SRONS®
ENGINEERS
ROCK BOLTING SOLUTIONS

AN ISO 9001:2015 CERTIFIED CO.

India's 1st SELF DRILLING ANCHOR MANUFACTURER

Since 2016

WEBSITE

GEO TECHNICAL BAR SYSTEM

MADE IN INDIA

Certificate of Compliance

SRONS® ENGINEERS
ROCK BOLTING SOLUTIONS

About Us

Established in 2015 to support the growing demand of our Rock Hardware Products with excellent customer service. Srons Engineers are the Indian manufacturers of Rock Bolts, Self- drilling anchor systems and Self Drilling Anchor Bolt parts like hollow bar & rod, threaded rods, tie rods, coil rods, anchor couplers, anchor adapters, anchor nuts, drilling bits etc. We are also manufacturing High Tensile Precision Fasteners products like Hex Head Bolts and Hex Nuts.

Our manufacturing of hollow self-drilling anchors or SDA Bars has increased progressively to cover the national and international markets due to the competitiveness level reached by our company, latest technology, innovation and the experience made in the tunnel & mining rock bolt field. Srons Engineers is an engineering company committed to deliver high quality rock bolts for tunnel support and slope reinforcement. Because we are a new company, we are able to keep our overheads low and maintain competitive pricing.

Mission & Vision

Srons Engineers's mission is consistent supply of its quality, durable, hi-performance products, we have established ourselves as one of the most reliable players in the industry. Due to our customer centric approach, we are able to provide our customers with best possible solutions to meet their various requirements.

Products Range

Srons Engineers are the Indian manufacturers and exporters of Rock Bolts, Self Drilling Anchor Bolt Systems, Threaded Rods, Thread Bars, Coil Rods, Hollow Rods, Tie Rods, Plain Washers, Flat Washers, Spring Washers, Spring Lock Washers, Fasteners like Hex Nuts, Hex Bolts, Spring Channel Nuts etc. Our products are available in Material like Stainless Steel and Mild Steel and Finish of products like Hot Dip Galvanized & Zinc finish. Our main motto is to worldwide supply quality and safe products.

Enquiry/Query

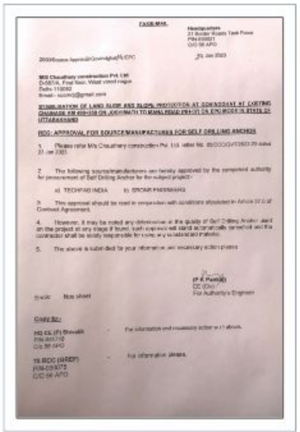
To place an enquiry/query/order or to avail more information about our company and services, you can contact us or e-mail us and we would get back to you as soon as possible.

CERTIFICATES

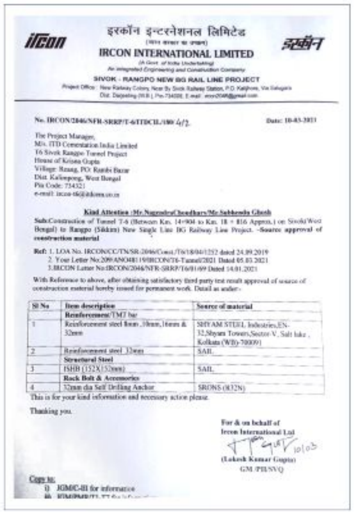

CERTIFICATE
SRONS ENGINEERS
ISO 9001 : 2015
(Quality Management System)


Certificate of Compliance


AEO



RAILWAY APPROVELS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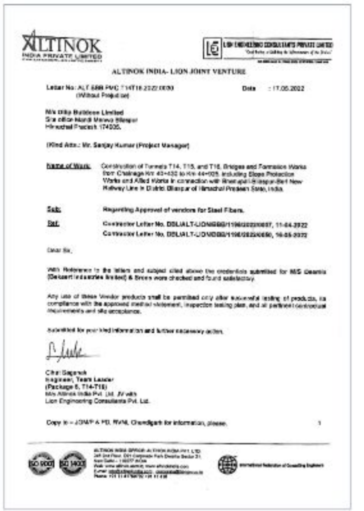
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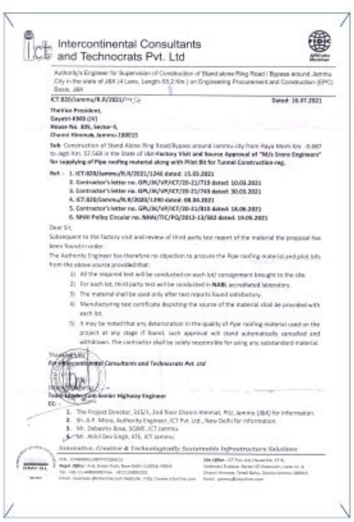
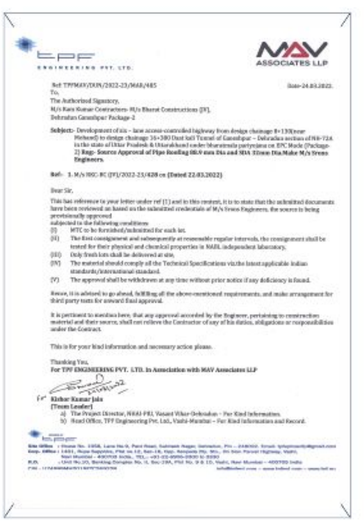
HIGHWAY APPROVELS


