

FABULEX

Expandable Tube style Rock Bolts

Rock Bolt is the protective supporter for the tunnel, being inserted into the holes in the rock.

It is composed of the bar or pipes and the accessories to fix the bar or pipes in the rock.

The Rock Bolt for tunneling and mining is installed with the designed length to closely and tightly unite any loose rock mass enough to be in the good condition for the further tunnel or mine excavation.

The traditional Rock Bolt fabricated from the deformed rebar is sharpened at the edge for the easier insertion into borehole and threaded at the end for screwing with the nut & dome plate for anchoring.

But our product as the tubular steel Rock Bolt with the brand name FABULEX inflates the steel pipe injecting the water with 250 bar hydraulic pressure and makes the external surface of the tubular steel pipe be strongly adhered to all the surface of the inner holes.





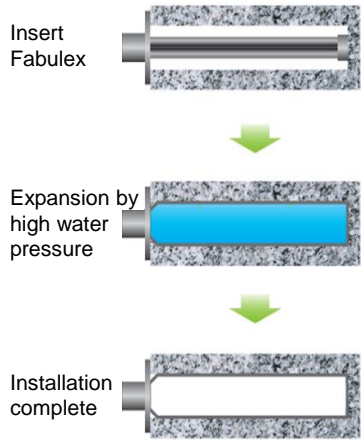
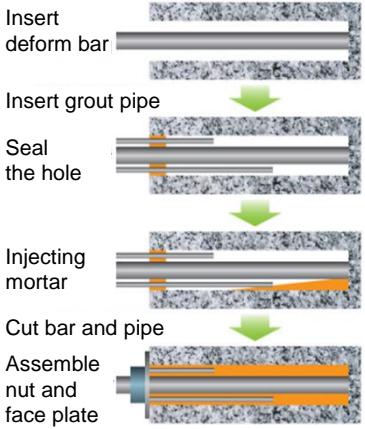
Fabulex Rock Bolts

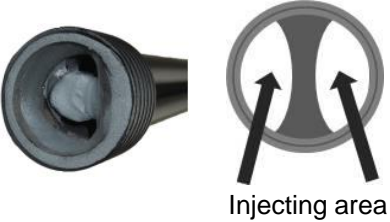
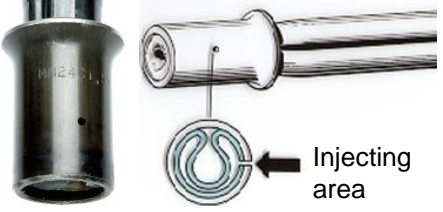
FABULEX inflates the steel pipe injecting the water with 250 bar hydraulic pressure and makes the external surface of the tubular steel pipe be strongly adhered to all the surface of the inner holes.



Advantages of Fabulex Rock Bolts

- I. Once it is installed, it covers the strong interlocking with the surrounding rocks.
- II. Quicker and easier installation leads the construction time shortened and the laboring power saved. Hence it will bring the cost reduction in the whole construction.
- III. Time for the solidation of Mortar or Cement or Resins in the holes is not required. So after the installation, Pull-Out pipe test can be done right away and the faster test result surely saves the time and cost.
- IV. It doesn't need the fixing materials like Mortar, Cement, Resins and it uses the water to inflate the tubular steel pipe Rock Bolt. So there is no harmful environmental effect and also saves the time and cost of the additional labor work.
- V. As the body of Rock Bolt is expanded and it maximizes the friction force on the surface of the holes, it can be perfectly installed even in the groundwater area.

