

ROTOPILE PRO™ Helical Piles with Ø 200mm×8mm helix, shaft 60.3 × 5.5mm, a=5
S550/GEO 80 steel
GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 200mm×8mm, shaft 60.3 × 5.5mm,

Cohesion soil (clay)


Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
1,5 m	7,2	8,5	12,7	17,0	21,2	25,5	29,7
3,0 m	12,8	16,2	21,0	23,1	28,3	34,0	39,7
4,5 m	15,7	20,9	30,3	36,0	41,0	42,9	46,5
6,0 m	17,7	23,6	35,3	45,5	53,3	58,4	64,1

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 200mm×8mm, shaft 60.3 × 5.5mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
1,5 m	12,9	17,7	25,8	37,4	63,5	102,3
3,0 m	27,2	37,3	54,3	78,8	133,6	215,3
4,5 m	42,8	58,9	85,6	124,2	210,4	338,8
6,0 m	59,9	82,3	119,6	173,4	293,9	473,0

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c;cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c;d}$.

Pile failure limit = 135 kN

Allowable installation torque = 8.9kNm

 Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$

ROTOPILE PRO™ Helical Piles with Ø 250mm×8mm helix, shaft 73.0 × 5.5mm, a=5
S550/GEO 80 steel
GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 250mm×8mm, shaft 73.0 x 5.5mm,

Cohesion soil (clay)


Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
1,5 m	10,2	12,3	18,4	24,6	30,7	36,8	43,0
3,0 m	16,9	21,6	28,5	31,9	39,3	47,1	55,0
4,5 m	21,3	28,4	41,3	49,4	56,6	59,9	65,2
6,0 m	24,4	32,6	48,8	62,9	74,0	81,5	89,7

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 250mm×8mm, shaft 73.0 x 5.5mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
1,5 m	19,9	27,4	39,8	57,8	98,0	158,0
3,0 m	41,5	57,0	83,0	120,4	204,1	328,9
4,5 m	64,8	89,0	129,4	187,7	318,3	512,6
6,0 m	89,7	123,2	179,2	259,9	440,5	709,2

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c;cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c;d}$.

Pile failure limit = 145 kN

Allowable installation torque = 13.6kNm

 Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$



GEOTECHNICAL CAPACITY, COMPRESSION ↓↓

ROTOPILE PRO™ Helical Piles with Ø 400mm×10mm helix, shaft 88.9 × 6.5mm, a=6mm

S550/GEO 80 steel

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×10mm, shaft 88.9 x 6.5mm,

Cohesion soil (clay)


Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	24,2	30,4	42,3	56,4	70,5	84,6	98,7
4,0 m	33,7	45,0	63,1	78,1	88,6	101,4	118,3
6,0 m	40,2	53,6	80,4	104,4	122,0	139,7	151,8
8,0 m	44,7	59,6	89,5	119,3	147,4	170,8	189,2
10,0 m	47,6	63,5	95,3	127,0	158,8	190,6	216,1
12,0 m	52,2	69,5	104,3	139,1	173,8	208,6	243,4
15,0 m	61,0	81,3	121,9	162,5	203,2	243,8	284,4

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×10mm, shaft 88.9 x 6.5mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	63,0	92,0	126,5	184,1	313,2	504,8
4,0 m	129,4	188,9	259,7	377,9	642,9	1036,0
6,0 m	199,2	290,8	399,7	581,6	989,1	1593,6
8,0 m	272,4	397,7	546,5	795,1	1351,9	2177,7
10,0 m	349,0	509,5	700,0	1018,4	1731,3	2788,3
12,0 m	420,5	613,9	843,4	1227,0	2085,8	3359,2
15,0 m	534,2	779,7	1071,2	1558,3	2648,6	4265,1

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c;cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c;d}$.

Pile failure limit = 200 kN

Allowable installation torque = 24kNm

Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$





GEOTECHNICAL CAPACITY, COMPRESSION ↓↓

ROTOPILE PRO™ Helical Piles with Ø 400mm×12mm helix, shaft 88.9 × 9.0mm, a=6

S550/GEO 80 steel

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×12mm, shaft 88.9 x 9.0mm,

Cohesion soil (clay)

Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	24,2	30,4	42,3	56,4	70,5	84,6	98,7
4,0 m	33,7	45,0	63,1	78,1	88,6	101,4	118,3
6,0 m	40,2	53,6	80,4	104,4	122,0	139,7	151,8
8,0 m	44,7	59,6	89,5	119,3	147,4	170,8	189,2
10,0 m	47,6	63,5	95,3	127,0	158,8	190,6	216,1
12,0 m	52,2	69,5	104,3	139,1	173,8	208,6	243,4
15,0 m	61,0	81,3	121,9	162,5	203,2	243,8	284,4

