General Helical Pile Installation Guidelines

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This guide outlines the installation checks and records to coordinate with your project engineer and site team. Use it with the approved project drawings, geotechnical information, pile specifications and equipment instructions. Trained personnel must carry out installation to the project requirements.

Confirm the installation plan

- Locate underground services and confirm site access, a stable working platform, clearances and the pile layout.
- Confirm the pile and helix configuration, extensions, connections and pile-head elevation.
- Obtain the required depth and embedment, target torque assessment method and maximum permitted installation torque.
- Confirm position and inclination tolerances, acceptance criteria, testing and the procedure for unexpected conditions.

Select and inspect the equipment

Use a carrier, drive head and adapter suited to the pile and site. Confirm hydraulic compatibility, rated connections, retaining components, lifting arrangements and a calibrated torque-monitoring system. Inspect pile components, couplings, welds, holes and coatings before use.

Begin and control installation

Check pile identity and the setting-out position. Secure the lead section to the adapter, align with the specified axis and start with smooth, controlled rotation and suitable axial force. Monitor advancement, torque and inclination continuously using the approved method.

Maintain exclusion zones around rotating equipment and suspended loads. Follow the equipment instructions and approved isolation procedure before fitting or removing components.

Extensions torque and completion

Connect extensions

Stop rotation, secure the components, isolate the equipment and release stored energy before making a connection. Inspect the mating parts, use the specified fasteners, complete the required tightening or locking checks and verify alignment before restarting.

Assess torque correctly

Torque is an installation control and may support axial capacity assessment when an appropriate project-specific correlation has been established. Hydraulic pressure requires a valid pressure-to-torque calibration for the actual setup. An isolated peak reading is not a capacity guarantee.

Do not exceed the lowest applicable installation rating of the shaft, couplings, adapter, equipment or any lower project limit. A larger drive head does not increase the pile system rating. Torque, depth, embedment, structural limits, movement limits and required load tests must all be considered in acceptance.

Stop and obtain direction

- The torque limit is reached before the required acceptance conditions.
- Unexpected obstructions, prolonged rotation without advancement or ground behaviour outside the approved method occur.
- A shaft, helix, coupling or adapter is damaged, deforms or becomes loose.
- Alignment is outside tolerance, torque measurements are unreliable or equipment is unstable.
- A possible utility conflict, equipment fault or unsafe condition arises.

Final inspection and acceptance

Confirm final position, depth, inclination, pile-head elevation and assessed torque. Inspect the cap and structural connection, complete required coating repairs and tests, and record the outcome. Refer deviations to the project engineer before accepting the pile for structural loading.

Installation record checklist

Maintain a traceable record for every pile. The project inspection plan defines the measurement intervals, averaging method and acceptance sign-offs. This checklist can be incorporated into the contractor's site record.

Record group	Information to retain
Identification	Project, pile ID and location, date and installer.
Pile components	Shaft and helix configuration; extension lengths, coupling and fastener details.
Equipment	Carrier, drive head, adapter, torque instrument and calibration reference.
During installation	Depth and torque readings at specified intervals; inclination, advancement and relevant operating observations.
Completion	Final depth, assessed termination torque, embedment and pile-head elevation.
Inspection	Position and inclination deviations; connection checks, coating repairs and specified tests.
Exceptions	Obstructions, stoppages, changes, technical directions and unresolved issues.
Acceptance	Inspection and engineering review references, approval status and responsible sign-offs.

Manufacturing and technical support

SSP can discuss product configuration, equipment compatibility and general installation considerations with the customer and its appointed professionals. Final installation methods, site safety and acceptance remain under the control of the responsible project team.

For product or manufacturing questions, contact ryanzhang@ssppile.com. Include the pile drawing, equipment details and the relevant installation records.