

TITAN Geotechnical System

Direct drilled and continuous flush grouted anchors,
micropiles and soil nails

- Technical data
- Drill bit types
- Grout body diameters



Technical data

Anchor / Pile Type	Unit	TITAN 30/16	TITAN 30/14	TITAN 30/11	TITAN 40/20	TITAN 40/16	TITAN 52/26	TITAN 73/56	TITAN 73/53	TITAN 73/45	TITAN 73/35	TITAN 103/78	TITAN 103/51	TITAN 127/103
Nominal Outside Diameter Ø	mm	30	30	30	40	40	52	73	73	73	73	103	103	127
Nominal Inside Diameter Ø	mm	16	14	11	20	16	26	56	53	45	35	78	51	103
Effective Cross Section A_{eff}	mm ²	340	375	415	730	900	1250	1360	1615	2239	2714	3140	5680	3475
Ultimate Load F_u	kN	245	275	320	540	660	925	1035	1160	1575	1865	2270	3660	2320 ²⁾
Yield Point $F_{0,2,k}$	kN	190	220	260	425	525	730	830	970	1270	1430	1800	2670	2030
Yield Stress $f_{0,2,k}$	N/mm ²	560	585	625	590	590	585	610	590	560	530	565	470	585
Axial rigidity $E \times A$ ¹⁾	10 ³ kN	63	69	83	135	167	231	251	299	414	502	580	1022	640
Flexural rigidity $E \times I$ ¹⁾	10 ⁶ kNmm ²	3,7	3,8	5,2	15	17	42	125	143	178	185	564	794	1163
Weight approx.	kg/m	2,7	2,87	3,29	5,6	7,17	9,87	10,75	13,2	17,8	21,2	25,3	44,6	28,9
Standard length	m	3	3/4	2/3/4	3/4	2/3/4	3	6,25	3	3	4	3	3	3
Thread Left / Right Hand	-	left	left	left	left	left	left/ right	right	right	right	right	right	right	right




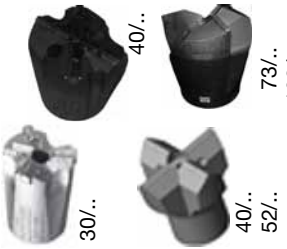


¹⁾ The values are based on test results, it is not possible to evaluate an E-modulus out of these values. E. & O.E.

subject to change without notice

²⁾ Only valid for the hollow bar without coupling nut, the ultimate load of the coupling nut is 2048 kN

Drill bit types



drill bits Ø mm	hardened clay bit	cross cut drill bit	button drill bit	carbide cross cut/tri-wing drill bit	carbide button drill bit	carbide cross cut 3-step drill bit
description	 for clay, soft soil and sand/gravel < 50 S.P.T.	 for mixed soil with obstacles > 50 S.P.T.	 for weathered soft rock and gravel hardness < 70 MPa	 30/.. 40/.. 52/.. 73/.. 103/.. for hard rock granite, dolomite, sandstone, hardness 70-150 MPa	 30/.. 40/.. 40/.. 52/.. 73/.. 103/.. for very hard or high quartzite rock hardness > 70 MPa	 for directional stability of ± 2 % of the total length
TITAN 30/..	75 95	76 90	42 46 51 55 70	46	51	75
with adaptor 40	110 150	115	70	70 90	70 90 115	90
TITAN 40/..	110 150	90 115	70	70 90	70 90	90
with adaptor 52	175	130			115	
TITAN 52/..	130 175	115 130	--	--	115	--
TITAN 52/..	130 175	115 130	--	115	115	
with adaptor 73	200	175		130	130	130
TITAN 73/..	200	130 175	--	130	130	130
with adaptor 103	220 280			175	175	
TITAN 103/..	220 280	175	--	175	175	--
TITAN 127/..	220	200	--	--	200	--

* Illustrations are subject to alterations

Indicative grout body diameters

anchor/ pile type	drill bit	diameter mm	rock mm	cohe- sive soil mm	sand and gravel-sand mm	medium and coarse gravel mm
TITAN 30/..	button drill bit	42	52			
TITAN 30/..	button drill bit	46	56			
TITAN 30/..	button drill bit	51	61			
TITAN 30/..	button drill bit	55	65			
TITAN 30/..	carbide cross cut drill bit	46	56			
TITAN 30/..	carbide button drill bit	51	61			
TITAN 30/..	carbide cross cut 2-step drill bit	75	85			
TITAN 30/..	cross cut drill bit	76		100	125	150
TITAN 30/..	cross cut drill bit	90		115	140	165
TITAN 30/..	hardened clay bit	75		100	125	150
TITAN 30/..	hardened clay bit	95		120	145	170
TITAN 30/..	piling cone	75		100		
TITAN 40/..	hardened clay bit	110		135	160	185
TITAN 40/..	hardened clay bit	150		175	200	225
TITAN 40/..	button drill bit	70	80			
TITAN 40/..	carbide button drill bit	70	80			
TITAN 40/..	carbide button drill bit	90	100			
TITAN 40/..	carbide cross cut drill bit	70	80			
TITAN 40/..	carbide cross cut drill bit	90	100			
TITAN 40/..	cross cut drill bit	90		115	140	165
TITAN 40/..	cross cut drill bit	115		140	165	190
TITAN 40/..	carbide cross cut 3-step drill bit	90	100			
TITAN 40/..	piling cone	90		115		
TITAN 52/..	cross cut drill bit	115		140	165	190
TITAN 52/..	cross cut drill bit	130		155	180	205
TITAN 52/..	hardened clay bit	130		155	180	205
TITAN 52/..	hardened clay bit	175		200	225	250
TITAN 52/..	carbide cross cut drill bit	115	125			
TITAN 52/..	carbide button drill bit	115	125			
TITAN 73/..	cross cut drill bit	130		155	180	205
TITAN 73/..	cross cut drill bit	175		200	225	250
TITAN 73/..	carbide tri-wing drill bit	130	140			
TITAN 73/..	hardened clay bit	200		225	250	275
TITAN 73/..	carbide button drill bit	130	140			
TITAN 73/..	carbide cross cut 3-step drill bit	130	140			
TITAN 103/..	hardened clay bit	220		245	270	295
TITAN 103/..	hardened clay bit	280		305	330	355
TITAN 103/..	cross cut drill bit	175		200	225	250
TITAN 103/..	carbide button drill bit	175	185			
TITAN 103/..	carbide tri-wing drill bit	175	185			
TITAN 127/..	cross cut drill bit	200		225	250	275
TITAN 127/..	hardened clay bit	220		245	270	295
TITAN 127/..	carbide button drill bit	200	210			

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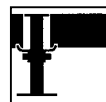


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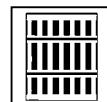
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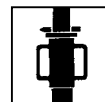
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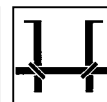
Slabforming
Systems



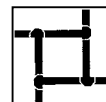
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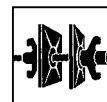
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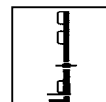
Beam
Forms



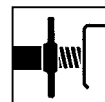
Column
Forms



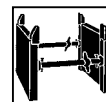
Formwork
Ties



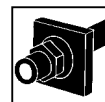
Rail Posts



Struts



Trenching
Systems



Geotechnical
Systems