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×12mm, shaft 88.9 x 9.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	63,0	92,0	126,5	184,1	313,2	504,8
4,0 m	129,4	188,9	259,7	377,9	642,9	1036,0
6,0 m	199,2	290,8	399,7	581,6	989,1	1593,6
8,0 m	272,4	397,7	546,5	795,1	1351,9	2177,7
10,0 m	349,0	509,5	700,0	1018,4	1731,3	2788,3
12,0 m	420,5	613,9	843,4	1227,0	2085,8	3359,2
15,0 m	534,2	779,7	1071,2	1558,3	2648,6	4265,1

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c;cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c;d}$.

Pile failure limit = 280 kN

Allowable installation torque = 30kNm

Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$



ROTOPILE PRO™ Helical Piles with Ø 400mm×12mm helix, shaft 114.3 × 7.0mm, a=6
S550/GEO 80 steel
GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×12mm, shaft 114.3 x 7.0mm

Cohesion soil (clay)

Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	26,3	32,6	44,7	59,6	74,5	89,4	104,3
4,0 m	38,5	51,3	71,4	87,5	101,0	110,9	129,4
6,0 m	48,9	65,2	97,9	126,6	149,9	166,7	179,1
8,0 m	56,4	75,2	112,7	150,3	187,9	213,9	235,4
10,0 m	62,2	82,9	124,3	165,8	207,2	248,7	281,1
12,0 m	66,4	88,5	132,7	177,0	221,2	265,5	309,7
15,0 m	73,5	98,0	147,0	196,1	245,1	294,1	343,1

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×12mm, shaft 114.3 x 7.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	67,4	92,7	134,9	185,5	315,5	508,6
4,0 m	139,5	191,8	279,1	383,5	652,3	1051,1
6,0 m	216,3	297,2	432,4	594,2	1010,4	1627,6
8,0 m	297,7	409,0	595,0	817,5	1389,8	2238,2
10,0 m	383,8	527,2	766,8	1053,4	1790,4	2882,7
12,0 m	462,9	635,8	924,8	1270,4	2159,1	3476,3
15,0 m	590,2	810,7	1179,1	1619,5	2752,0	4430,3

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c;cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c;d}$.

Pile failure limit = 330 kN

Allowable installation torque = 44kNm

 Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$

ROTOPILE PRO™ Helical Piles with Ø 400mm×15mm helix, shaft 114.3 × 9.0mm, a=6
S550/GEO 80 steel
GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×15mm, shaft 114.3 x 9.0mm

Cohesion soil (clay)


Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	26,3	32,6	44,7	59,6	74,5	89,4	104,3
4,0 m	38,5	51,3	71,4	87,5	101,0	110,9	129,4
6,0 m	48,9	65,2	97,9	126,6	149,9	166,7	179,1
8,0 m	56,4	75,2	112,7	150,3	187,9	213,9	235,4
10,0 m	62,2	82,9	124,3	165,8	207,2	248,7	281,1
12,0 m	66,4	88,5	132,7	177,0	221,2	265,5	309,7
15,0 m	73,5	98,0	147,0	196,1	245,1	294,1	343,1

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×15mm, shaft 114.3 x 9.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	67,4	92,7	134,9	185,5	315,5	508,6
4,0 m	139,5	191,8	279,1	383,5	652,3	1051,1
6,0 m	216,3	297,2	432,4	594,2	1010,4	1627,6
8,0 m	297,7	409,0	595,0	817,5	1389,8	2238,2
10,0 m	383,8	527,2	766,8	1053,4	1790,4	2882,7
12,0 m	462,9	635,8	924,8	1270,4	2159,1	3476,3
15,0 m	590,2	810,7	1179,1	1619,5	2752,0	4430,3

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c;cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c;d}$.

