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DRILL BAR

The Drill Bar System is a foundational structural element installed via simultaneous drilling and grouting using cement as the flushing medium. This self-drilling, high performance deep foundation system is installed utilising rigs of various sizes to meet most project specific requirements. Minimum site preparation is required, and this solution can be used of most ground conditions including rock.



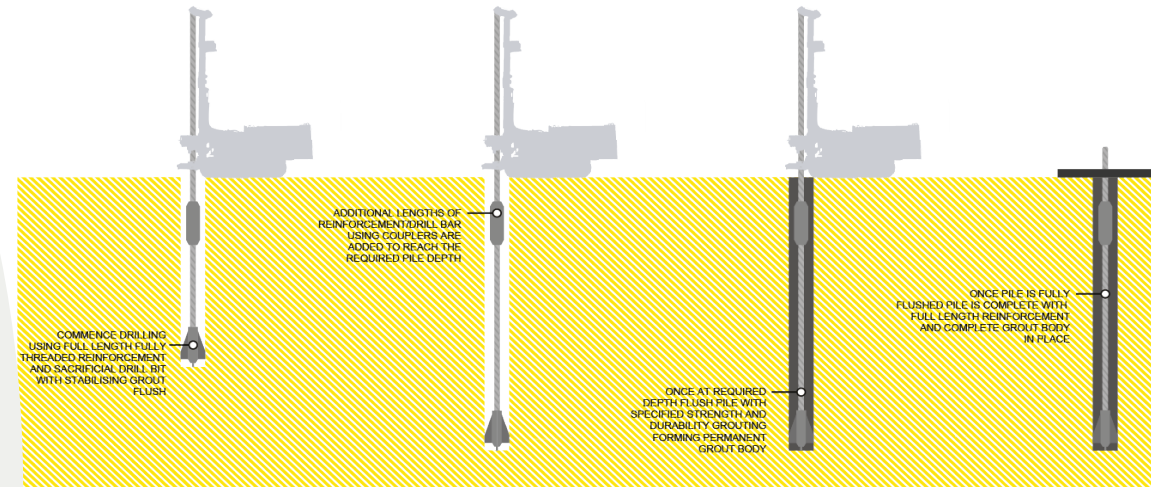


DESCRIPTION

The pile consists of a continuously threaded hollow stem reinforcement bar within a cementitious grout body. The profiled surface of the grout body transfers the pile load into the ground. The pile is drilled into the ground with a suitable drill bit which is threaded to the first section of hollow bar. The reinforcement bar is connected directly to a rotary percussive hammer on the drill rig by means of a swivel flushing head, allowing simultaneous drilling and grout flushing.

During the drilling procedure a continuous supply of low strength flushing cementitious grout is flushed through the aperture of the drill bit to stabilise the annulus as the pile is drilled to depth, thus eliminating the requirement for temporary/permanent casing to depth to maintain the bore. Once at design depth the pile is cast with the required strength and durability grout.

The technique is typically applied within large commercial and civil projects which require high pile loads on sites underlain by relatively deep bedrock



APPLICATIONS



Commercial



Infrastructure



Rail

ADVANTAGES



Quick installation



Suitable for all ground conditions



Low noise and vibration



Suitable for complex sites



Unaffected by changing soil conditions



High outputs

INSTALLATION

Conventional ground support during pile construction requires a cased drilling process with retrieval of the casing during grouting in unstable ground conditions.

drilling and grouting with the grout serving as the flushing medium while simultaneously stabilising the surrounding ground by filling voids and cracks.

Drill bar drilling systems have been designed to overcome the need for cased drilling. The hollow bars are drilled simultaneous drilling and grouting.

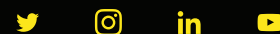
After reaching the final depth, the water to cement ratio is decreased to fill the annular space between hollow bar and borehole wall for optimum load transfer.

Micropiles are typically drilled using simultaneous

TECHNIQUE CAPABILITIES

SPECIFICATION	FROM	TO
Standard bar size	40/20mm dia	103/51mm dia
Typical load range	100kN	850kN
Practical depth range	6m	50m

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