



Safety, from safe manufacturer.

The story of SupAnchor

SupAnchor® is the No. 1 manufacturer and exporter of Self Drilling Anchor Systems in Asia.

Since 1994, our mission has been focused on manufacturing and development of premium quality products which are specialized in anchoring purpose. Our products include SupAnchor® Steel Self Drilling Anchor Systems, SupFRP™ Fiber Glass Rock Bolts and SupHulk™ Swell Friction Rock Bolts.

Owning fully two production premises located in Eastern and Western of China, 45,000m² of land, 6,600,000 meters of annual anchor bolt production capacity, 20 years of manufacturing and 15 years of exporting experiences, SupAnchor® has been serving customers from 50 countries and 21,000,000 meters of SupAnchor® SDA Anchor Bolts have been safely installed in more than 100 projects.

Professionalism, Innovation and Cooperation are the spirits of SupAnchor® and lead us to keep moving forward.

The core values of SupAnchor® consist of **S**taff, **U**ltimate quality control, **P**roducts, **E**xperience, and **R**eliable capacity, which guide our commitment for customers' values – more competitive quality, price, more options for products, safety and premium delivery time.

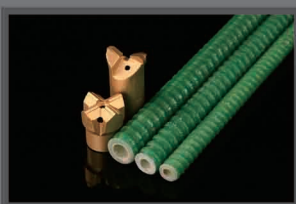
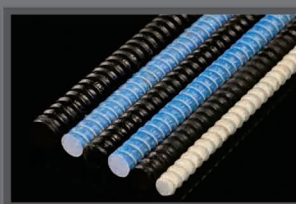
Safety, from safe manufacturer. SUPANCHOR – YOUR BEST PARTNER FOR SUPER ANCHOR!



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To Website



SupFRP[™]



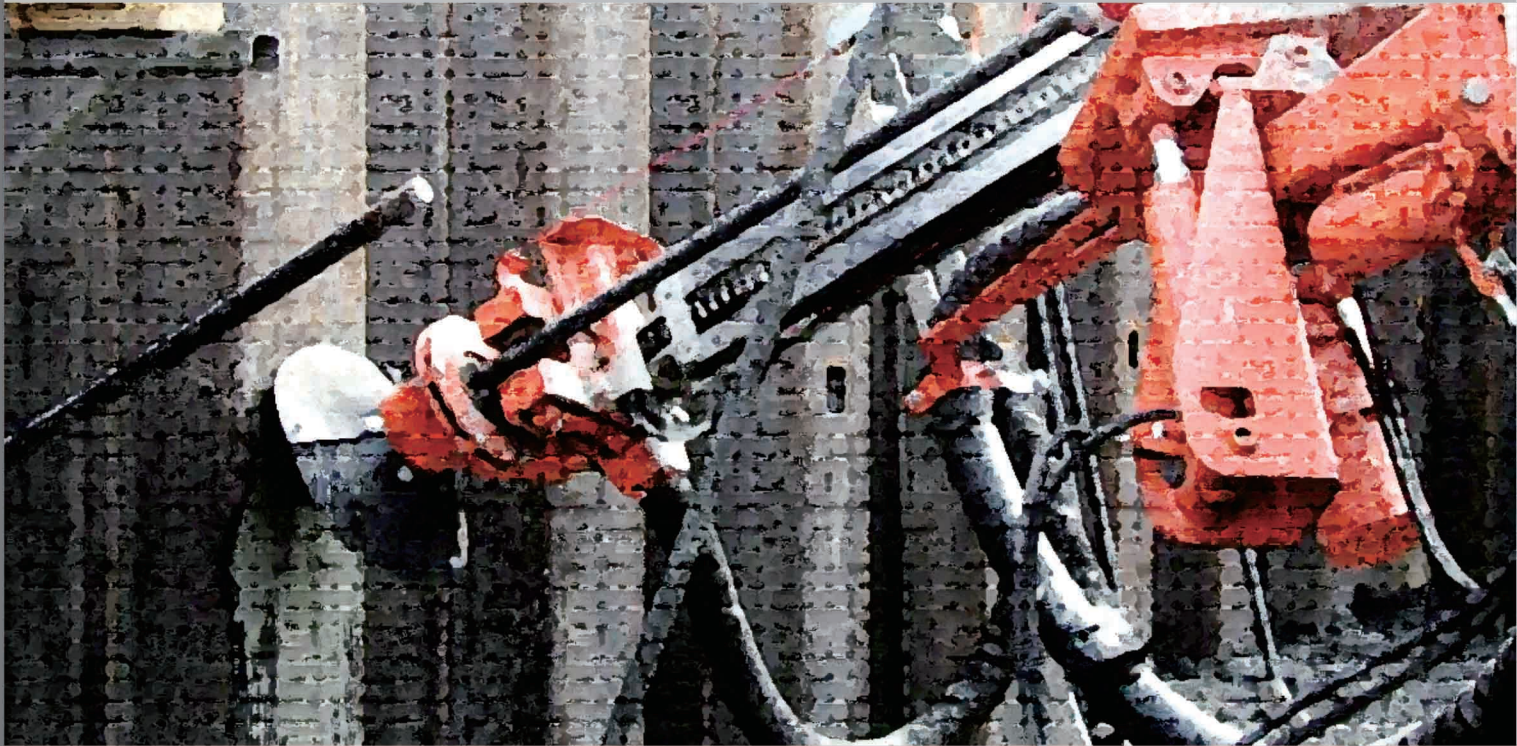
SupAuk[™]





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Self Drilling Anchor System

SupAnchor® Self Drilling Hollow Anchor is an unique anchoring system and is today's answer to the increasing demands of the tunnelling industry and ground engineering for safer and faster production.

The system provides advantages for all areas of its applications, where boreholes would require the time consuming drilling with casing systems in unconsolidated or cohesive soil.