Pile failure limit = 470 kN

Allowable installation torque = 54kNm

 Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$

ROTOPILE PRO™ Helical Piles with Ø 400mm×12mm helix, shaft 139.7 × 8.0mm, a=6
S550/GEO 80 steel
GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×12mm, shaft 139.7 x 8.0mm

Cohesion soil (clay)

Installation depth	Shear strength cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	28,4	34,8	47,1	62,8	78,5	94,2	109,9
4,0 m	43,3	57,7	81,3	96,9	110,8	120,5	140,6
6,0 m	56,5	75,3	112,9	145,7	171,8	189,9	202,6
8,0 m	68,0	90,7	136,0	181,3	226,6	257,0	281,5
10,0 m	76,7	102,3	153,4	204,6	255,7	306,8	346,1
12,0 m	83,8	111,7	167,6	223,5	279,4	335,2	391,1
15,0 m	91,4	121,9	182,9	243,8	304,8	365,7	426,7
18,0 m	99,9	133,2	199,8	266,4	333,0	399,7	466,3
21,0 m	113,7	151,7	227,5	303,3	379,1	455,0	530,8
24,0 m	127,6	170,1	255,1	340,2	425,2	510,2	595,3

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×12mm, shaft 139.7 x 8.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	68,0	98,9	135,9	186,9	317,9	512,3
4,0 m	141,6	206,0	283,2	389,2	661,8	1066,2
6,0 m	220,9	321,4	441,7	606,8	1031,7	1661,6
8,0 m	306,0	445,1	611,4	839,9	1427,6	2298,6
10,0 m	396,7	577,0	792,5	1088,5	1849,5	2977,2
12,0 m	478,9	696,5	956,6	1313,9	2232,3	3593,4
15,0 m	612,9	891,2	1223,9	1680,8	2855,4	4595,6
18,0 m	759,7	1104,5	1516,6	2082,5	3537,0	5691,3
21,0 m	919,3	1336,4	1834,7	2518,8	4277,1	6880,5
24,0 m	1091,8	1586,8	2178,1	2989,8	5075,6	8163,2

= larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c,cal}$ and need to be reduced by a correlation factor ξ and a partial factor γ_t to define the design value $R_{c,d}$.

Pile failure limit = 390 kN

Allowable installation torque = 76kNm

 Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$

ROTOPILE PRO™ Helical Piles with Ø 400mm×16mm helix, shaft 139.7 × 10.0mm, a=8
S550/GEO 80 steel
GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×16mm, shaft 139.7 x 10.0mm

Cohesion soil (clay)

Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	28,4	34,8	47,1	62,8	78,5	94,2	109,9
4,0 m	43,3	57,7	81,3	96,9	110,8	120,5	140,6
6,0 m	56,5	75,3	112,9	145,7	171,8	189,9	202,6
8,0 m	68,0	90,7	136,0	181,3	226,6	257,0	281,5
10,0 m	76,7	102,3	153,4	204,6	255,7	306,8	346,1
12,0 m	83,8	111,7	167,6	223,5	279,4	335,2	391,1
15,0 m	91,4	121,9	182,9	243,8	304,8	365,7	426,7
18,0 m	99,9	133,2	199,8	266,4	333,0	399,7	466,3
21,0 m	113,7	151,7	227,5	303,3	379,1	455,0	530,8
24,0 m	127,6	170,1	255,1	340,2	425,2	510,2	595,3

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 400mm×16mm, shaft 139.7 x 10.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	68,0	98,9	135,9	186,9	317,9	512,3
4,0 m	141,6	206,0	283,2	389,2	661,8	1066,2
6,0 m	220,9	321,4	441,7	606,8	1031,7	1661,6
8,0 m	306,0	445,1	611,4	839,9	1427,6	2298,6
10,0 m	396,7	577,0	792,5	1088,5	1849,5	2977,2
12,0 m	478,9	696,5	956,6	1313,9	2232,3	3593,4
15,0 m	612,9	891,2	1223,9	1680,8	2855,4	4595,6
18,0 m	759,7	1104,5	1516,6	2082,5	3537,0	5691,3
21,0 m	919,3	1336,4	1834,7	2518,8	4277,1	6880,5
24,0 m	1091,8	1586,8	2178,1	2989,8	5075,6	8163,2

= larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c,cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c,d}$.

Pile failure limit = 694 kN

Allowable installation torque = 91kNm

 Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$



GEOTECHNICAL CAPACITY, COMPRESSION ↓↓

ROTOPILE PRO™ Helical Piles with Ø 500mm×20mm helix, shaft 168.0 × 10.0mm, a=8

S550/GEO 80 steel

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 500mm×20mm, shaft 168.0 x 10.0mm

Cohesion soil (clay)

Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	40,3	50,0	68,9	91,8	114,8	137,7	160,7
4,0 m	58,2	77,6	110,0	132,9	153,7	169,4	197,6
6,0 m	74,0	98,7	148,1	191,6	227,1	252,9	280,7
8,0 m	89,9	119,8	179,8	239,7	299,6	341,0	383,4
10,0 m	102,5	136,7	205,0	273,3	341,7	410,0	471,4
12,0 m	112,9	150,5	225,7	300,9	376,2	451,4	526,6
15,0 m	125,4	167,1	250,7	334,3	417,8	501,4	585,0
18,0 m	134,2	179,0	268,4	357,9	447,4	536,9	626,3
21,0 m	143,0	190,6	285,9	381,2	476,5	571,8	667,1
24,0 m	159,6	212,8	319,2	425,6	532,0	638,4	744,7

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 500mm×20mm, shaft 168.0 x 10.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	105,0	144,3	210,1	304,8	517,1	833,5
4,0 m	216,5	297,6	433,0	628,3	1065,6	1717,1
6,0 m	334,5	459,7	668,9	970,3	1645,5	2650,9
8,0 m	459,1	630,8	917,7	1331,0	2256,6	3634,7
10,0 m	590,2	810,8	1179,4	1710,4	2899,2	4668,6
12,0 m	711,5	977,4	1421,8	2061,8	3494,7	5627,3
15,0 m	905,7	1244,1	1809,5	2623,8	4446,7	7159,4
18,0 m	1114,5	1530,8	2226,3	3227,7	5469,2	8804,1
21,0 m	1338,1	1837,6	2672,1	3873,6	6562,3	10561,6
24,0 m	1576,3	2164,5	3147,0	4561,3	7725,9	12431,8

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c,cal}$ and need to be reduced by a correlation factor ξ and a partial factor γ_t to define the design value $R_{c,d}$.

Pile failure limit = 1040 kN

Allowable installation torque = 138kNm

Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$





GEOTECHNICAL CAPACITY, COMPRESSION ↓↓

ROTOPILE PRO™ Helical Piles with Ø 550mm×20mm helix, shaft 244.0 × 12.0mm, a=8

S550/GEO 80 steel

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 550mm×20mm, shaft 244.0 x 12.0mm

Cohesion soil (clay)

Installation depth	Shear strenght cu [kPa]						
	15 kPa	20 kPa	30 kPa	40 kPa	50 kPa	60 kPa	70 kPa
2,0 m	52,1	64,1	87,1	116,2	145,2	174,3	203,3
4,0 m	78,1	104,1	146,9	175,8	201,7	220,3	257,0
6,0 m	101,1	134,8	202,1	261,1	308,3	341,5	377,5
8,0 m	124,1	165,4	248,1	330,8	413,5	469,4	526,7
10,0 m	147,1	196,1	294,1	392,1	490,2	588,2	675,8
12,0 m	170,1	226,7	340,1	453,5	566,8	680,2	793,6
15,0 m	196,1	261,4	392,1	522,8	653,5	784,3	915,0
18,0 m	218,0	290,6	435,9	581,2	726,5	871,8	1017,1
21,0 m	236,2	315,0	472,4	629,9	787,4	944,9	1102,3
24,0 m	250,8	334,4	501,7	668,9	836,1	1003,3	1170,6

GEOTECHNICAL CAPACITY, COMPRESSION [kN], Factor Of Safety Fp = 1.0

Helix 550mm×20mm, shaft 244.0 x 12.0mm

Friction soil (silt, sand, moraine)

Installation depth	Angle of friction [°]					
	28°	30°	32°	34°	37°	40°
2,0 m	128,1	176,0	256,2	371,8	630,7	1016,5
4,0 m	266,1	365,7	532,1	771,9	1309,2	2109,3
6,0 m	414,0	568,9	827,7	1200,5	2035,4	3278,5
8,0 m	571,9	785,7	1143,0	1657,5	2809,5	4524,2
10,0 m	739,8	1016,2	1478,0	2142,9	3631,4	5846,2
12,0 m	892,7	1226,2	1783,4	2585,7	4381,6	7053,6
15,0 m	1140,8	1566,8	2278,5	3303,1	5596,5	9008,0
18,0 m	1411,3	1938,0	2817,8	4084,5	6918,9	11134,3
21,0 m	1704,1	2339,8	3401,5	4929,8	8348,9	13432,4
24,0 m	2019,4	2772,2	4029,5	5839,0	9886,4	15902,5

 = larger pile size recommended

The values represent the compressive resistance of the ground at ultimate limit state $R_{c,cal}$ and need to be reduced by a correlation factor ξ and a partial factor Y_t to define the design value $R_{c,d}$.

Pile failure limit = 1495 kN

Allowable installation torque = 360kNm

Typical corrosion environment $t_k = 1.2\text{mm}/50\text{y}$