Intercontinental Consultants and Technocrats Pvt. Ltd




Intercontinental Consultants and Technocrats Pvt. Ltd

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SELF DRILLING ANCHOR BOLT

The self-drilling Hollow bar anchor system is comprised of a hollow threaded bar with an attached drill bit that can perform drilling, anchoring and grouting in a single operation. The hollow bar allows air and water to freely pass through the bar during drilling to remove debris and then allow grout to be injected immediately after drilling is completed. Grout fills the hollow bar and completely covers the entire bolt. Couplers can be used to join hollow bars and extend the bolt length while nuts and plates are used to provide the required tension.

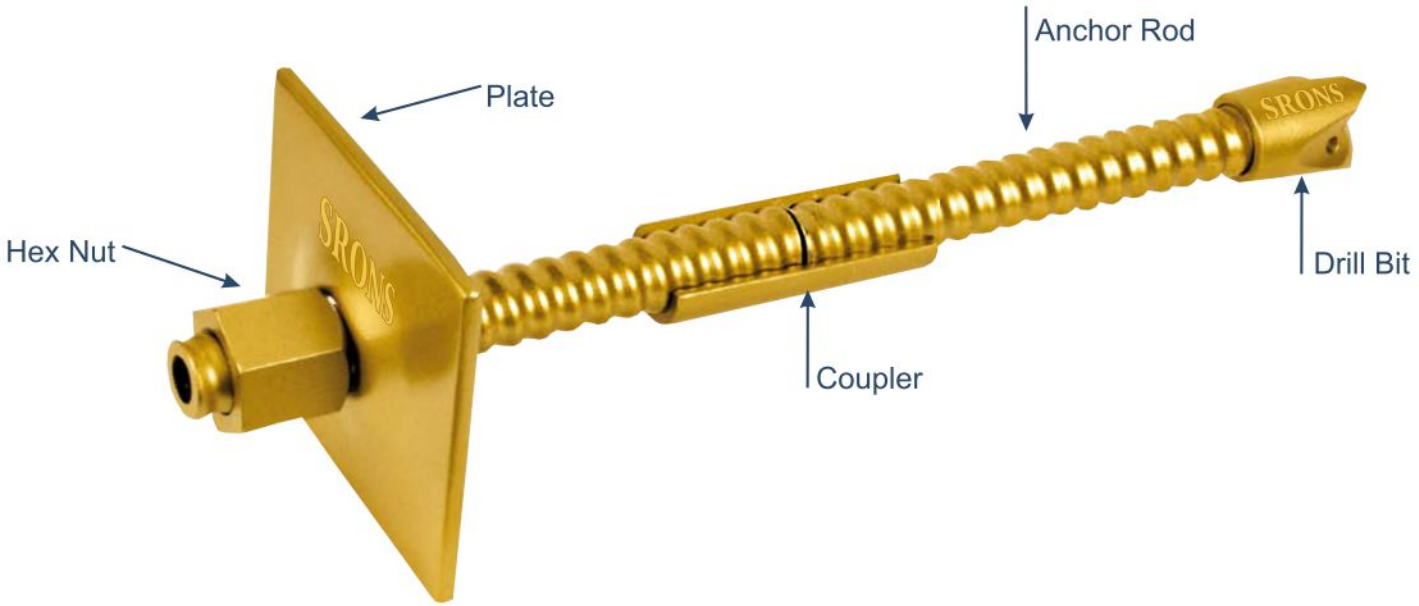
Srons Engineers offers Self Drilling Anchors in variants of R25, R32, R38, R51 and T76 and their accessories including the Anchor Nut, Anchor Plate, Anchor Coupler and Drilling bits depending on the geological condition of the project site (Type EX, EXX, ES, ESS, EY, EYY).