Features and Advantages

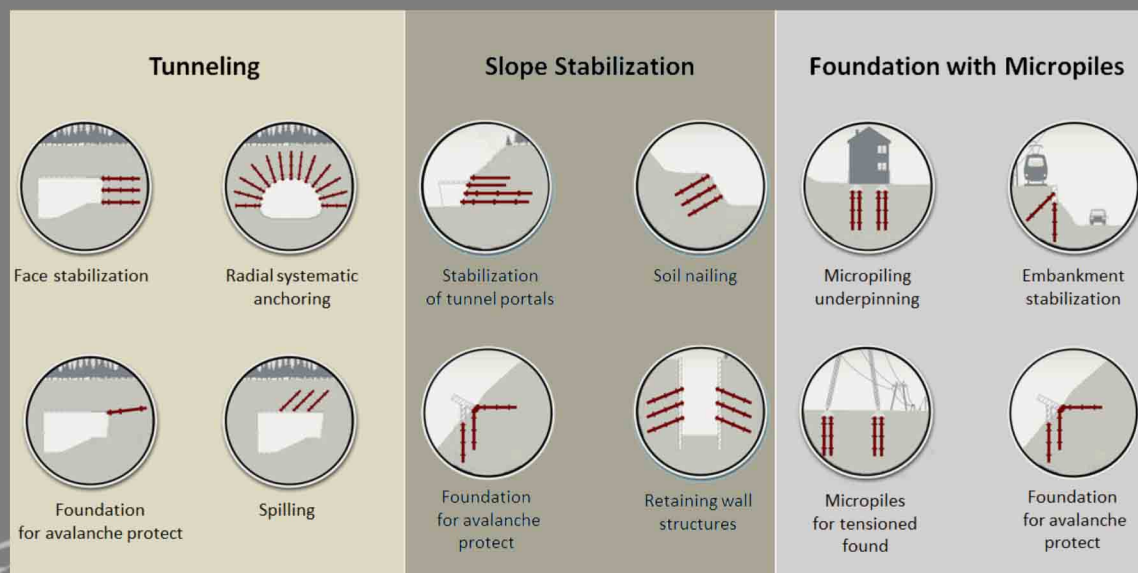


Particularly suitable for difficult ground conditions.

- A high rate of installation since drilling, placing and grouting can be performed in one single operation.
- Self drilling system eliminates the requirement for a cased borehole.
- Installation with simultaneous drilling and grouting possible.
- Easy installation in all directions, also upwards.
- Suitable for working in limited space, height and in areas of difficult access.
- Simple post grouting system.
- Hot-dipped galvanizing for corrosion protection.



Applications



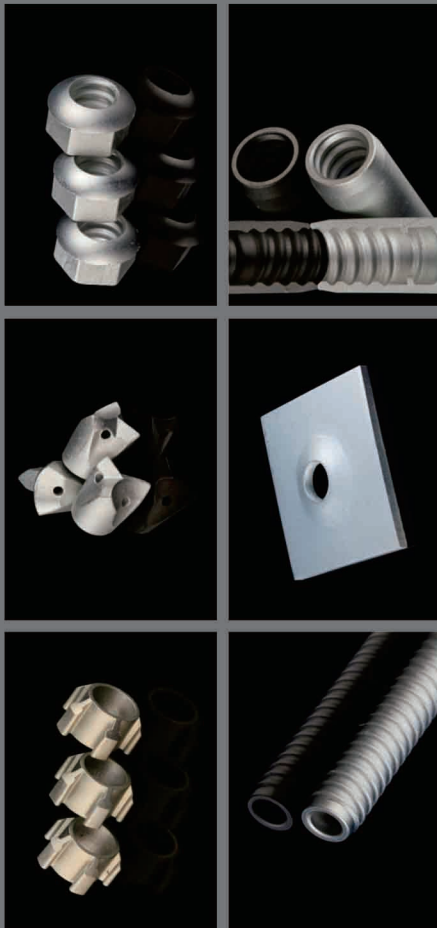
T30 Self Drilling Anchor System



T30/16

T30/14


T30/11




SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.



T30 Technical Data

	Anchor Bar	T30/16	T30/14	T30/11
	Outside Diameter (mm)	30	30	30
	Internal Diameter (mm)	16	14	11
	Cross Sectional Area (mm ²)	343	356	406
	Ultimate Load (kN)	220	260	320
	Yield Load (kN)	180	220	260
	Weight (kg/m)	2.70	2.80	3.25
	Thread Type	T International Standard		
	Type of Steel	EN10083- 1		
	Thread (Left / Right Hand)	Left or Right		
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6, x 7, x 8, x 9, x 10		
	Options of Anti -Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007		

	Anchor Nut	T30/16	T30/14	T30/11
	Key Size (mm)	46		
	Length (mm)	35		
	Hardness(HRC)	25 - 30 (*)		
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.		
	Thread Type	T International Standard		
	Type of Steel	CK45		
	Unit Weight (kg)	0.36		
	Thread (Left / Right Hand)	Left or Right		
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007		

	Anchor Plate	T30/16	T30/14	T30/11
	Size (mm)	200 x 200		
	Thickness (mm)	8		
	Hole Diameter (mm)	36		
	Unit Weight (kg)	2.46		
	Options of Anti -Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007		



Anchor Coupling	T30/16	T30/14	T30/11
Outside Diameter (mm)	38		
Length (mm)	105		
Hardness (HRC)	23- 30(*)		
	* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.		
Thread Type	T International Standard		
Type of Steel	EN10083-1		
Unit Weight (kg)	0.42		
Thread (Left / Right Hand)	Left or Right		
Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007		



Centralizer	T30/16	T30/14	T30/11
Outside Diameter (mm)	88		
Length (mm)	37		
Hole Diameter (mm)	36		
Type of Steel	CK45		
Unit Weight (kg)	0.27		

T30
Drill Bit



EX



EXX




ESF



ESSF

	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC button bit for medium rock formations
Outside Diameter (mm) / Unit Weight (kg)	D42/0.30 D46/0.32 D51/0.40 D76/0.56	D42/0.30 D46/0.32 D51/0.40	D42/0.30 D46/0.32 D51/0.40	D46/0.45 D51/0.69
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89
Thread Type	T International Standard			
Type of Steel	En10083-1			
Thread (Left/ RightHand)	Left or Right			

T30 Drill Bit			
			
	EW	EC	ECC
	Clay bit for clay, sand, loose ground & fill	Hardened arching bit for unconsolidated soil with small boulders	TC arching bit for soft to medium rock formations
Outside Diameter (mm) / Unit Weight (kg)	D76/0.56 D90/0.90	D51/0.36	D51/0.40
Hardness(HRC/HRA)	43-48	43-48	87-89
Thread Type	T International Standard		
Type of Steel	EN10083-1		
Thread (Left/ RightHand)	Left or Right		

	Drill Bit Adapter	T30
	Anchor Bar Thread	T30
	Drill Bit Thread	R38 or T40
	Length(mm)	50
	Unit Weight (kg)	0.10

T40 Self Drilling Anchor System



T40/20


T40/16




SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.





