

Strand Technical Data

GSS Titan Rock and Soil Anchors meet the ASTM A-416 or ASTM A-488 (epoxy coated strand) specifications

Ultimate stress (fpu) 270 ksi
 1861.65 N/mm²
 Weight per strand 0.74 lb./lf
 1.10 kg/m

They are in accordance to: "Recommendations for Prestressed Rock and Soil Anchors", Post Tensioning Institute (PTI), latest edition. "Ground Anchors and Anchored Systems", Geotechnical Engineering Circular No. 4, Federal Highway Administration, Washington DC, FHWA-IF-99-015, 1999.

Strands	X-Section Area (Aps)		Ultimate Load (fpu x APS) = GUTS		Max Jacking Load (80% of GUTS)	
	inch ²	mm ²	kips	kN	kips	kN
1	0.217	140	58.6	260.7	46.9	208.6
2	0.434	280	117.2	521.3	93.8	417.1
3	0.651	420	175.8	782.0	140.6	625.6
4	0.868	560	234.4	1042.7	187.5	834.1
5	1.085	700	293.0	1303.3	234.4	1042.7
6	1.302	840	351.6	1564.0	281.3	1251.2
7	1.519	980	410.2	1824.7	328.2	1459.7
8	1.736	1120	468.8	2085.3	375.0	1668.3
9	1.953	1260	527.4	2346.0	421.9	1876.8
10	2.17	1400	586.0	2606.7	468.8	2085.3
11	2.387	1540	644.6	2867.3	515.7	2293.9
12	2.604	1680	703.2	3128.0	562.6	2502.4
13	2.821	1820	761.8	3388.7	609.4	2710.9
14	3.038	1960	820.4	3649.3	656.3	2919.5
15	3.255	2100	879.0	3910.0	703.2	3128.0
16	3.472	2240	937.6	4170.7	750.1	3336.5
17	3.689	2380	996.2	4431.3	797.0	3545.1
18	3.906	2520	1054.8	4692.0	843.8	3753.6
19	4.123	2660	1113.4	4952.7	890.7	3962.1
20	4.34	2800	1172.0	5213.3	937.6	4170.7
21	4.557	2940	1230.6	5474.0	984.5	4379.2
22	4.774	3080	1289.2	5735.4	1031.4	4588.3
27	5.859	3780	1582.2	7038.9	1265.8	5631.1
30	6.51	4200	1758.0	7821.0	1406.4	6256.8
31	6.727	4340	1816.6	8081.7	1453.3	6465.4
37	8.029	5180	2168.2	9645.9	1734.6	7716.7
47	10.199	6580	2754.2	12251.3	2203.4	9801.0
60	13.02	8400	3516.0	15640.0	2812.8	12512.0
92	19.964	12880	5391.2	23981.3	4313.0	19185.0

The drill hole size chosen should allow for a minimum grout cover over the corrugated sheath of 0.5" (12.7 mm). If our post-grout pressure lines are used, allow for a minimum of 1" (25.4 mm) grout cover on the side where the grout pipe is assembled.

Our centralizers are made to allow for a minimum of 0.5" (12.7 mm) grout cover or to a specified size.

They are available as single wing parts (a minimum of 3 wings is required per location) or as multiple wing elements.

Our strand organizers are fabricated to provide the minimum strand spacing recommended in the PTI manual.

Max Design Load (60% of GUTS)		HDPE Corrugated Sheathing		
		Nominal Diameter	Outside Diameter	
kips	kN	inch	inch	mm
35.2	156.4	2	2.4	61
70.4	312.8			
105.6	469.3			
140.8	625.7	3	3.6	91
176.0	782.1			
211.2	938.5			
246.4	1094.9			
281.6	1251.4	4	4.7	119
316.8	1407.8			
352.0	1564.2			
387.2	1720.6			
422.4	1877.0			
457.6	2033.5			
492.8	2189.9	5	5.7	145
528.0	2346.3			
563.2	2502.7			
598.4	2659.1			
633.6	2815.6			
668.8	2972.0			
703.2	3128.0	6	7.1	180
738.4	3284.4			
773.5	3441.2			
949.3	4223.3			
1054.8	4692.6	8	9.5	241
1090.0	4849.0			
1300.9	5787.5			
1654.4	7351.7	10	11.6	295
2112.0	9385.2			
3238.4	14390.6	N/A	N/A	N/A