ANCHOR RODS

	Unit	R 25N	R 32L	R 32N	R 32S	R38 N	R51 L	R51 N	T 76N	T 76S
Outer Diameter Key Size	mm	25.00	32.00	32.00	32.00	38.00	51.00	51.00	76.00	76.00
Inner Diameter Length	mm	14.00	22	20	18.5	22.00	36.00	33.00	51.00	47.00
Ultimate Load	kN	200	260	280	360	500	550	800	1600	1900
Yield Load	kN	150	200	230	280	400	450	630	1200	1500
Weight/P.Mtr.	P.Mtr/Kg	2.30	2.6	2.90	3.20	5.10	6.50	8.2	16.50	1900

ANCHOR NUTS

	Unit	R 25N	R 32L	R 32N	R 32S	R38 N	R51 L	R51 N	T 76N	T 76S
Key Size	mm	41	46	46	46	50	75	75	100	100
Length	mm	35	45	45	65	60	70	70	80	80



ANCHOR PLATE

	Unit	R 25N	R 32L	R 32N	R 32S	R38 N	R51 L	R51 N	T 76N	T 76S
Dimension	mm	150x150	200x200	200x200	200x200	200x200	200x200	250x250	250x250	250x250
Thickness	mm	8	10	10	12	12	30	40	40	40
Hole Diameter	mm	30	35	35	35	41	60	60	80	80

ANCHOR COUPLER

	Unit	R 25N	R 32L	R 32N	R 32S	R38 N	R51 L	R51 N	T 76N	T 76S
Outer Dimension	mm	36	42	42	42	52	63	63	95	95
Length	mm	150	145	160	190	220	140	200	200	220

T-SERIES SELF DRILLING ACNHOR

Anchor Bar	T30/16	T30/14	T40/20	T40/16	T40/20	T73/53	T73/56
Outside Diameter (mm)	30	30	40	40	52	73	73
Internal Diameter (mm)	16	14	20	16	26	53	56
Cross Sectional Area (mm)	343	356	713	910	1250	1680	1369
Ultimate Load (kN)	> 220	> 260	> 540	≥ 660	> 929	> 1160	> 1035
Yield Load (kN)	> 180	> 220	> 430	> 525	> 730	> 970	> 830
Weight (kg/m)	2.70	2.80	5.80	7.18	9.90	13.20	10.75

Anchor Nut	T30/16	T30/14	T40/20	T40/16	T52/26	T73/53	T73/56
Key Size SW (mm)	46	46	65	65	80	95	95
Length (mm)	35	35	50	50	70	70	70
Hardness (HRC)	20-30	20-30	20-30	20-30	20-30	20-30	20-30
Thread Type	International Standard / Left or Right						
Type Of Steel	40Cr/C45 /Q345B	40Cr/C45 /Q345B	Q3458/ 40Cr/C45	Q3458/ 40Cr/C45	Q3458/ 40Cr/C45	Q3458/ 40Cr/C45	Q3458/ 40Cr/C45
Unit Weight (kg)	0.36	0.36	0.85	0.85	2.35	2.20	2.20
Thread (left/Right Hand)			Left/Right	Left/Right	Left/Right	Left/Right	Left/Right

Anchor Plate	T30/16	T30/16	T40/20	T40/16	T52/26	T73/53	T73/56
Size (mm)	200 x 200	200 x 200	200 x 200	200 x 200	220 x 220	250 x 250	250 x 250
Thickness (mm)	8	8	12	16	35	40	40
Hole Diameter (mm)	36	36	54	54	65	80	80
Unit Weight (kg)	2.40	2.40	3.50	4.60	12.10	18.00	18.00

Anchor Coupling	T30/16	T30/14	T40/20	T40/16	T52/26	T73/53	T73/56
Outside Diameter (mm)	38	38	54	57	70	89	89
Length (mm)	105	105	140	140	160	235	235
Hardness (hrc)	20-30	20-30	20 - 30	20-30	20-30	20-30	20-30
Thread Type	International Standard/Left or Right						
Type Of Steel	40Cr/ Q3458	40Cr/ Q3458	40Cr/ Q3458	40Cr/ Q3458	Q3458 /40Cr	Q3458/ 40Cr/C45	Q3458/ 40Cr/C45
Unit Weight (kg)	0.42	0.42	1.15	1.54	2.30	4.30	4.30
Thread (left/right Hand)	Left/Right	Left/Right	Left/Right	Left/Right	Left/Right	Left/Right	Left/Right

SELF DRILLING HOLLOW ROCK BOLTS T-SERIES

Product Features

- 3 in 1 concept : drilling rod, anchor bar & grouting pipe.
- Suitable for both permanent and temporary applications.
- Optimum bonding and load transfer.
- Complete solution including plate and bolts.
- Splicing system to adjust to custom lengths.
- Standard sacrificial drill bits for every ground conditions.