T40 Technical Data

	Anchor Bar	T40/20	T40/16
	Outside Diameter (mm)	40	40
	Internal Diameter (mm)	20	16
	Cross Sectional Area (mm ²)	713	910
	Ultimate Load (kN)	540	660
	Yield Load (kN)	430	525
	Weight (kg/m)	5.60	7.15
	Thread Type	T International Standard	
	Type of Steel	EN10083-1	
	Thread (Left / Right Hand)	Left or Right	
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Nut	T40/20	T40/16
	Key Size (mm)	65	
	Length (mm)	50	
	Hardness (HRC)	25-30(*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	T International Standard	
	Type of Steel	CK45	
	Unit Weight (kg)	0.85	
	Thread (Left / Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	


	Anchor Plate	T40/20	T40/16
	Size (mm)	200 x 200	200 x 200
	Thickness (mm)	12	15
	Hole Diameter (mm)	54	54
	Unit Weight (kg)	3.50	4.58
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Coupling	T40/20	T40/16
	Outside Diameter (mm)	54	57
	Length (mm)	140	
		23-30(*)	
	Hardness (HRC)	* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	T International Standard	
	Type of Steel	EN10083-1	
	Unit Weight (kg)	1.15	1.54
	Thread (Left /Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Centralizer	T40
	Outside Diameter (mm)	88
	Length (mm)	43
	Hole Diameter (mm)	52
	Type of Steel	CK45
	Unit Weight (kg)	0.40

T40 Drill Bit				
	EX	EXX	ESF	ESSF
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC button bit for medium rock formations
Outside Diameter (mm) / Unit Weight (kg)	D76/0.90 D90/1.50 D100/1.65 D115/2.60	D76/1.20 D90/1.75 D100/2.00 D115/2.80 D130/3.10 D150/5.00	D76/1.15 D90/1.68 D110/2.15 D115/2.30 D130/3.15	D70/1.78 D76/1.40 D90/1.85 D100/2.00 D115/2.80 D130/4.92
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89
Thread Type	T International Standard			
Type of Steel	EN10083-1			
Thread (Left / Right Hand)	Left or Right			

T40 Drill Bit			
	EW	EC	ECC
	Claybit for clay, sand, loose ground & fill	Hardened arching bit for unconsolidated soil with small boulders	TC arching bit for soft to medium rock formations
Outside Diameter (mm) / Unit Weight (kg)	D90/0.87 D130/1.75 D150/2.32	D90/1.45 D115/2.88	D90/1.55 D100/1.66 D115/2.95
Hardness (HRC/HRA)	43-48	50-55	87-89
Thread Type	T International Standard		
Type of Steel	EN10083-1		
Thread (Left / Right Hand)	Left or Right		

	Drill Bit Adapter	T40
	Anchor Bar Thread	T40
	Drill Bit Thread	R51 or T52or T73 or T76
	Length(mm)	50
	Unit Weight (kg)	0.20

T52 Self Drilling Anchor System




T52/26




SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.





T52 Technical Data

	Anchor Bar	T52/26
	Outside Diameter (mm)	52
	Internal Diameter (mm)	26
	Cross Sectional Area (mm ²)	1250
	Ultimate Load (kN)	929
	Yield Load (kN)	730
	Weight (kg/m)	9.90
	Thread Type	T International Standard
	Type of Steel	EN10083-1
	Thread (Left / Right Hand)	Left or Right
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007


	Anchor Nut	T52/26
	Key Size (mm)	80
	Length (mm)	70
	Hardness (HRC)	25-30(*)
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.
	Thread Type	T International Standard
	Type of Steel	EN10083-1
	Unit Weight (kg)	2.35
	Thread (Left / Right Hand)	Left or Right
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

	Anchor Plate	T52/26
	Size (mm)	220 x 220
	Thickness (mm)	35
	Hole Diameter (mm)	65
	Unit Weight (kg)	12.10
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

	Anchor Coupling	T52/26
	Outside Diameter (mm)	70
	Length (mm)	160
	Hardness (HRC)	23-30(*) * In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.
	Thread type	T International Standard
	Type of Steel	EN10083-1
	Unit Weight (kg)	2.30
	Thread (Left / Right Hand)	Left or Right
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

	Centralizer	T52/26
	Outside Diameter (mm)	112
	Length (mm)	55
	Hole Diameter (mm)	68
	Type of Steel	CK45
	Unit Weight (kg)	1.20

T52 Drill Bit	    				
	EX	EXX	ESD	ESSF	EW
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC button bit for medium rock formations	Hardened cross bit for loose to medium dense ground conditions
Outside Diameter (mm) / Unit Weight (kg)	D115/2.60	D115/2.60 D130/2.80 D150/4.50	D115/2.10	D100/2.50 D115/3.70	D130/1.85 D150/2.40
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89	43-48
Thread Type	T International Standard				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

	Drill Bit Adapter	T52/26
	Anchor Bar Thread	T52
	Drill Bit Thread	T73 or T76
	Length (mm)	50
	Unit Weight (kg)	0.60

T73 Self Drilling Anchor System



T73/53

T73/56

T73/45


T73/35




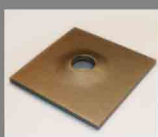
SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.





