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Minipiles

Application

Can be used in most types of soil.

Ideal for underpinning or strengthening of existing structures, internally and externally.

Used to construct retaining walls, high capacity small diameter piles, slope stabilisation, high capacity small diameter tension piles.

Advantages

- Can work within low headroom in restricted working conditions.
- Virtually vibration free.
- Ability to bore through masonry or concrete foundations.
- Permanent liners can be incorporated as steel reinforcement or through very soft strata.



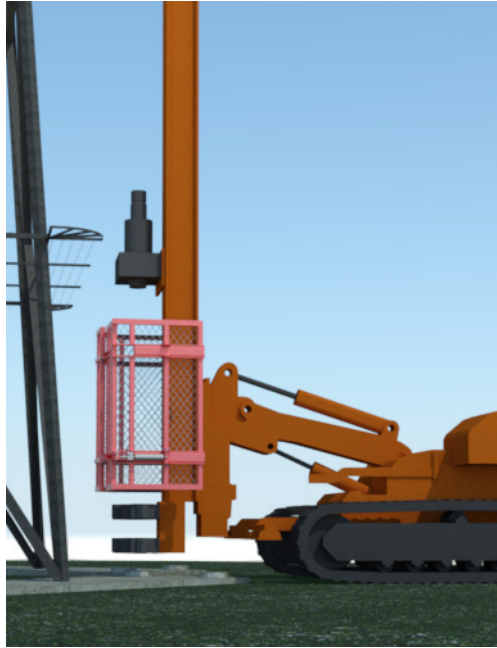
Cementation Skanska is one of the world leaders in piling and ground engineering. Since our origin in 1910 we have continually pioneered the research, development and implementation of numerous geotechnical solutions. One of these techniques is the grouted minipile which has been used successfully for over 25 years.

We offer a full in-house service, from advice through to detailed design and construction of complex foundation packages. Mini piling can also be used in conjunction with many of our other processes.

Process

A mini pile generally has a diameter of between 300mm and 600mm and can extend to depths of over 50m. Micropiling is diameters of up to 300mm. Either a reinforcing cage, circular hollow section or a centralised re-bar may be used. We can offer high capacity mini piles with SWLs of up to 1,200 kN.





Some typical situations where minipiles may be used include:

- Provision of high capacity small diameter piles.
- Underpinning or strengthening of existing structures both externally and/or internally.
- Slope stabilisation works.
- Construction of propped or unpropped retaining walls.
- Resisting hydrostatic uplift pressures.

Equipment

We have a fleet of minipile drill rigs ranging in size from 1.5 to 14 tonnes. This plant is extremely versatile and the smaller rigs can travel through internal doorways. Piles may be vertical or raked and can also be pressure grouted for increased capacity if required. Drilling techniques include case and auger, rotary duplex and top or bottom driven rotary percussive.

Some advantages of the grouted mini pile are:

- Ability to bore through variable and difficult ground conditions.
- Capability to bore through existing piles to extend the pile toe and increase capacity
- Construction within restricted working areas and/or low headroom.
- Working within existing premises with minimal disruption to other operations.
- Low vibration.
- Remote power packs can be used to further reduce noise and fumes within enclosed areas.
- Permanent liners can be incorporated through very soft ground conditions.
- The ability to install permanent or temporary casing depending on the ground and clients requirements.