Benefits

- Flexible installation: core injection to suit all ground conditions.
- Safely: Visual control of full encapsulation.
- One step installation with sacrificial drill bits. drilling, placing, grouting.
- No cased borehole allowing ground preservation.

Corrosion Protection :

- For temporary applications the corrosion protection is achieved through encapsulation with grout.
- For permanent applications, SRONS Hollow Rock Bolts can be hot dip galvanized according to EN-1461, epoxy coated or supplied with a sacrificial thickness if accounted for all design stage.

SRONS SDA

EXPANSION SHELL BOLTS/ EXPANDABLE BOLTS

- The Srons SDA/Rebar Expansion Shell bolts combines
- The benefits of a tensionable anchor featuring immediate
- Supports actions and a fully grouted bolt. Based on the srons
- SDA/Rebar bar system, the tendon consists of hollow bar.
- Installations of the assembled bolts expansion including shell, Plate and Nut-is accomplished in a pre-drilled borehole.
- Optional post-grouting of the bolt is performed top down through the hollow bar.

We Have Size Availability is Below:-

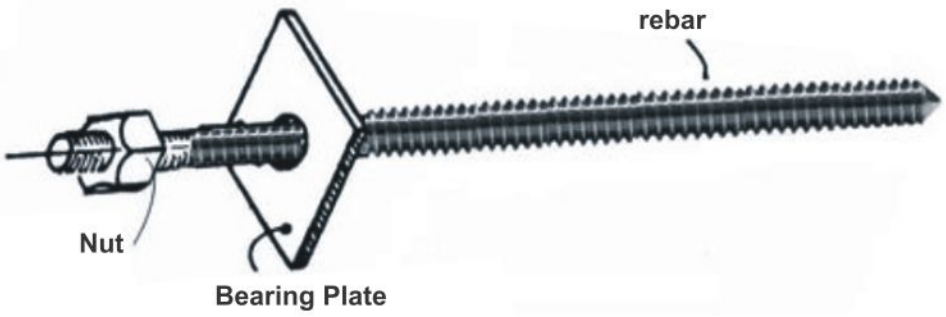
SELF DRILLING ANCHOR SIZE:

R25, R32, R38, R51 & T76.

REBARS FULLY THREADED BOLTS SIZE:

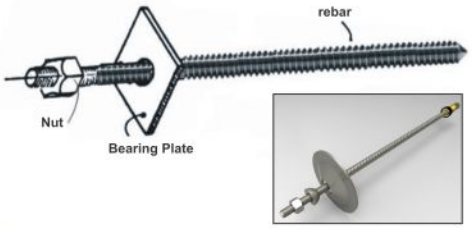
T20, T25, T28, T32, T40MM

REBARS FULLY THREADED BOLTS



SN ROCK BOLT SYSTEM

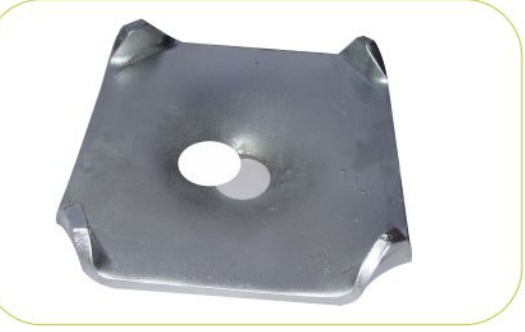
Grouted rockbolts have been commonly used world-wide in mining and civil engineering applications. The most commonly used grouted rockbolt is the fully grouted rebar or threaded bar made of steel. Cement or resin are used as grouting agent. The rebar used with resin creates a system commonly used for tensioned rockbolt but the rebar or the threaded bar with cement grout can also be used for untensioned bolts.