T73 Technical Data

	AnchorBar	T73/53	T73/56	T73/45	T73/35
	Outside Diameter (mm)	73	73	73	73
	Internal Diameter (mm)	53	56	45	35
	Cross Sectional Area (mm ²)	1680	1369	2267	2700
	Ultimate Load (kN)	1160	1194	1588	1875
	Yield Load (kN)	970	785	1270	1430
	Weight (kg/m)	13.20	10.75	17.80	21.20
	Thread Type	T International Standard			
	Type of Steel	EN10083- 1			
	Thread (Left / Right Hand)	Left or Right			
	Length (m)	(1) x 2, x 3, x 4			
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007			


	Anchor Nut	T73/53	T73/56	T73/45	T73/35
	Key Size (mm)	95			
	Length (mm)	70			
	Hardness (HRC)	25-30 (*)			
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.			
	Thread Type	T International Standard			
	Type of Steel	CK45			
	Unit Weight (kg)	2.20			
	Thread (Left / Right Hand)	Left or Right			
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007			

	Anchor Plate	T73/53	T73/56	T73/45	T73/35
	Size (mm)	250 x 250			
	Thickness (mm)	40	40	40	40
	Hole Diameter (mm)	80	80	80	80
	Unit Weight (kg)	18	18	18	18
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007			

	Anchor Coupling	T73/53	T73/56	T73/45	T73/35
	Outside Diameter (mm)	89			
	Length (mm)	235			
	Hardness (HRC)	23-30 (*)			
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.			
	Thread Type	T International Standard			
	Type of Steel	EN10083-1			
	Unit Weight (kg)	4.3			
	Thread (Left / Right Hand)	Left or Right			
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007			

	Centralizer	T73
	Outside Diameter (mm)	130
	Length (mm)	80
	Hole Diameter (mm)	87
	Type of Steel	CK45
	Unit Weight (kg)	1.20

T73 Drill Bit					
	EX	EXX	ESD	ESSF	EW
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC button bit for medium rock formations	Hardened cross bit for loose to medium dense ground conditions
Outside Diameter (mm) / Unit Weight (kg)	D130/3.30 D170/5.50	D130/4.20 D150/5.70 D200/10.00	D130/4.90	D110/3.85 D130/6.90	D130/2.80 D150/2.90
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89	43-48
Thread Type	T International Standard				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

	Drill Bit Adapter	T73
	Anchor Bar Thread	T73
	Drill Bit Thread	T103
	Length(mm)	50
	Unit Weight (kg)	1.30

T76 Self Drilling Anchor System



T76N

T76S




SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.




T76 Technical Data

	Anchor Bar	T76N	T76S
	Outside Diameter (mm)	76	76
	Internal Diameter (mm)	51	45
	Cross Sectional Area (mm ²)	2000	2400
	Ultimate Load (kN)	1600	1900
	Yield Load (kN)	1200	1500
	Weight (kg/m)	16.50	19
	Thread Type	T International Standard	
	Type of Steel	EN10083-1	
	Thread (Left / Right Hand)	Left or Right	
	Length (m)	(1) x 2, x 3, x 4	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Nut	T76N	T76S
	Key Size (mm)	100	
	Length (mm)	80	
	Hardness (HRC)	25-30(*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	T International Standard	
	Type of Steel	CK45	
	Unit Weight (kg)	2.66	
	Thread (Left / Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Plate	T76N	T76N
	Size (mm)	250 x 250	
	Thickness (mm)	40	
	Hole Diameter (mm)	80	
	Unit Weight (kg)	26.80	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Coupling	T76N	T76S
	Outside Diameter (mm)	95	95
	Length (mm)	200	220
	Hardness (HRC)	23-30(*)	
	Thread Type	T International Standard	
	Type of Steel	EN10083-1	
	Unit Weight (kg)	4.30	5.35
	Thread (Left / Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

T76 Drill Bit					
	EX	EXX	ESD	ESSF	EW
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC button bit for medium rock formations	Hardened cross bit for loose to medium dense ground conditions
Outside Diameter (mm) / Unit Weight (kg)	130/3.30 170/5.50	130/4.60 150/5.70 200/10.00	130/4.90 170/7.00	120/3.65 130/6.30 150/6.60	130/2.60 150/2.70
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89	43-48
Thread Type	T International Standard				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

T103 Self Drilling Anchor System



T103/78


T103/51




SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.





T103 Technical Data

	Anchor Bar	T103/78	T103/51
	Outside Diameter (mm)	103	103
	Internal Diameter (mm)	78	51
	Cross Sectional Area (mm ²)	3220	5680
	Ultimate Load (kN)	2280	3460
	Yield Load (kN)	1800	2730
	Weight (kg/m)	25.3	44.6
	Thread Type	T International Standard	
	Type of Steel	EN10083-1	
	Thread (Left / Right Hand)	Continuously right hand threaded	
	Length (m)	(1) x 2, x 3, x 4	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

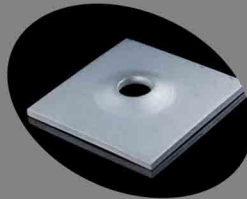
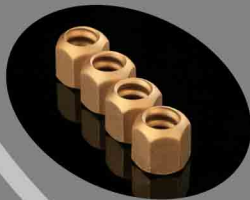
	Anchor Nut	T103/78	T103/51
	Key Size (mm)	125	
	Length (mm)	80	
	Hardness (HRC)	25-30 (*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	T International Standard	
	Type of Steel	CK45	
	Unit Weight (kg)	3.42	
	Thread (Left / Right Hand)	Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Plate	T103/78	T103/51
	Size (mm)	300 x 300	
	Thickness (mm)	50	50
	Hole Diameter (mm)	110	110
	Unit Weight (kg)	32.6	32.6
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Coupling	T103/78	T103/51
	Outside Diameter (mm)	123	
	Length (mm)	255	
	Hardness (HRC)	23-30 (*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	T International Standard	
	Type of Steel	EN10083- 1	
	Unit Weight (kg)	7.45	
	Thread (Left / Right Hand)	Right	
Options of Anti-Corrosion		Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Centralizer	T103
	Outside Diameter (mm)	165
	Length (mm)	80
	Hole Diameter (mm)	110
	Type of Steel	CK45
	Unit Weight (kg)	2.93

T103 Drill Bit	 EXX	 ESSF	 EW
	TC cross bit for soft to medium rock formations	TC button bit for medium rock formations	Hardened cross bit for loose to medium dense ground conditions
Outside Diameter (mm) / Unit Weight (kg)	D175/7.66	D175/11.12	D220/12.5 D280/13.5
Hardness (HRC/HRA)	87-89	87-89	43-48
Thread Type	T International Standard		
Type of Steel	EN10083-1		
Thread (Left / Right Hand)	Right		





R25 Self Drilling Anchor System

SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.