	Fabulex (Expandable Rock Bolt)	Conventional Rock Bolt (Deformable Bar)
Installation Method	<ul style="list-style-type: none"> - expansion by high water pressure 	<ul style="list-style-type: none"> - cement mortar, resin, or grout 
Installation Time	- within 2 minutes	- over 10 minutes
Required Labors	- 1 to 2 labors	- 2 to 3 labors
Effectiveness	- immediate support	- long curing time (7 to 24 hours)
Water Flowing Condition	- applicable	- depends on the site
Features	<ul style="list-style-type: none"> - fast installation - prevention of wedges instability and excessive movement - strong interlocking with bedrock 	<ul style="list-style-type: none"> - insufficient strenght in early stage - insufficient support capacity during curing

	Fabulex	Other Expandable Rock Bolt
Shape		
Installation Time	- within 2 minutes	- 4 to 5 minutes
Features	<ul style="list-style-type: none"> - expanding by hydraulic pressure - large injecting area 	<ul style="list-style-type: none"> - expanding by hydraulic pressure - small injecting area

Specification

FABULEX [Hot-rolled steel]

Steel type	Product	Product number	Length (m)	Weight (kg)	Minimum Breaking Load (kN)	Minimum Yield strength (Mpa)	Minimum Tensile strength (Mpa)	Minimum elongation (%)	Expansion pressure (bar)	Hole size (Φ,mm)	
Hot-rolled steel	Fabulex 2t	TS-30202	2	3.90	87	355	500	18	250	45, 51	
		TS-30203	3	5.85	87	355	500	18	250	45, 51	
		TS-30204	4	7.80	87	355	500	500	18	250	45, 51
		TS-30205	5	9.75	87	355	500	500	18	250	45, 51
		TS-30206	6	11.70	87	355	500	500	18	250	45, 51
	Fabulex 2.3t	TS-31202	2	5.25	117	355	500	500	18	250	45, 51
		TS-31203	3	7.88	117	355	500	500	18	250	45, 51
		TS-31204	4	10.50	117	355	500	500	18	250	45, 51
		TS-31205	5	13.13	117	355	500	500	18	250	45, 51
		TS-31206	6	15.75	117	355	500	500	18	250	45, 51
	Fabulex 3t	TS-32202	2	7.63	170	355	500	500	18	250	51
		TS-32203	3	11.45	170	355	500	500	18	250	51
		TS-32204	4	15.27	170	355	500	500	18	250	51
		TS-32205	5	19.09	170	355	500	500	18	250	51
		TS-32206	6	22.90	170	355	500	500	18	250	51

FABULEX [Alloy steel]

Steel type	Product	Product number	Length (m)	Weight (kg)	Minimum breaking load (kN)	Minimum yield strength (Mpa)	Minimum tensile strength (Mpa)	Minimum elongation (%)	Expansion pressure (bar)	Hole size (Φ,mm)	
Alloy steel	PosMAC 2t	TS-P30202	2	3.90	87	355	500	18	250	45, 51	
		TS-P30203	3	5.85	87	355	500	18	250	45, 51	
		TS-P30204	4	7.80	87	355	500	500	18	250	45, 51
		TS-P30205	5	9.75	87	355	500	500	18	250	45, 51
		TS-P30206	6	11.70	87	355	500	500	18	250	45, 51
	PosMAC 2.3t	TS-P31202	2	5.25	117	355	500	500	18	250	45, 51
		TS-P31203	3	7.88	117	355	500	500	18	250	45, 51
		TS-P31204	4	10.50	117	355	500	500	18	250	45, 51
		TS-P31205	5	13.13	117	355	500	500	18	250	45, 51
		TS-P31206	6	15.75	117	355	500	500	18	250	45, 51
	PosMAC 3t	TS-P32202	2	7.63	170	355	500	500	18	250	51
		TS-P32203	3	11.45	170	355	500	500	18	250	51
		TS-P32204	4	15.27	170	355	500	500	18	250	51
		TS-P32205	5	19.09	170	355	500	500	18	250	51
		TS-P32206	6	22.90	170	355	500	500	18	250	51



Address	Kolon Tower 6F, 11, Kolon-ro, Gwacheon-si, Gyeonggi-do, Republic of Korea
TEL	+82-2-3677-6380
FAX	+82-2-3677-6360
Website	www.tech-vision.co.kr