Steel Quality Designation :	B500 Grade C - EN 10080		
Steel Diameter :	25mm	32 mm	40 mm
Yeild Load, Steel :	>500MPa	>500MPa	>500MPa
Ultimate Load, Steel :	>550Mpa	>550Mpa	>550Mpa
Weight of Bolt (Without plate and nut) :	3.85 kg/mt	6.31 kg/mt	10.00 kg/mt
Bolts Length :	Any Length Required		
Thread at one end x 100mm	M24	M30	M38

NUT	HexagonNut Class 8 ISOMetric Thread		
Steel Quality Designation :	UNI 3740 ISO 898-2		
Dimension :	36 x 19mm	46 x 32mm	55 x 40mm
Coarse Thread :	3	3.5	4.5
Weight :	0.11 Kg	0.26 Kg	0.55 Kg

Steel Quality Designation :	S355JR - EN 10025-2		
	Rockbolts Dia 25mm	Rockbolts Dia 32mm	Rockbolts Dia 40mm
Dimension :	150x150x8mm	200x200x10mm	200x200x12mm
Shape - Hole	Flat - Central Hole Dia 28mm	Flat - Central Hole Dia 35mm	Flat - Central Hole Dia 43mm
Weight :	1.360 kg	3.10 kg	3.60 kg
Optional :	20mm Hole for injection tube		



HEXAGEN NUT DIN 934

Thread Size	M20	M24	M60	M36	M42	M48
Pitch	2.5	3	3.5	4	4.5	5.5
m	16	19	24	29	34	45
e	32.95	39.55	50.85	60.79	71.3	93.56
S	30	36	46	55	65	85

Thread Size	M20	M24	M60	M36	M42	M48
Pitch	2.5	3	3.5	4	4.5	5.5
m	16	19	24	29	34	45
e	32.95	39.55	50.85	60.79	71.3	93.56
S	30	36	46	55	65	85

HEXAGEN HEAD BOLT DIN 933

Thread Size		M4	M5	M6	M8	M10	M12	M14
Pitch		0.7	0.8	1	1.25	1.5	1.75	2
k		2.8	3.5	4	5.3	6.4	7.5	8.8
e	Grade A	7.66	8.79	11.05	14.38	18.9	21.1	24.49
	Grade B	-	8.63	10.89	14.2	18.72	20.88	23.91
S		7	8	10	13	17	19	22
L		8-40	8-40	8-50	12-60	16-60	20-80	25-80

Thread Size		M16	M18	M20	M22	M24	M27	M30
Pitch		2	2.5	2.5	2.5	3	3	3.5
k		10	11.5	12.5	14	15	17	18.7
e	Grade A	26.75	30.14	33.53	35.72	35.98	45.2	50.85
	Grade B	26.17	29.56	32.95	35.03	39.55	45.2	50.85
S		24	27	30	32	36	41	46
L		30-100	30-100	40-100	50-100	50-100	60-100	70-100

SPRING WASHER DIN 7980

d	M3	M4	M5	M6	M 8	M 10	M 12	M 14
d1 min.	3,6	4,1	5,1	6,1	8,1	10,2	12,2	14,2
d2 max.	5,6	7,0	88	9,9	12,7	16,0	18,0	21,1
S	1,0	1,2	1,6	1,6	2,0	2,5	2,5	3,0
	0,1	0,2	0,3	0,4	0,8	2,0	3,0	5,5

d	M 16	M 18	M 20	M 22	M 24	M 27	M 30	M 36
d1 min.	16,2	18,2	20,2	22,5	24,5	27,5	30,5	36,5
d2 max.	24,4	26,4	30,6	32,9	35,9	38,9	44,1	52,2
S	3,5	3,5	4,5	4,5	5,0	5,0	6,0	7,0
	6,0	7,8	8,4	11,9	14,5	21,1	29,5	50,2

Specifications

Dimension	Material [1]	Thread Length	Weight	Borehole	
				Diameter, mm	Depth[2]
M20x2,5	FE500D	M20x150mm	2,47kg/m	Ø45-48	L+150mm
M22x2,5	FE500D	M22x150mm	2,98kg/m	Ø45-48	L+150mm
M25x3.0	FE500D	M24X150mm	3.90kg/m	Ø64-68	L+150mm
M32x3,5	FE500D	M32x200mm	6,43kg/m	Ø64-68	L+150mm

Mechanical Properties

Dimension	Tension Area as Thread-Shank	Yield Stress Reh	Tensile Stress Rm	Ductility Agt
M20x2,5	245-314 N/mm^2	Min. 500 N/mm2	Min. 565 N/mm2	Min. 8%
M22x2,5	303-380 N/mm^2	Min. 500 N/mm^2	Min. 565 N/mm2	Min. 7,5%
M25X3.0		Min. 500 N/mm2	Min. 565 N/mm2	Min. 8%
M32x3,5	694-804 N/mm^2	Min. 500 N/mm2	Min. 565 N/mm2	Min. 8%

Minimum Load Capacity

Dimension	End anchored[3]		Fully grouted		Torque Nm	Pre - Tension kN
	Yield kN	Failure kN	Yield kN	Failure kN		
M20x2,5	123	147	157	186	150-250	40-60
M22x2,5	191	239	239	300	150-250	40-60
M25x3.0	240	320	270	375	200-300	40-60
M32x3,5	347	416	402	482	200-300	40-60

1) Acoording to GB1499.2-2007
2) L=bolt length
3) Poor and soft rock quality may give lower values.
Test on site under actual conditons to correctly establish representative values.