R25 Technical Data


	Anchor Bar	R25N
	Outside Diameter (mm)	25
	Internal Diameter (mm)	14
	Cross Sectional Area (mm ²)	292
	Ultimate Load (kN)	200
	Yield Load (kN)	150
	Weight (kg/m)	2.30
	Thread Type	ISO10208
	Type of Steel	EN10083 -1
	Thread (Left / Right Hand)	Left or Right
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6, x 7, x 8, x 9, x 10
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

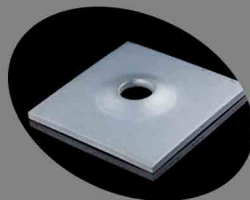
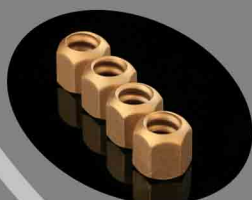
	Anchor Nut	R25N
	Key Size (mm)	41
	Length (mm)	35
		25-30(*)
	Hardness (HRC)	* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.
	Thread Type	ISO10208
	Type of Steel	CK45
	Unit Weight (kg)	0.25
	Thread (Left / Right Hand)	Left or Right
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

	Anchor Plate	R25
	Size (mm)	150 x 150
	Thickness (mm)	8
	Hole Diameter (mm)	30
	Unit Weight (kg)	1.40
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

	Anchor Coupling	R25
	Outside Diameter (mm)	36
	Length (mm)	150
	Hardness(HRC)	23-30(*)
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.
	Thread Type	ISO10208
	Type of Steel	EN10083-1
	Unit Weight (kg)	0.60
	Thread (Left / Right Hand)	Left or Right
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007

R25 Drill Bit				
	EX	EXX	ESF	ESSF
	Hardened ross Bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC Button bit for medium rock formations
Outside Diameter (mm) / Unit Weight (kg)	42/0.30 51/0.40	42/0.30 51/0.42	42/0.25 51/0.42	42/0.30 51/ 0.42
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89
Thread Type	ISO10208			
Type of Steel	EN10083-1			
Thread (Left / Right Hand)	Left or Right			

	Drill Bit Adapter	R25
	Anchor Bar Thread	R25
	Drill Bit Thread	R32 / R38 / T40
	Length (mm)	50
	Unit Weight (kg)	0.10




R32 Self Drilling Anchor System


SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.

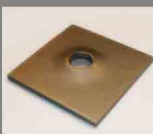






R32 Technical Data

	Anchor Bar	R32L	R32N/21	R32N/18.5	R32S	R32SS
	Outside Diameter (mm)	32				
	Internal Diameter (mm)	22	20	18.5	17	14
	Cross Sectional Area (mm ²)	356	363	433	440	522
	Ultimate Load (kN)	260	280	280	360	405
	Yield Load (kN)	200	230	230	280	300
	Weight (kg/m)	2.80	2.85	3.40	3.45	4.10
	Thread Type	ISO10208				
	Type of Steel	EN10083 - 1				
	Thread (Left / Right Hand)	Left or Right				
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6, x 7, x 8, x 9				
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007				

	Anchor Nut	R32L	R32N/21	R32N/18.5	R32S	R32SS
	Key Size (mm)	46				
	Length (mm)	45	45	45	65	65
	Hardness (HRC)	25-30(*)				
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.				
	Thread Type	ISO10208				
	Type of Steel	CK45				
	Unit Weight (kg)	0.35	0.35	0.35	0.53	0.53
	Thread (Left / RightHand)	Left or Right				
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007				


	Anchor Plate	R32L	R32N/21	R32N/18.5	R32S	R32SS
	Size (mm)	200 x 200				
	Thickness (mm)	10	10	10	12	12
	Hole Diameter (mm)	35				
	Unit Weight (kg)	3.00	3.00	3.00	3.30	3.30
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007				

	Anchor Coupling	R32L	R32N/21	R32N/18.5	R32S	R32SS
	Outside Diameter (mm)	42				
	Length (mm)	145	160	160	190	190
	Hardness(HRC)	23-30(*)				
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.				
	Thread Type	ISO10208				
	Type of Steel	EN10083-1				
	Unit Weight (kg)	0.72	0.80	0.80	0.96	0.96
	Thread (Left / Right Hand)	Left or Right				
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007				

	Centralizer	R32L	R32N/21	R32N/18.5	R32S	R32SS
	Outside Diameter (mm)	72				
	Length (mm)	30				
	Hole Diameter (mm)	41				
	Type of Steel	CK45				
	Unit Weight (kg)	0.30				

R32 Drill Bit					
	EX	EXX	ESF	ESSF	EW
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders	TC button bit for medium rock formations	ClayBit for Clay, Sand, Loose Ground & Fill
Outside Diameter (mm) / Unit Weight (kg)	D51/0.35 D76/0.75 D90/1.60	D51/0.40 D76/1.20 D90/2.30	D51/0.42 D76/1.25	D51/0.47 D76/1.60 D90/1.90	D76/0.55 D90/1.06
Hardness (HRC/HRA)	50-55	87-89	50-55	87-89	43-48
Thread Type	ISO10208				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

R32 Drill Bit				
	EC	ECC	EY	EYY
	Hardened arching bit for unconsolidated soil with small boulders	TC arching bit for soft to medium rock formations	Hardened drop centre bit for fills	TC drop centre bit for Competent Ground & Strong Rock
Outside Diameter (mm) / Unit Weight (kg)	D51/0.35 D76/1.16	D51/0.40 D76/0.85	D76/0.97 D90/1.35	D76/0.95 D90/1.40
Hardness (HRC/HRA)	43-48	87-89	50-55	87-89
Thread Type	ISO10208			
Type of Steel	EN10083-1			
Thread (Left / Right Hand)	Left or Right			

	Drill Bit Adapter	R32
	Anchor Bar Thread	R32
	Drill Bit Thread	R38 / R51 / T40 / T52
	Length(mm)	50
	Unit Weight (kg)	0.10





R38 Self Drilling Anchor System

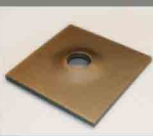
SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.





