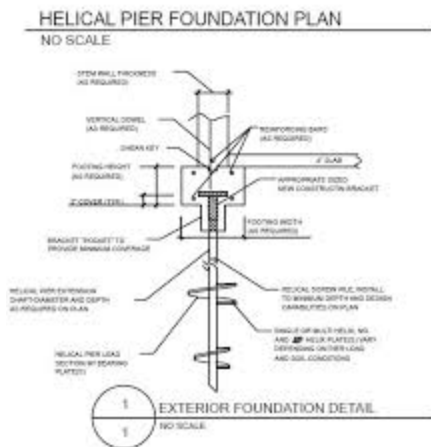


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What Is A Helical Pier And How Does It Work



A helical pier is a foundation pin made of steel that contains helices just like screws. It is driven into the soil, to depths below the frost line by use of a hydraulic system. Helical piers are used to support structures, especially where soil conditions are challenging, making it hard to set up a traditional

foundation system. Instead of expensive large excavations, they thread deep into the ground. They are also used to repair to repair existing foundations that have problems such as cracks or are weak. Helical piers minimize time spent installing a foundation, causes little disturbance to the soil and transfers the weight of the structure, to soils deep into the earth that would bear the load.

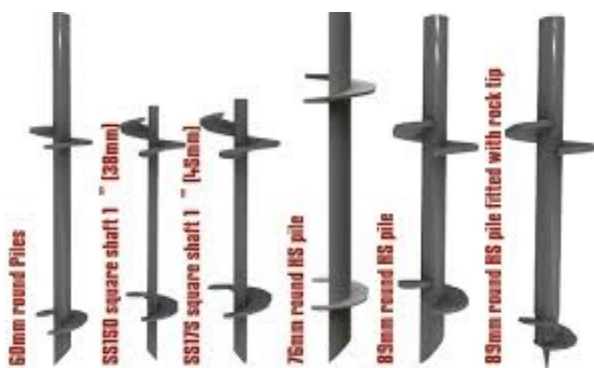
When to use helical piers

Helical piers can be used for both residential and commercial applications. They are often used in caissons, mini piles, and driven piles. They also come in handy when there is structural damage to the foundation or the structure is built in unstable soil such as cases where the soil has a very high water content. You can tell that the foundation is damaged by the following signs:

- There is cracking on the interior plaster walls.
- The floor starts to become uneven.
- Door and window frames leave large gaps when closed. You may find it difficult to close the door or the window.
- Nails pop up in ceilings
- Presence of crack in basement walls.
- Leaning chimneys.

Helical piers may also be used in repairing industrial floors. Because they take a relatively short amount of time, they do not cause much disruption to daily operations of the factory.

Types of Helical Piers



There are two types of helical piers, round shaft and square shaft. Round shaft helical piers are used in areas where compression is suspected. Round shafts are better at handling compression forces and maintaining lateral stability. They are also better at resisting twisting and deflection due to compression. Conventional designs include

- A hollow shaft, round with a typical O.D of 2 7/8" through 12 3/4".
- Tapered helices, circular in shape welded to the center.
- A helix pitch of 3" to 6"

Square shafts are suitable for areas where tension forces are suspected.

They have a greater yield and tensile strength. They are composed of

- A square solid shaft with a typical O.D of 1 ¼" thru 2"
- Circular, tapered helices welded to the center of the shaft.
- Helix thickness range from 3/8" to 1" and diameters of 6" to 48".

How Helical Piers Work

The screw piles are driven into the soil until the predetermined load capacity is achieved. They are spaced at predetermined intervals to share the weight of the structure. When used for foundation repairs, brackets are attached to the base of the walls to transfer the weight to the pile. They are generally installed between ten to thirty feet below the ground level but may be extended deeper if they do not meet the required torque. They can hold any weight up to over five hundred tons or up to a ten story building.

Helical piers are made of galvanized steel to prevent rusting. They are generally estimated to last over a hundred and twenty years. However, this might be shorter or longer depending on the soil conditions. If you are facing

any of the above foundation challenges, consider helical piers for deep foundation solution.

Foundation Problem? Contact DriveTech Helical Foundation Systems Today

If you are facing a foundation problem, don't waste any time – call a professional immediately. We repair small home foundations all the way up to large industrial factories. We have the skill & experience to solve any foundation problems. [Contact us today](#) to learn more about what we can do for you.