



GroutForce™ Displacement Pile

The GroutForce™ screw displacement pile (GDP) is a patented foundation solution for loose to dense sand or soft to firm clay that can provide axial capacity of over 676 kip (3007 kN) as well as significant lateral capacity. Since the grout column increases diameter and frictional bond, the shaft length may be reduced by 50% or more versus other pile types while maintaining its high ultimate compression strength.

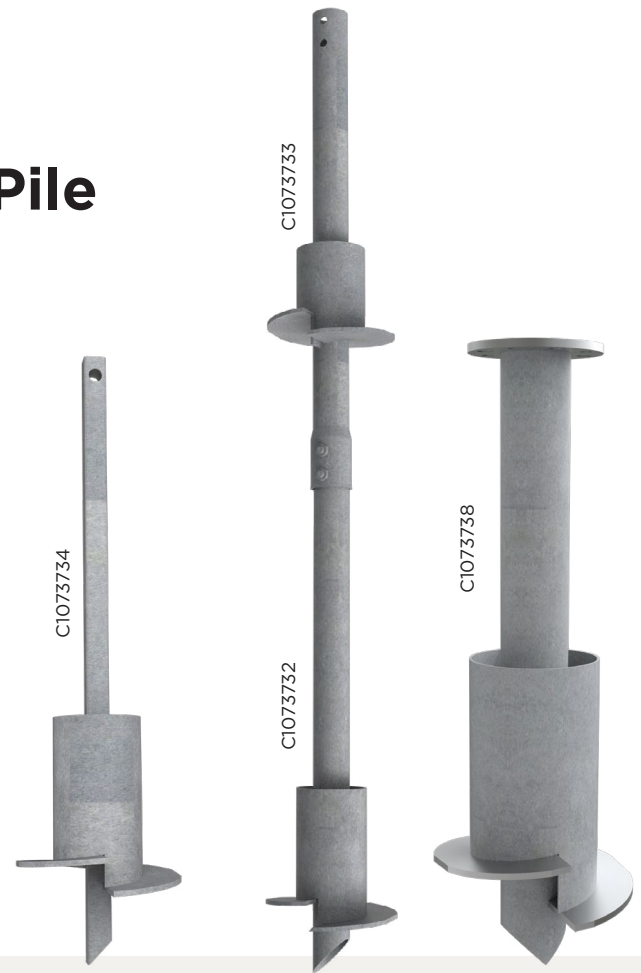
As the displacement pile is screwed into the ground, the patented casings displace the soil and create a column-shaped void surrounded by compressed soil. A soil plug is created at the beginning of installation, which creates a pulling force that adds up to 2 feet (0.61 m) of hydrostatic head from the weight of the grout, causing the grout to advance into the void very effectively. Due to the effectiveness of the displacement casings, the resulting grout column is free of loose soil, which provides a homogeneous, uncontaminated column. The resulting rough interface with the soil allows for higher load capacities with shorter embedment lengths.

The displacement casings and plates create a uniform, continuous-diameter grout column. Unlike some other displacement pile products, you can expect a full-diameter grout column with GroutForce.

GroutForce piles are manufactured in Centralia, Missouri from prime, mill-direct American steel so you can trust the product you receive will perform as promised every time. Don't let your foundation settle for inferior steel, seconds, and inconsistent craftsmanship. Trust your reputation to Chance for the best quality products, never compromised.

Benefits

- Displacement casing digs an initial reservoir making grout flow start easily and consistently, providing a full diameter grout column from the beginning of installation
- Excellent for loose to dense sand or soft to firm clay
- Corrosion protection from grout column allows non-galvanized extensions to be utilized regardless of soil conditions
- Expedite timelines and simplify projects with fewer extensions, shorter installation times and minimal mobilization
- Reservoir creates pulling force that adds 1-1/2 to 2 feet of hydrostatic head from the weight of the grout