R38 Technical Data

	Anchor Bar	R38N/21	R38N/19
	Outside Diameter (mm)	38	38
	Internal Diameter (mm)	22	19
	Cross Sectional Area (mm²)	611	700
	Ultimate Load (kN)	500	500
	Yield Load (kN)	400	400
	Weight (kg/m)	4.80	5.50
	Thread Type	ISO10208	
	Type of Steel	EN10083- 1	
	Thread (Left / Right Hand)	Left or Right	
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Nut	R38N/21	R38N/19
	Key Size (mm)	50	
	Length (mm)	60	
	Hardness (HRC)	25-30(*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	ISO10208	
	Type of Steel	CK45	
	Unit Weight (kg)	0.50	
	Thread (Left / Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	


	Anchor Plate	R38N/21	R38N/19
	Size (mm)	200 x 200	
	Thickness (mm)	12	
	Hole Diameter (mm)	41	
	Unit Weight (kg)	3.60	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

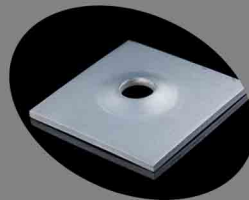
	Anchor Coupling	R38N/21	R38N/19
	Outside Diameter (mm)	52	
	Length (mm)	220	
	Hardness (HRC)	23-30(*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	ISO10208	
	Type of Steel	EN10083-1	
	Unit Weight (kg)	1.80	
	Thread (Left / Right Hand)	Left or Right	
Options of Anti-Corrosion		Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Centralizer	R38N/21	R38N/19
	Outside Diameter (mm)	72	
	Length (mm)	41	
	Hole Diameter (mm)	50	
	Type of Steel	CK45	
	Unit Weight (kg)	0.30	

R38 Drill Bit	    				
	EX	EXX	ESF	ESD	ESSF
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders		TC button bit for medium rock formations
Outside Diameter (mm) / Unit Weight (kg)	D76/0.75 D90/1.55 D100/1.80	D76/1.06 D90/1.80 D100/1.80	D76/1.15 D90/1.54 D100/2.00	D115/2.30	D76/1.10 D90/1.85 D100/2.70 D115/3.60
Hardness (HRC/HRA)	50-55	87-89	50-55	50-55	87-89
Thread Type	ISO10208				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

R38 Drill Bit					
	EW	EC	ECC	EY	EYY
	Claybit for clay, sand, loose ground & fill	Hardened arching bit for unconsolidated soil with small boulders	TC arching bit for soft to medium rock formations	Hardened drop centrebit for fills	TC drop centre bit for competent Ground & strong rock
Outside Diameter (mm) / Unit Weight (kg)	D76/0.73 D90/0.83 D100/1.00 D110/1.15 D115/1.00 D130/1.80 D150/2.80	D76/1.15 D90/1.50 D115/2.60	D76/1.15 D90/1.60 D110/2.45 D115/2.80	D76/0.85 D90/1.10 D130/2.75	D76/1.05 D90/1.30 D115/2.15
Hardness (HRC/HRA)	43-48	43-48	87-89	50-55	87-89
Thread Type	ISO10208				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

	Drill Bit Adapter	R38
	Anchor Bar Thread	R38
	Drill Bit Thread	R51 / T52 / T73 / T76
	Length(mm)	50
	Unit Weight (kg)	0.20





R51 Self Drilling Anchor System

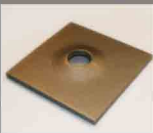
SupAnchor® high quality self drilling rock anchor has two performances: drilling and grouting. It features a hollow bore for flushing, or simultaneous drilling and grouting.





R51 Technical Data

	Anchor Bar	R51L	R51N
	Outside Diameter (mm)	51	51
	Internal Diameter (mm)	36	33
	Cross Sectional Area (mm ²)	713	993
	Ultimate Load (kN)	550	800
	Yield Load (kN)	450	630
	Weight (kg/m)	6.30	7.80
	Thread Type	ISO 1720	
	Type of Steel	EN10083-1	
	Thread (Left / Right Hand)	Left or Right	
	Length (m)	(1) x 2, x 3, x 4, x 5, x 6	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Nut	R51L	R51N
	Key Size (mm)	75	
	Length (mm)	70	
	Hardness (HRC)	25-30(*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	ISO 1720	
	Type of Steel	CK45	
	Unit Weight (kg)	1.50	
	Thread (Left / Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	


	Anchor Plate	R51L	R51N
	Size (mm)	200 x 200	250 x 250
	Thickness (mm)	30	40
	Hole Diameter (mm)	60	60
	Unit Weight (kg)	8.80	18.50
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Anchor Coupling	R51L	R51N
	Outside Diameter (mm)	63	
	Length (mm)	140	200
	Hardness (HRC)	23-30(*)	
		* In a certain range, tensile strength increases in proportion to hardness. For couplers or nuts, it's important to make sure the fitting capacity with bars must reach bar's capacity itself. Through hundreds of rounds of testing, SupAnchor sets up a lab standard which is HRC 23 – 30 for couplers and HRC 25 – 30 for nuts. SupAnchor's products have achieved 100% safe application over 15 years.	
	Thread Type	ISO1720	
	Type of Steel	EN10083-1	
	Unit Weight (kg)	1.26	1.90
	Thread (Left / Right Hand)	Left or Right	
	Options of Anti-Corrosion	Epoxy Coating Hot-dipped Galvanization: Standard ISO 1461 Bending property: Standard ISO 1519 Impact property: Standard ASTM D 2794 Adhesion: Standard ISO 2409:2007	

	Centralizer	R51L	R51N
	Outside Diameter (mm)	90	
	Length (mm)	54	
	Hole Diameter (mm)	60	
	Type of Steel	CK45	
	Unit Weight (kg)	0.36	

R51 Drill Bit					
	EX	EXX	ESF	ESD	ESSF
	Hardened cross bit for loose to medium dense ground conditions	TC cross bit for soft to medium rock formations	Hardened button bit for unconsolidated rock with boulders		Hardened button bit for unconsolidated rock with boulders
Outside Diameter (mm) / Unit Weight (kg)	D90/1.60 D115/2.50	D90/1.75 D100/2.50 D115/2.80 D130/4.00 D150/5.50	D90/1.35(ESF) D100/1.50(ESF) D115/2.10 (ESD)		D90/1.90 D100/2.40 D115/3.50 D130/5.00 D150/6.20
Hardness (HRC/HRA)	50-55	87-89	50-55		87-89
Thread Type	ISO 1720				
Type of Steel	EN10083-1				
Thread (Left / RightHand)	Left or Right				