INSTALLATION, EQUIPMENT

Installation takes place in two steps:

1) Place the bolt in the hole and tension it by applying correct torque on the nut.
2) Grout injection for permanent anchoring and protection.

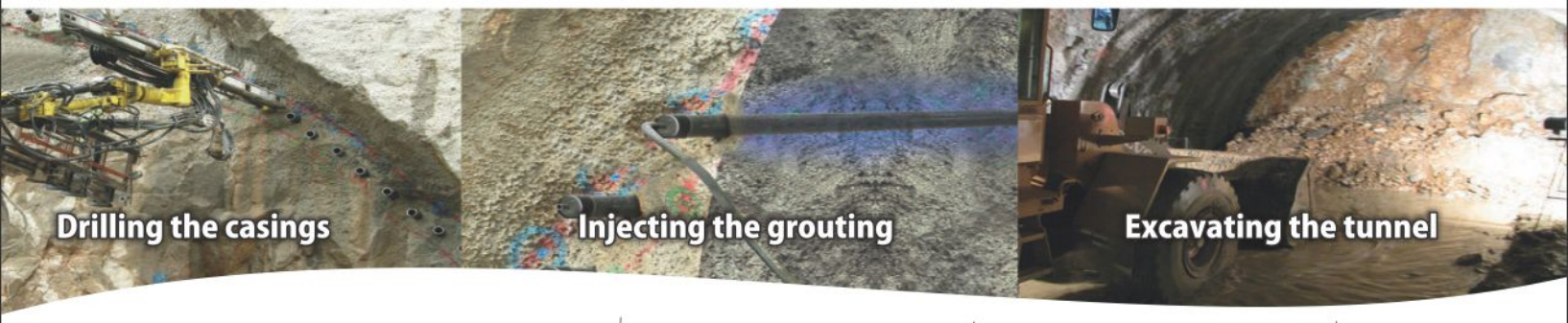
Immediate support by placement and tensioning at the tunnel face.

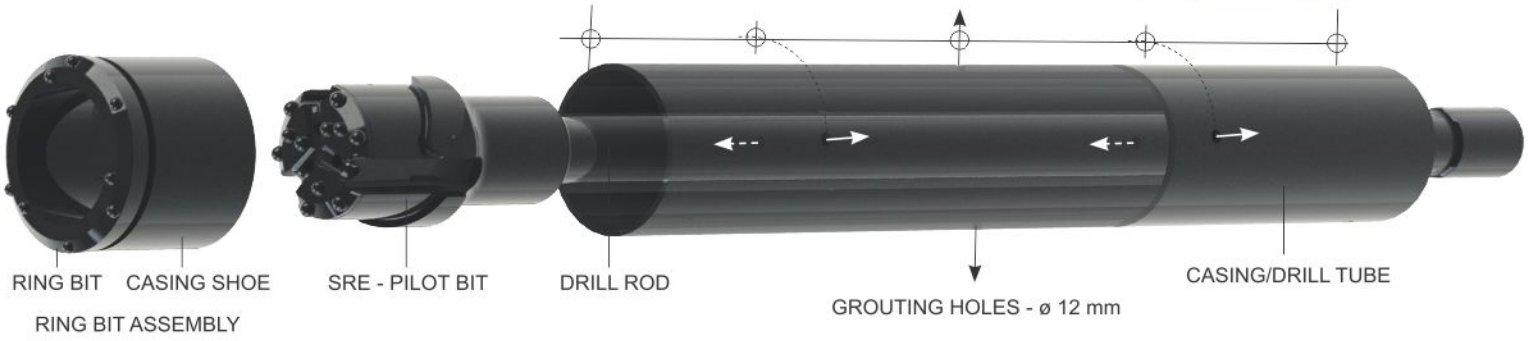
The grouting tool gets attached to the bolt head before start of the mortar pump.

(Two alternative types of grouting tools are available)

Mortar gets pumped through the hole in the grouting head to fill the annular space from bottom of hole out to the spherical bearing plate.

In the bearing plate you can see the hole indicating completely filled borehole.





