

GEO EQUIP AFRICA

G E A ROCK & SLOPE STABILIZATION PRODUCTS

We Service Africa!



POST TENSION FULLY THREAD BAR ROCK BOLT COUPLER/NUT/PLATE

Geo Equipment Africa (Pty) Ltd.

GEO EQUIPMENT AFRICA (PTY) LTD

A passion for Africa, bringing world class geotechnical products to this great continent! Focus placed on rock and slope (earth) stabilization products servicing two prominent sectors. The Mining (Underground & Open Pit) and Civil Engineering / Earthworks markets. South Africa, our operational headquarter together with our far-reaching logistical network for hassle-free delivery to your site!

Specification Sheets

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1. Company Profile

Geo Equipment Africa (Pty) Ltd. (GEA) sources its stock from trusted outlets with back-to-back product guarantees.

The fully threaded rock anchor side to our business makes use of a high-tech enterprises specializing in the R&D and manufacture of geotechnical anchoring engineering materials and related supporting equipment.

2. Products

2.1 Thread Bar Rock Bolt Anchor System

The thread bar rock bolt system consists of a fully threaded anchor bar, nut, plate and coupler



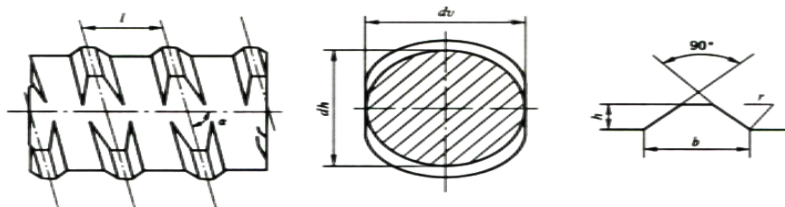
3. Materials / Components

3.1. Bar Specification



Steel Grade	Yield strength MPa	Tensile strength MPa	Elongation at failure A%	Uniform elongation Ave %	Stress relaxation		
					Original stress	Relaxation rate after	Relaxation
500	≥500	≥630	≥10		0.8R	≤3	≤1.5
555	≥555	≥777	≥5				
785	≥785	≥980	≥7				
830	≥830	≥1030	≥6	≥3.5			
930	≥930	≥1080	≥6				
1080	≥1080	≥1230	≥6	≥2.5			
390	≥390	≥560	≥18				

Note: Standards comply with GB/T 20065-2016

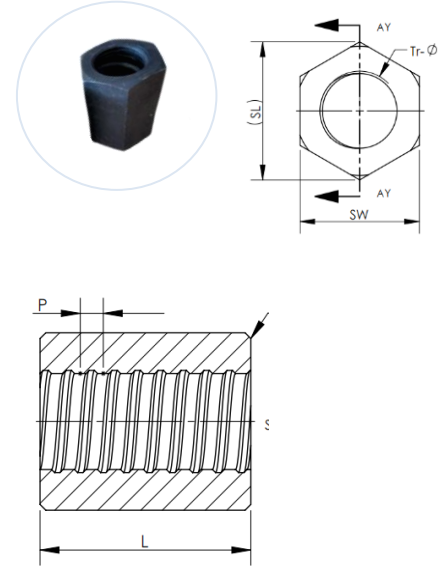


d_h : Diameter of base circle / d_v : diameter of base circle / h : height of screw thread / b : width of screw thread / l : Screw pitch / r : arc root of screw thread / α : guiding angle

Nominal Diameter mm	D_v mm	D_h mm	h mm	b mm	l mm	Nominal sectional area mm ²	Nominal Weight Kg/M
15	15	15	1	4.5	10	176	1.47
18	18	18	1.2	4	9	254.5	2.11
20	20	20	1.3	4.8	10	314	2.47
25	25	25	1.6	6	12	490.9	4.10
28	26.8	27.3	1.8	6.5	14	616	4.83
32	32	32	2.0	7	16	804.2	6.65
36	36	36	2.2	8	18	1018	8.41
40	40	40	2.5	8	20	1256.6	10.34
50	50	50	3.0	9	24	1963.5	16.28
63.5	63	63.5	3.0	12	22	3167	26.50
75	75	75	3.0	12	20	4418	36.90