R51 Drill Bit					
	EW	EC	ECC	EY	EYY
	Claybit for clay, sand, loose ground & fill	Hardened arching bit for unconsolidated soil with small boulders	TC arching bit for soft to medium rock formations	Hardened drop centrebit for fills	TC drop centre bit for competent ground & strong rock
Outside Diameter (mm) / Unit Weight (kg)	D130/1.85 D150/2.40	D115/2.30	D115/2.70	D115/2.10	D115/2.20
Hardness (HRC/HRA)	43-48	43-48	87-89	50-55	87-89
Thread Type	ISO 1720				
Type of Steel	EN10083-1				
Thread (Left / Right Hand)	Left or Right				

	Drill Bit Adapter	R51
	Anchor Bar Thread	R51
	Drill Bit Thread	T73 or T76
	Length(mm)	50
	Unit Weight (kg)	0.20

SupFRP™

Self Drilling Rock Bolt System

Due to its cuttability SupFRP™ Self Drilling Rock Bolt is an economical alternative and also offers enormous advantages for modern rapid heading methods in tunneling. Furthermore the cuttability protects the machinery and avoids obstructions while drifting or enlarging tunnels.

The rock bolt has a high radial pressure resistance for injections with resins or grout and is corrosion resistant for permanent support.



The SupFRP™ offers a high tensile strength and can carry high loads. Its low weight with high torsional strength makes the bolt well suited for works in loose rock up to a maximum hardness of 60–70 Mpa .





ADVANTAGES



- **Super high torque resistance**

- **High End Loading**

The special **SupFRP™** thread profile and an optimized matching between bolt thread and nut thread ensure high end loads that can almost reach the level of steel anchor systems.

- **Easy Handling**

- **Flexibility**

The high flexibility of **SupFRP™** is well suited for applications without couplings in confined locations.

- **R25/R28/R32/R38 standard thread profile**



APPLICATIONS

- **Face stabilization**
- **Forepoling**
- **Slope stabilization**
- **Ground support in soft rock**
- **Systematic rock bolting**



SDA Bar Technical Data



FRPSDA Bar		H25S	H28S	H32S	H38S
Outside Diameter (mm)		25	28	32	38
Internal Diameter (mm)		12	14	15	20
Cross Sectional Area (mm ²)		295	369	521	692
Ultimate Load (kN)		220	280	365	550
Breaking Load Thread	Steel Nut L= 70 mm	140	150	230	280
	FPRNut L=70 mm	70	70	80	80
Torsion Strength (N/m)		180	250	400	450
Ultimate Strain		2.5%			
Bending E-Modulus (GPa)		45	45	45	45
Weight (kg/m)		0.63	0.86	0.99	1.33
Thread Type		R25	R28	R32	R38
E-Glass		75%			
Thread (Left / Right Hand)		Left or Right			
Length (m)		(1)x 2, x 3, x 4, x 5, x 6, x 7, x 8, x 9, x 10, x 11, x 12			

SupFRP™ Hollow Rock Bolt System

The SupFRP™ Hollow Rock bolt was developed for strata support in mining and tunnelling as well as for slope and face stabilization.

Due to its continuous thread the bolt can be trimmed if needed. The bolt has a high ultimate load and due to its profile it offers a maximum bondage with all grouting materials. The cuttability protects machinery and equipment and prevents damage to machinery while drifting and enlarging tunnels. The bolt has a high corrosion resistance and is well suited for permanent support.



The high flexibility is well suited for application without couplings in confined locations. Due to its high tensile strength the bolt has a high and immediate load bearing capacity if applied with fast setting resin capsules. The low weight facilitates handling.





Features and Advantages



- High corrosion resistance
- Permanent application
- Cuttability
- Continuous threaded bar
- High tensile strength
- High end loading
- Flexibility
- Low weight
- Easy handling



Applications

- Permanent support
- Temporary application
- Application without coupling in confined locations
- Cementious grout, resin capsules
- Injection of resin



Hollow Bar Technical Data



Hollow Bar		H25S	H28S	H32S	H38S
Outside Diameter (mm)		25	28	32	38
Internal Diameter (mm)		12	14	14	20
Cross Sectional Area (mm²)		295	369	544	692
Ultimate Load (kN)		250	350	460	600
Breaking Load Thread	Steel Nut L= 100mm	180	200	230	280
	FPRNut L=70 mm	70	80	80	80
Torsion Strength (N/m)		70	70	180	180
Ultimate Strain		2.5%			
Bending E-Modulus (GPa)		40	40	40	40
Weight (kg/m)		0.64	0.88	1.18	1.35
Thread Type		R25	R28	R32	R38
E-Glass		75%			
Thread (Left / Right Hand)		Left or Right			
Length (m)		(1) x 2, x 3, x 4, x 5, x 6, x 7, x 8, x 9, x 10, x 11, x 12			

SupFRP™ Solid Rock Bolt System

The SupFRP™ is a system of FRP rock bolts with advanced strength and head load. It was developed for strata support in mining and tunneling as well as for slope and face stabilization. The bolts thread profiles can be trimmed if needed.

The products have a high ultimate load and due to their profile they offer a maximum bondage with all grouting material.



The cutting ability protects machinery and equipment and prevents damage while drifting and enlarging tunnels.

The bolts have a high corrosion resistance under acid conditions and are well suited for permanent support. The improved flexibility of long tendons is well suited for application without couplings in confined locations. Due to its high tensile strength the bolt has a high and immediate load bearing capacity if applied with fast setting resin capsules. The low weight facilitates handling.