Casing Tubes

Typically one pile consist of several steel casings of 1,5 - 3 meters Connection by thread Injection valves for grouting Standard casing diameters: 88,9-114,3 -139,7 -76.10 mm

Preparation

Srons Engineers Ring Assembly is factory welded to the first casing (starter casing) by casing shoe Welding norm:

- EN499: E42 6B 42 H5
- AWS/ASME: SFA – 5.1/ E7018-1
- DIN8529: ESY 42 76 Mn B

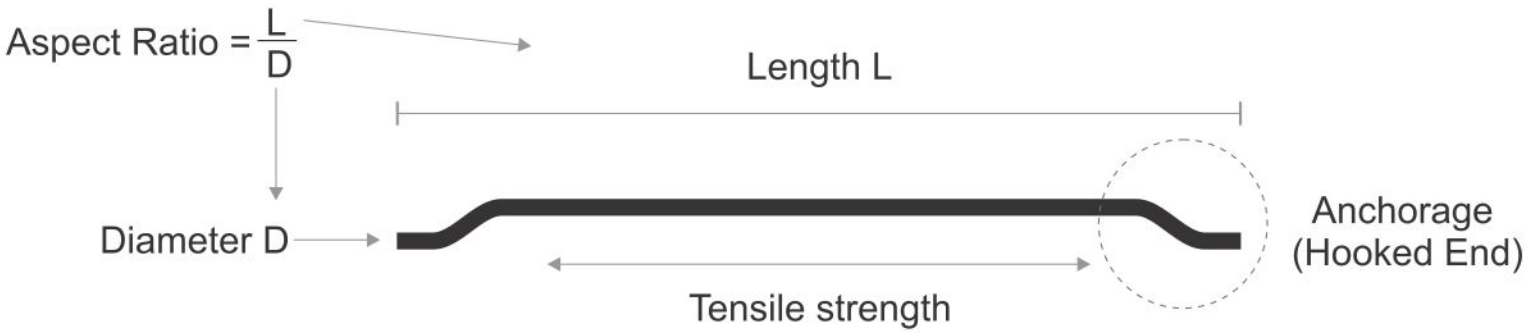
Required Equipment

Almost any drill rig with standardized equipment can be used to drill tube umbrella Jumbo drill is commonly used A basket boom installed for the operators to connect casing or alternatively additional lifter Top hammer drilling/DTH

SRONS - PIPEROOFINGSYSTEM							
Diameter of Pipe (mm)	76.1	76.1	88.9	88.9	114.3	114.3	139
Thickness of Pipe (mm)	5.6	6	6.5	8	6.5	8	10
Steel Grade	N80 / St52	N80 / St52	N80 / St52	N80 / St52	N80 / St52	N80 / St52	N80 / St52
Pilot Bit Thread	R32	R32	T38	T38	T38	T38	T38

GLUE FIBER

LOOSER FIBER



MATERIAL PROPERTIES

Material	Low Carbon Drawn Wire										
Aspect Ratio	L/D										
Length (mm)	30	35	50	35	50	60	35	50	60	50	60
Diameter (mm)	0.60	0.60	0.60	0.75	0.75	0.75	0.80	0.80	0.80	1.0	1.0
Tensile Strength	> 1100 MPa										
Appearance	Clear, Bright, Loose unglued with hook end anchorage										
Conforms to	EN 14889-1, ASTM A820 M04 Standards										
Suitable Application	Tunnel Shotcrete, Slope Stabilization, Precast Pipes										

Mixing

- Srons Engg. Steel fibers can be added before, during or after the batching of the concrete, as outlined by ASTM C-94 (4-5 minutes at mixing speed or approximately 60-70 revolutions).
- In the batch plant fibers can be added by a shaker or through a hopper to the aggregate on a conveyor belt during aggregate addition and mixed in the normal manner.
- If fibers are added in the mixer truck the drum should be rotating at maximum speed while fibers are slowly added. This is important to avoid clump avoiding balling effect.
- Depending on fiber type and dose rate the concrete slump should be increased by the addition of superplasticiser before fibers are added.
- Use of Micro Silica is beneficial along with steel fibers
- Do not use Steel fiber as a first component in the concrete mix.

Placing and Finishing

- Use of Internal and external vibrator (including vibrating screeds) is recommended. Finishing of the concrete surface is usually accomplished by using conventional power or hand equipment.
- The use of a surface hardener to achieve a smooth and hardened surface will also help to cover fibers close to the surface.
- Do not use Wood floats, Wood floats tend to tear the surface and should not be used.

