Cementation

SKANSKA

Further information:
Cementation Skanska
skanska.co.uk/cementation
cementation@skanska.co.uk

Soil Displacement Piles

Application
Suitable for use in loose to medium dense granular soils and soft cohesive strata.

Nominal diameters available 400, 500 and 600mm, carrying loads of up to 1800kN

Advantages
- Minimal spoil to remove
- Quiet, vibration-free installation

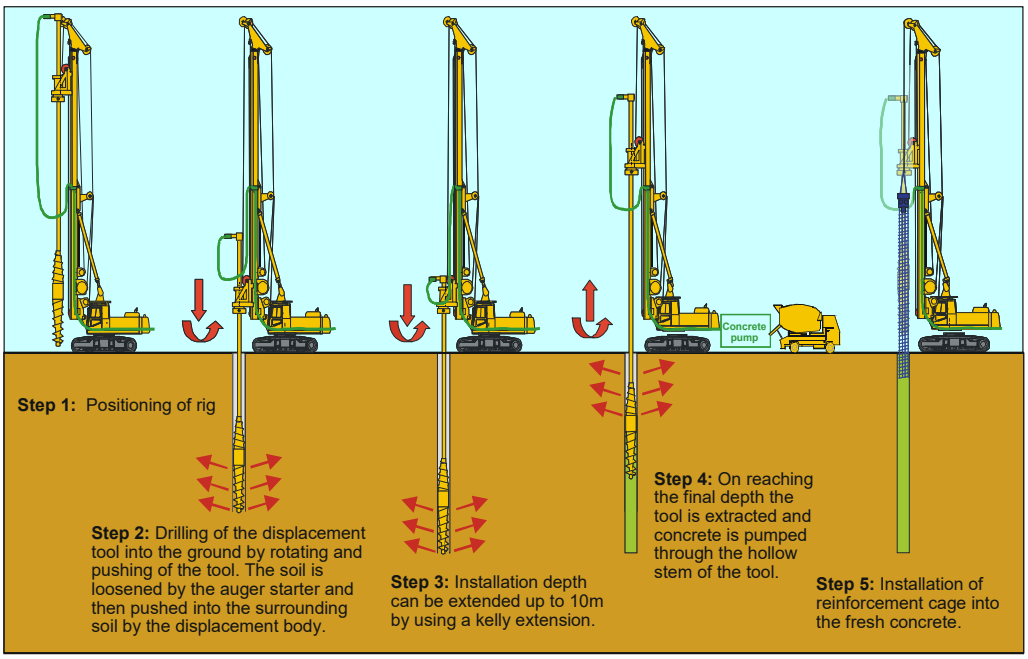
More commonly known Soil Displacement, our auger displacement piling (ADP) system offers a quick, quiet and virtually vibration free alternative to driven type piles, for use in urban situations. Like driven type piles, the ADP system generates minimal spoil reducing the costs of disposal, an important consideration in the regeneration of brownfield sites. The system is ideally suited to loose to medium dense granular soils and soft clays and silts, and notably is very effective in soils that are susceptible to "flighting".

Like the CFA method, the tool for the ADP system is built around a hollow stem auger but is differentiated by the tapered shaft and full-displacement body, immediately behind the tip of the auger (see photo above). As the auger is introduced into the ground, the soil within the auger flights is displaced outwards over the tapered section, and the surrounding soils compacted.

As a consequence of this displacement action, the soil is densified and the shaft resistance of the pile enhanced.

Once the tool has reached the desired depth and/or installation criteria, it is extracted with concurrent concreting of the pile under pressure via the hollow-stem auger, in a similar manner as for a CFA type pile. Boring and concreting parameters are captured by onboard instrumentation (an example of which is illustrated overleaf) enabling the consistency of the installation process to be monitored and to ensure that a quality load bearing element is produced.

Our installation process is illustrated in the schematic diagram overleaf.



Drilling Log, FDP Piles

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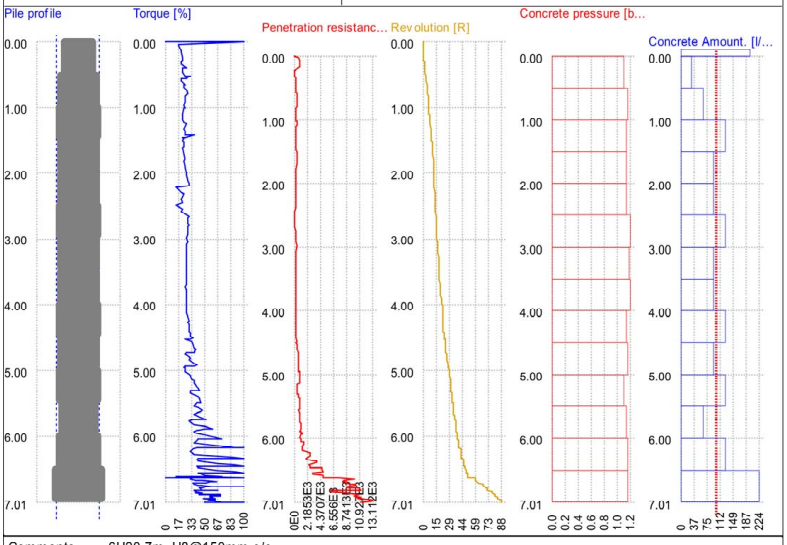
Jobsite:	Example Log		
Client:	Cementation Skanska Limited	Project No.:	Example

Pile No..:	EX01
Date:	30-Jul-2010
Diameter:	510 mm
Inclination:	0 °
Nominal pile toe:	7.01 m
Actual pile toe:	7.01 m
Nominal pile length:	7.01 m
Actual pile length:	7.01 m
Concrete consumpt. nom.:	1.432 m³ (+0%)
Concrete consumpt. pile:	1.504 m³
Concrete consumpt. start:	1.504 m³ (manual)
Volume difference nom.:	0.000 m³ (+0%)
Volume difference pile:	0.072 m³ (5.03%)
Concrete consumpt. total:	1.504 m³

Drilling Rig:	BG25	Rotary Drive:	
I-No.:		I-No.:	
Operator:	David Tallentire		
Concrete:	C35/40	Cement:	350 kg/m³
Grain size:	20 mm		
Consistency:	S4	SFA:	kg/m³
		W/Z:	

Drilling start:	11:37:29	Start of concreting:	11:45:19
Drilling end:	11:45:18	End of concreting:	11:46:54
Total time:	00:09:25		



Comments 6H20 7m, H8@150mm c/c

Supervisor: Client:

Cementation Skanska Limited