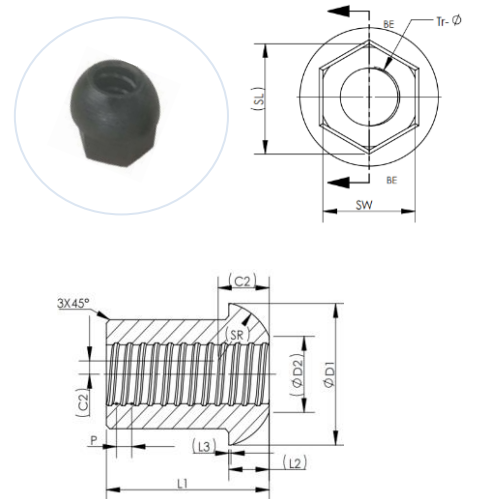
3.2. Flat Hex Nut

Nominal Diameter mm	Flat Hex nut		
	L	SW	Weight (kg/pc)
15	45	28.5	0.2
18	45	30	-
20	45	32	0.29
25	60	50	0.65
28	70	55	1.10
32	72*	65*	1.45
	72	60	
36	80	65	1.65
	100	70	
40	100	70	2.09
50	110	80	2.71
63.5	115	100	4.58
75	120	120	6.23



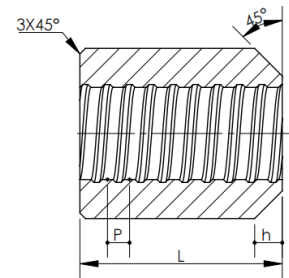
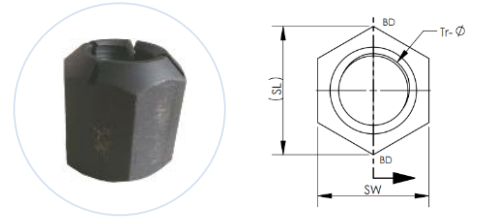
3.3. Dome Nut

Nominal Diameter mm	Dome nut		
	L1	SW	D1
15	*	*	*
18	*	*	*
20	45	36	50
25	60	50	58
32	60	50	62
36	80	65	75
40	100	70	81
Customized available			



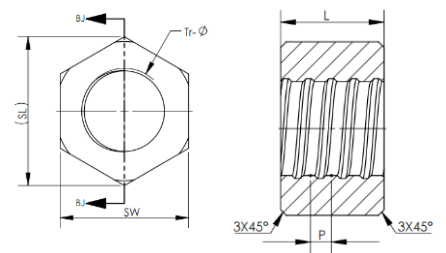
3.4. Spherical / Swivel Nut

Nominal Diameter mm	Spherical/Swivel nut		
	L	SW	Weight (kg/pc)
15	45	28.5	0.18
18	45	30	-
20	45	32	0.21
25	60	50	0.60
28	70	55	1.10
32	72	65	1.35
36	80	65	1.50
40	100	70	2.00
50	110	80	2.60
63.5	115	100	4.58
75	120	120	6.14



3.5. Lock Nut

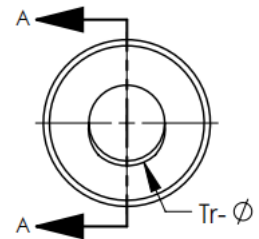
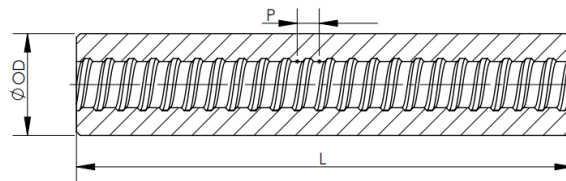
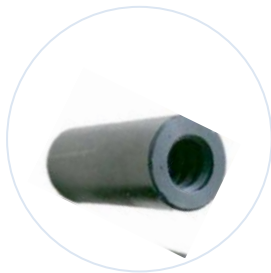
Nominal Diameter mm	Lock nut			
	L	SW	SL	Weight (kg/pc)
15	22	32	37	0.70
20	22	32	37	0.70
25	26.5	50	57	0.72
28	32	50	57	0.39
32	35.5	65	75	0.75
36	39.5	65	75	0.82
40	49.5	70	81	1.05
50	54.5	80	92	1.35
63.5	57.5	100	115	2.28
75	60	120	135	3.07