Precaution

- To avoid chocking in the pumping operation of the concrete mix, please note that The Hose diameter should be approximately 50% greater than the fiber length. Testing is recommended before execution

Safety & Handling

- It is recommended that gloves and appropriate eye protection must be used while using fibers.
- Fibers concretes/shotcretes contain Portland cement and thus normal safety precautions used when handling conventional cement based products should be followed.
- Store in dry place
- Do not use Hooks.
- No Stacking

Packaging

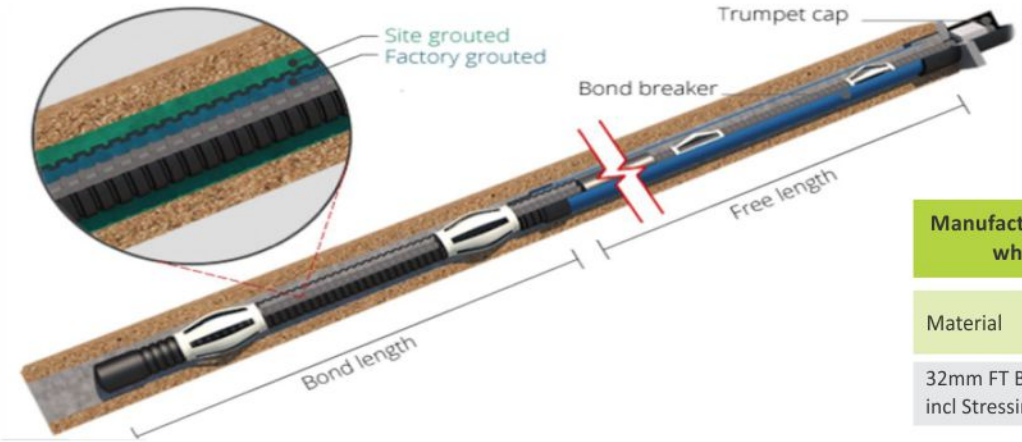
- Available in 15/20/25 kg Non Woven HDPE Bags & Paper Laminated Bags.
- Palettes available on request.

DCP BOLTS-SRONS MAKE

REQUIREMENT

Double corrosion anchor required which has following properties/components:

- **Anchor Length** : Total Anchor length -Free length + Fixed Length + Stressing Tail Length
- **Fixed Length** : To be designed
- **Free length** : To be designed
- **Stressing Tail Length** : To be designed
- **Anchor Main Bar Dia** : 32mm
- **Bar Grade** : 950/1050
- **Corrosion Requirements** : Double Corrosion Protection



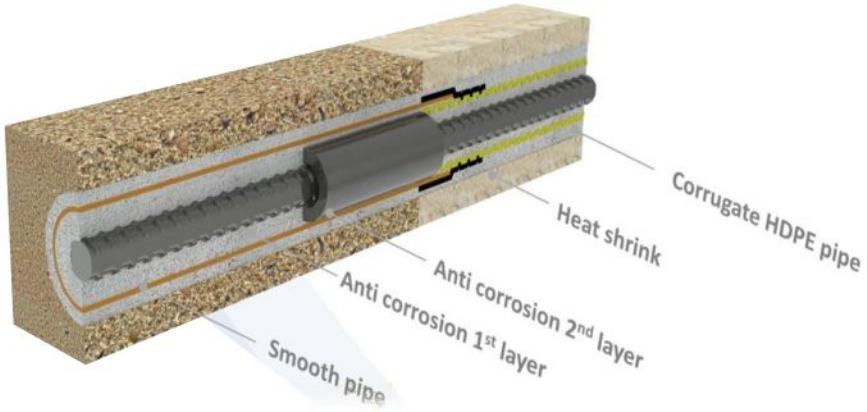
REQUIREMENT

Manufacture & Supply Double Corrosion Anchor Required which has following Properties/Components:

Material	Fixed Length in RM	Free Length in RM	Stressing Tail Length in RM
32mm FT Bar Anchor incl Stressing Length	To be Designed	To be Designed	To be Designed

ANCHOR COMPONENTS

Material
Inner Corrugated HDPE/PVC Corrugated Tube
Outer Debonding Smooth Tube
Inner Centralizer Fixed Length
Inner Centralizer Free Length
Outer Centralizer Fixed Length
Outer Centralizer Free Length
Coupler for 32mm
Anchor End Cap
Spherical Hex Nut
Protective Cap on Anchor Head
Grout Tube
Steel Anchor Plate
32mm Dia FT Bar in Grade 950/105
Inner Grouting



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WEBSITE

SRONS ENGINEERS PVT. LTD.

Manufacturer & Exporter of :
Nut, Bolts, Washers & All kinds of Fasteners, Forepoling Systems • Self Drilling Anchor Bolt • SN Rock Bolt System
Post Tensioning Bar • Steel Fibers • Hot Rolled Thread Bar

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