Applications

- New construction - commercial, industrial, or high capacity residential
- Pipeline/sewer line support, refineries
- Telecom, transmission, substation infrastructure
- Battery energy storage systems
- Bridge abutments
- Deep layers of soft soil
- Heavy compression loads > 200 kips
- Shorter section lengths allow for installation in limited access sites or areas with low overhead
- Installs at a rate equal to the helix pitch to maximize installation rates
- Eliminate concerns about contaminated soils – soil is displaced with no spoils or drill tailings
- Cleaner, simpler install than auger cast piles
- No vibrations or noise allow work to be completed without disturbing nearby structures or people
- Rough surface of grout column increases frictional bond strength

Product Family

Catalog #	Description	Shaft Diameter, type inch (mm)	Length feet (m)	Grout Column Diameter inch (mm)	Torsional Strength Rating * ft-lb (Nm)	Ultimate Compression Strength kip (kN)	Compatible Displacement Washer †
C1073732	Lead Section, RS4500.337, 8" GDP, 16" helix	4.5 (114), round	5 (1.5)	8.63 (219)	25,000 (33 895)	300 (1335)	C1073743
C1073733	Extension Section, RS4500.337, 8" GDP, 16" helix	4.5 (114), round	5 (1.5)	8.63 (219)	25,000 (33 895)	300 (1335)	C1073743
C1073743 *	Extension Displacement Plate, RS4500, 8.63 OD	4.5 (114), round	-	8.63 (219)	-	-	-
C1073734	Lead Section, SS225, 8" GDP, 16" helix	2.25 (57), square	5 (1.5)	8.63 (219)	21,000 (28 472)	450 (2002)	C1073745
C1073735	Extension Section, SS225, 8" GDP, 16" helix	2.25 (57), square	5 (1.5)	8.63 (219)	21,000 (28 472)	450 (2002)	C1073745
C1073745 *	Extension Displacement Plate, SS225, 8.63 OD	2.25 (57), square	-	8.63 (219)	-	-	-
C1073738	Lead Section, RS6625.280, 12" GDP, 20" helix	6.625 (168), round	5 (1.5)	12.75 (324)	40,000 (54 233)	500 (2224)	None needed
C1073739	Extension Section, RS6625.280, 12" GDP, 20" helix	6.625 (168), round	5 (1.5)	12.75 (324)	40,000 (54 233)	500 (2224)	None needed
C1073740	Plain Extension, RS6625.280, 5 ft	6.625 (168), round	5 (1.5)	12.75 (324)	40,000 (54 233)	500 (2224)	None needed
C1073741	Plain Extension, RS6625.280, 7 ft	6.625 (168), round	7 (2.1)	12.75 (324)	40,000 (54 233)	500 (2224)	None needed
C1073742	Plain Extension, RS6625.280, 10 ft	6.625 (168), round	10 (3.0)	12.75 (324)	40,000 (54 233)	500 (2224)	None needed
C1073750	Plain Extension, RS6625.280, 20 ft	6.625 (168), round	20 (6.1)	12.75 (324)	40,000 (54 233)	500 (2224)	None needed

*To be used with any same-sized Chance plain extension.

Installation

GroutForce displacement pile (GDP) is installed with construction equipment used to install conventional helical piles, such as an excavator, mini-excavator, backhoe, or digger derrick. The five-foot section lengths allow for installation in low overhead, limited access sites.

The GDP is a screw displacement pile, meaning it should advance into the ground with every revolution, which will typically be 3 to 6 inches per revolution. The grout volume requires the contractor use higher-volume mortar mixers or grout mixer/pump equipment.

As with standard helical pile installation, you will need a properly-sized drive tool and Kelly bar adapter. Chance tools can be found in the Tooling Catalog or at www.ChanceFoundationSolutions.com.

Required Installation Torque

Product Family	Torque Motor Rating ft-lb (Nm)
RS4500.337 GDP	30,000 (40 675)
SS225 GDP	30,000 (40 675)
RS6625.280 GDP	40,000 (54 233)



Click or scan for the Chance Tooling Catalog