3.6. Coupler

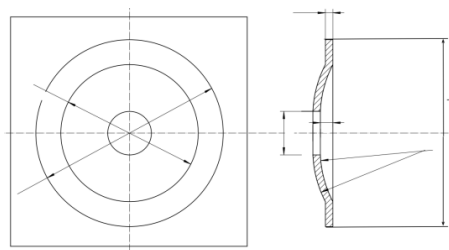
Normal Diameter mm	L mm	OD mm	Φ mm	Weight (kg/pc)
15	80	30	15.3	0.32
20	100	36	19.9	0.52
25	132	50	25.4	1.35
28	160	55	27.9	2.22
32	168	60	32.5	2.46
36	180	70	36.6	3.76
40	220	74	41.0	5.13
50	270	88	51.0	8.05
63.5	260	102	64.0	9.50
75	350	130	76.2	23.85



3.7. Dome Plate

Dome plate			
L1	L2	T	Weight (kg/pc)
60	60	8	0.22
80	80	10	0.50
100	100	12	0.94

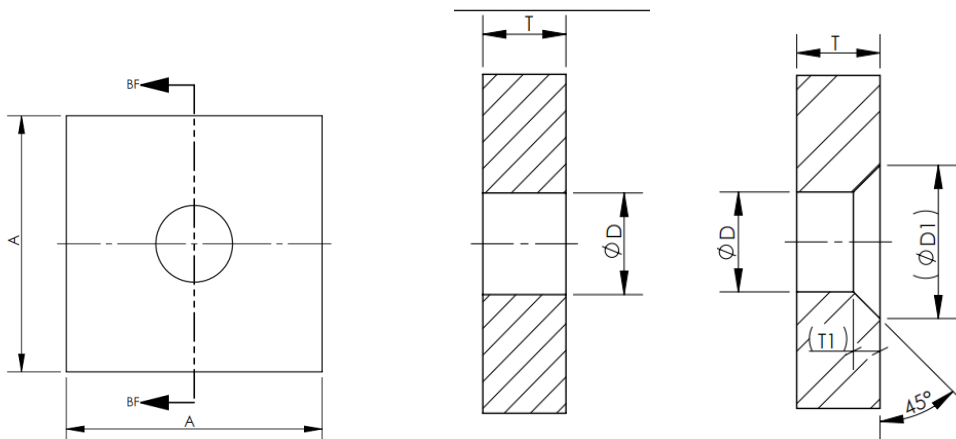
Customized is available
 Thickness available 4mm to 15mm
 Width available 60mm to 300mm





3.8. Flat / Swivel Plate

Nominal Diameter mm	Flat plate/Swivel plate			
	L	ID	T	Weight (kg/pc)
15	80	22	12	0.70
20	80	28	16	0.70
25/28	120	35	20	2.10
32	140	45	24	3.50
36	150	50	30	4.80
40	160	55	30	5.53
50	200	60	50	14.10
63.5	240	70	50	21.80
75	350	85	50	47.86



4. Raw Material Specification

4.1. Chemical Composition: (average value %)

As aligned to: GB/T20065 specification

4.1.1. Bars

C	Si	Mn	P	S	V
0.26	1.50	2.32	0.016	0.001	0.1

4.1.2. Nut

C	Si	Mn	P	S	Cr	Ni	Cu
0.40	0.17-0.37	0.50-0.80	0.035	0.035	0.25	0.25	0.25

4.1.3. Coupler

C	Si	Mn	P	S	Cr	Ni	Cu
0.40	0.17-0.37	0.50-0.80	0.035	0.035	0.25	0.25	0.25

4.1.4. Plate (material Q235B)

C	Si	Mn	P	S
0.20	0.35	1.40	0.045	0.045

4.1.5. Plate (material Q345B)

C	Si	Mn	P	S
0.20	0.50	1.70	0.035	0.035

4.2. Mechanical Properties

4.2.1. Bar

Yield strength (MPa)	Tensile Strength (MPa)	Elongation (%)
500(min)	630(min)	10(min)
830 (min)	1030 (min)	6 (min)
930 (min)	1080 (min)	6 (min)
1080 (min)	1230 (min)	6 (min)

4.2.2. 2.2 Nut

Hardness (HRC)	Tensile Strength (MPa) Equivalent Tensile strength as per ASTM A370
24-35	820-1080
28-38	900-1180

4.2.3. Coupler

Hardness (HRC)	Tensile Strength (MPa) Equivalent Tensile strength as per ASTM A370
24-35	820-1080
28-38	900-1180

4.2.4. Plate

Material	Yield strength (MPa)			Tensile Strength (MPa)	Elongation (%)	Impact test J (200C)
	Wall thickness/mm					
	≤16	>16~30	>30			
Q235B	235	225	215	375~500	25 min	27
Q345B	345	325	295	470~630	20 min	34