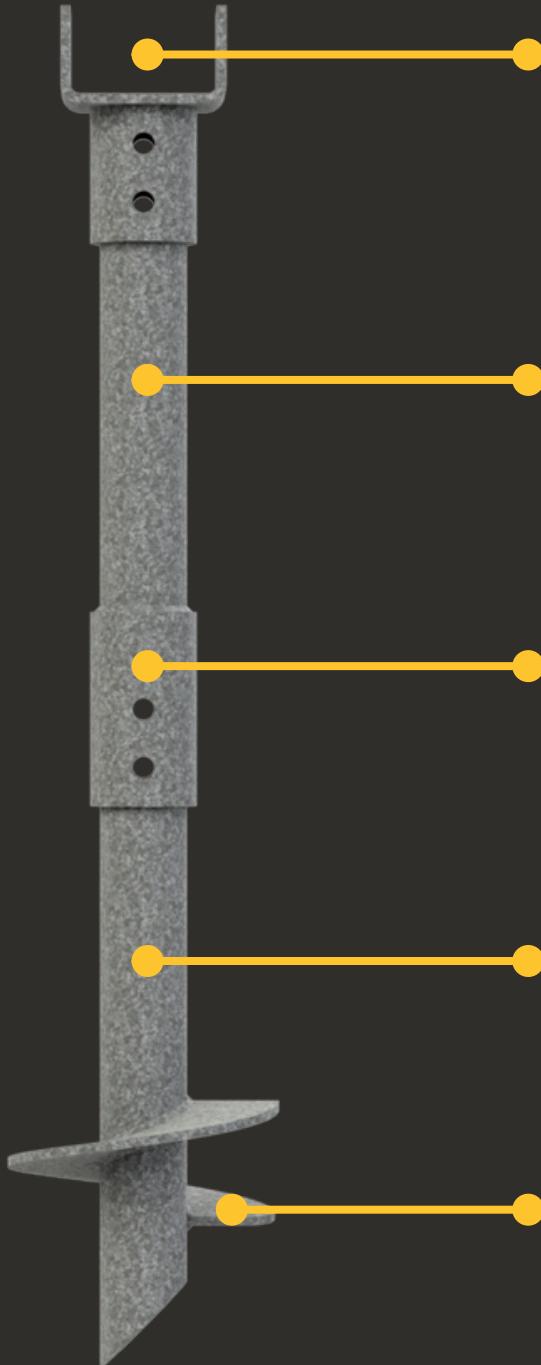


Did you Know?

Maplin Sands Lighthouse in 1838 was the first structure built on helical piles. Located in the Thames estuary, it utilized a system of 30 piles screwed into the sandy soil to a depth of 23 meters.



WHAT ARE THEY?



LOAD TRANSFER DEVICE (LTD)

The LTD is used to transfer the load of the structure through to the helical pile unit. These come in a variety of configurations to suit the structure being built.

EXTENSION SHAFT

Extension shafts are added as necessary to extend the helical unit and achieve the desired torque. Extension shafts can have helix plates added to them if necessary.

EXTENSION SHAFT COUPLING

Extension shaft couplings connect the extension shaft to the lead section. Two or more bolts are inserted through the provided holes for connection.

LEAD SECTION SHAFT

The lead section shaft will have one or more helices welded to it. The tip is cut at a 45 degree angle to act as a pilot to assist in advancing the pile until the helix plate engages with the soil.

HELIX PLATE

One or more helix plates will be welded to the lead section shaft to act as the load bearing element in the foundation. These are available in a variety of diameters and typically come with a 3" or 6" pitch.

ADVANTAGES



Helical piles provide a foundation solution that saves you time, money, and, headaches. They are a simple solution to complex foundation projects. Avoid delays and simplify projects with helical piles so that you can focus on moving forward with your build.

NO SPOILS

The installation of a helical pile does not produce any spoils on the site.

LOAD IMMEDIATELY

Time is money. No more concrete delays!

MINIMAL EQUIPMENT

Helical piles require only a drive head, torque monitor, and hydraulic power supply (eg. excavator) to install! This greatly reduces mobilization costs.

WIDE RANGE OF LOADS

Helical piles can support loads up to 500 ton!

