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Steel Cased, bottom driven mini piling

Driven steel cased piles are a displacement pile type. They are formed by driving a thin wall steel tube with an internal drop weight. Driven steel cased piles are a displacement pile type. They are formed by driving a thin wall steel tube with an internal drop weight using –

D1000 mini piling internal drop hammer rig

Working height - 2600 to 3600mm (inc mast extension 4300– 5300 mm)

Width - 1260mm – excluding stabilisers when working

Length - 2320mm

Weight - 2400Kg

D500 mini piling internal drop hammer rig

Working height – 2250 to 3200 mm

Rig Width – 720mm to 1020mm - excluding stabilisers & operator space when working

Rig Length - 2000mm

Rig Weight - 980 Kg

Above excluding separate power pack

DESCRIPTION

The thin walled steel tube is driven using a free falling drop weight which is repeatedly winched a pre-determined distance up the pile tube and then dropped in order to drive the pile.

The first pile section (starter) usually has a crimped point and a short swaged section at the other end such that the second length (follower) can slide into it. The permanent connection can be made by welding. All subsequent followers are swaged at one end and joined to previous pile sections in the same way. The sequence of work is therefore to drive the starter into the ground until only the swage is showing. The first follower is welded into position and driving is recommenced until only the swage is showing. This process is repeated until a set is achieved. This tube is often considered sacrificial. The tube is subsequently filled with concrete and starter connection bars placed as required by design.

The capacity of the pile is determined by driving the pile to a “set”. This is usually a function of the penetration of the pile into the ground measured against the number of blows of the driving hammer. A “static design” based on the friction between the pile shaft and the bearing strata plus the end bearing can also be used in conjunction with the set provided sufficient site investigation is available.

Typical noise levels in the range of 80-85dBa at 10m distance.

Vibration levels are less than the 10mm PPV trigger level, considered as the onset of any structural damage. These levels are low compared with other high energy and top driven systems such as sheet piling, pre cast concrete piling.