HARD ROCK / SOFT ROCK MINING

GFRP INJECTION BOLTS

HIGH PRESSURE ROCKMASS INJECTION

DESCRIPTION

GFRP tube with integrated packer function for high pressure injection of weathered rock mass.

The high torque hollow bar is fitted with an expansion packer and integrated no return valve. Two additional valves are fitted to both ends of the tube, the top valve to open when the packer is inflated, the bottom valve to prevent backflow after injection.

The system allows cutting during heading or mining of ore. Rapid heading will not be delayed. Light weight makes handling easy, even in confined underground conditions.

APPLICATION AND USES

Primary use with injection chemicals for stabilising fractured rock and minerals, rapid heading

ADVANTAGES

- High flexibility suited for applications without couplings in confined locations
- Low density reaching just 30% of the density of steel
- High end loading
- All thread re-bar
- Super high hydraulic pressure resistance
- Low weight facilitated easy handling and minimised transportation weight
- Permanent application

TECHNICAL SUPPORT

We provide technical advisory service by a team of specialists in the field. The service includes on site assistance and advice on evaluation trials and laboratory work.

PACKAGING AND TRANSPORTATION

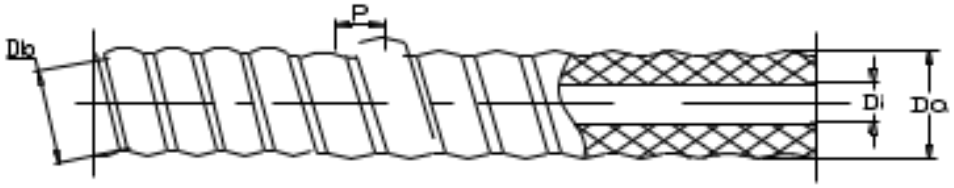
Usually packed 150 bolts per pallet

APPROVALS AND CERTIFICATES

Comply with AS/NZS 1554.1
Comply with AS/NZS 4680

TECHNICAL DATA

Fibre	Glass fibre
Matrix resin	Epoxy, Black
Surface structure	Continuous thread



Geometry		Symbol	Unit	Value	Test standard
Outer diameter		D_a	mm	25±0.5	
Deep diameter		D_b	mm	22.6±0.5	
Inner diameter		Di	mm	8±0.5	
Pitch		P	mm	10±0.2	
Effective tensile stress areas		A_e	mm^2	300	
Mechanical properties		Symbol	Unit	Value	Test standard
Ultimate load		$F_{r,u}$	kN	300	FiReP JM001
Ultimate strength		f_t	Mpa	1000	
Tensile E-modulus		E	Gpa	45	
Strain at failure(average)		ε_u	%	2.1	
Flexural strength		σ_f	MPa	560	BS 7861-1
Inner pressure		bar	bar	280	FiReP JM005
Fibre content(by weight)		$^{\rho}rf$	%	75	ISO 3451-1
Weight		g	g/m	780±40	FiReP JM004
Antistatic		R	Ω	108	BS 7861-1
Breaking load thread	GFRP Nut L=70	$F_{n,u}$	kN	70	FiReP JM003
	Steel Nut L=100	$F_{n,u}$	kN	180	FiReP JM003

DISTRIBUTOR

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