LOW NOISE AND VIBRATION

The smooth installation procedure makes helical piles a great choice for projects near historic structures or in urban areas.

EASILY REMOVEABLE

Helical piles can be taken out of the ground just as easy as they go in which makes them a perfect foundation choice for temporary structures.

RAPID INSTALLATION

The consistent turning motion screws the helical pile into the ground and results in a fast installation time, saving you money.

APPLICATIONS

A helical pile is a deep foundation element that transfers the load of the structure down to load bearing strata. They are a great solution for building in areas where a shallow foundation would settle over time due to poor soil conditions.

BOARDWALKS



HIGH RISE SUPPORT



SHORING



DECKS



UNDERPINNING



HOUSE / COTTAGES



COTTAGES
SUBSTATIONS

SOLAR
CELL TOWERS
BRIDGES
PIPELINES

BATTERY STORAGE
MACHINE BASES
SOUND WALLS
TANKS & SILOS
BUILDING REMEDIATION
ROADWAY SIGNAGE

DOCKS
....AND MUCH MORE!

INSTALLATION PROCEDURE

The installation of a helical pile involves advancing the pile into the ground using a hydraulic torque motor, which applies a rotational force to the pile shaft. As the pile rotates, the helical bearing plates engage the surrounding soil, generating axial capacity through a combination of bearing and frictional resistance. The installation process is typically monitored by tracking torque and depth, allowing for real-time assessment of pile capacity and ensuring that the pile is installed to a depth that meets the required design loads. Proper installation techniques and equipment are essential to achieve optimal performance and ensure the structural integrity of the pile.



INSTALLATION



EXCAVATOR / SKID STEER MOUNT

We have a large range of mounting options to suit all sizes of skid steers and excavators.

DRIVE HEAD

Nortek provides installation drive heads for machines from 0.5 ton to 75 Ton with torque ranging from 5-375,000 ft-lbs. Single and two speed options. We also carry both gimbal and bail mount options.

TORQUE MONITOR

Our industry leading torque monitoring devices come in a variety of configurations depending on the drive head model. These will give you a streamlined method of recording torque with accuracy.

PILE ADAPTER

The pile adapters are custom built to suit your helical pile shaft size, bolt hole size, and bolt hole spacing.

Equipment Packages

Nortek offers helical pile installers with the most comprehensive and specialized equipment lineup on the market. Our range of drive heads, mounts, torque monitoring devices, and pile adapters are suited to equipment such as the mini skid steers and up to 75 ton excavators.



Mini Skid Steer

Price Range: \$10-15,000

- 5-12,000 ft-lb drive heads
- Compact mounts with maximum reach
- Optional adjustable mount for versatility
- PSI gauges and torque hubs available for torque monitoring



Skid Steer

Price Range: \$12-30,000

- 5-25,000 ft-lb drive heads
- Heavy-duty skid steer mounts with maximum reach for installing taller piles and accessing tight spaces
- Telescopic and rigid frames available
- PSI gauges and torque hubs available for torque monitoring



Mini Excavator (<8 Ton)

Price Range: \$11-25,000

- 5-30,000 ft-lb drive heads
- Mounting setups for all makes and models of mini excavators.
- Optional cradles for maximum control and safety
- PSI gauges and torque hubs available for torque monitoring



Crawler Excavator

Price Range: \$20-275,000

- 20-375,000 ft-lb drive heads
- Heavy-duty dual cradle mounts for optimal control of the drive head and maximum safety
- Jib boom mounts available
- PSI gauges and torque hubs available for torque monitoring



WHO WE SERVE

Nortek delivers a complete helical pile solution to contractors, engineers, and owner/developers. No matter the project size, scope, or complexity, we have the tools you need to succeed. Reach out to one of our consultants today!



CONTRACTORS

- Complete equipment packages with training
- Code-compliant, certified helical piles
- Pre-qualified leads
- **service and support**



ENGINEERS

- Project opportunities
- Design support and resources
- We're always on-call



OWNERS & DEVELOPERS

- Project design
- Wide range of products to meet your needs
- Quick turnaround time



PRVIDING REAL SOLUTIONS TO OUR
CUSTOMERS THROUGH EXCELLENCE IN
DEEP FOUNDATION DESIGN, SUPPLY, AND
EQUIPMENT SALES/RENTALS.

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