ADVANTAGES



- High corrosion resistance
- Cuttability
- Continuous threaded bar
- High tensile strength
- High end loading
- Flexibility
- Low weight
- Easy handling
- Anti-static coating (optionally)



APPLICATIONS

- Permanent support
- Temporary application
- Application without coupling in confined locations
- Cementious grout, resin capsules



Solid Bar TECHNICAL DATA



Solid Bar		S18	S20	S22	S25	S27	S30	S32
Outside Diameter (mm)		18	20	22	25	27	30	32
Cross Sectional Area (mm ²)		196	249	308	408	483	607	697
Ultimate Load (kN)		150	200	250	350	400	490	560
Breaking Load Thread	Steel Nut L= 100 mm	70	80	100	180	200	200	320
	FPR Nut L=70 mm	60	60	70	80	80	80	90
Torsion Strength (N/m)		60	70	70	120	130	180	230
Ultimate Strain		2.5%						
Bending E-Modulus (GPa)		40	40	40	40	40	40	40
Weight (kg/m)		0.42	0.56	0.69	0.90	1.04	1.30	1.45
Length (m)		(1) x 2, x 3, x 4, x 5, x 6, x 7, x 8, x 9, x 10, x 11, x 12						

Swell Friction Rock Bolt System

SupHulk™ Swell Friction Bolts are used for the strengthening of rocks in mining and tunneling construction.

The bonding to the rock results from the friction which is formed between the extended bolt and the rock.

Friction bolts can be subjected to the full load directly after they have been positioned and are immediately able to absorb the rock movements.

The carrying force is applied along the complete length of the inserted bolt.



Premium Line (PM)

The Premium Line is a typical tunneling bolt, with a high yield load and good deformability. PM rock bolts can also be used in mining when low to medium stress conditions require a stiff SupHulk™ rock bolt with a high yield load.





Features

The **SupHulk™** Rock Bolt is sealed at one extremity; the other extremity is equipped with a special head bushing used for inflation. The expansion of the bolt, inside the borehole, creates a friction and interlocking anchor, which provides full column support and support on the whole length of the borehole.

Due to this anchorage mechanism, the **SupHulk™** bolt can adapt to a wide variety of rock conditions and provides good to excellent anchorage capacity. The steel profile can adapt shear movements without failure.

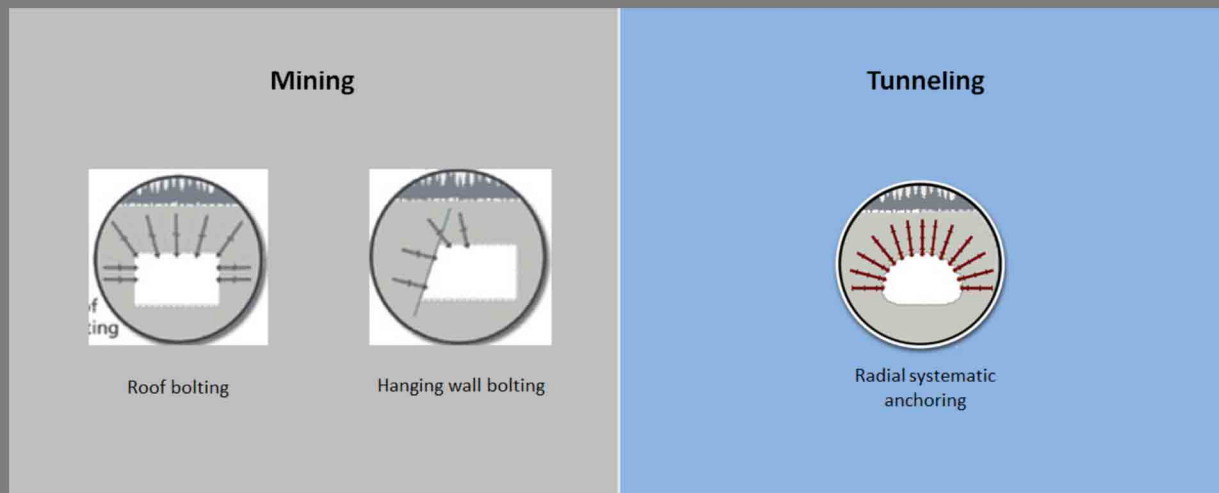


The simplicity of the system can explain its performance. The operator simply drills a hole in the rock, inserts the bolt and then inflates it to a pre-determined pressure using a specially designed inflation system.

The pump stops when reaching the recommended inflation pressure that guarantees the quality of the installation. **SupHulk™** Rock Bolts can easily be pull tested at any time to control performance.

- 1 Net washer for screening.
- 2 Bridges gaps in the rock.
- 3 Allows major shear movements in medium to soft rocks.
- 4 Adaptability to the bore hole's irregularity.
- 5 A 50 cm long inflated bolt can develop 100 kN friction.
- 6 Friction and inter-locking support of the whole length.





Application

SupHulk™ rock bolts are extremely versatile and can be used in various tunneling and mining systems.

An application in tunneling is to use **SupHulk™** as pattern bolts to support an excavation. The bolting pattern depends on the size of the excavation and qualities of the rock mass.

In mining, common applications like roof and hanging wall bolting have adopted **SupHulk™** as a rapid, safe and high-performance device.

With various capacity ranges (110 kN, 160 kN, 240 kN), the **SupHulk™** rock bolts can be used in most reinforcement and support applications. They can also be used either in mines or in civil engineering applications, and their specific mechanical properties will provide the requested safety and performance.



TECHNICAL DATA



SupHulk™ Rock Bolt	PM12	PM16	PM24
Minimum Breathing Load (kN)	110	160	240
Minimum Elongation A5	10%	10%	10%
Minimum Yield Load (kN)	100	130	200
Inflation Water Pressure	300 bar	240 bar	300 bar
Hole Diameter (mm)	32-39	43-52	43-52
Profile Diameter (mm)	27	36	36
Tube Thickness (mm)	2	2	3
Original Tube Diameter (mm)	41	54	54
Upper Bushing Diameter (mm)	28	38	38
Bushing Head Diameter (mm)	30/36	41/48	41/48
Length (m)	Weight (kg)		
1.2	2.5		
1.5	3.1		
1.8	3.7	5.1	7.2
2.1	4.3	5.8	8.4
2.4	4.9	6.7	9.5
3.0	6.0	8.2	10.6
3.3	6.6	8.9	12.9
3.6	7.2	9.7	14.0
4.0	8.0	10.7	15.6
4.5	9.0	12.0	17.4
5.0	9.9	13.3	19.3
6.0	11.9	15.9	23.1



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