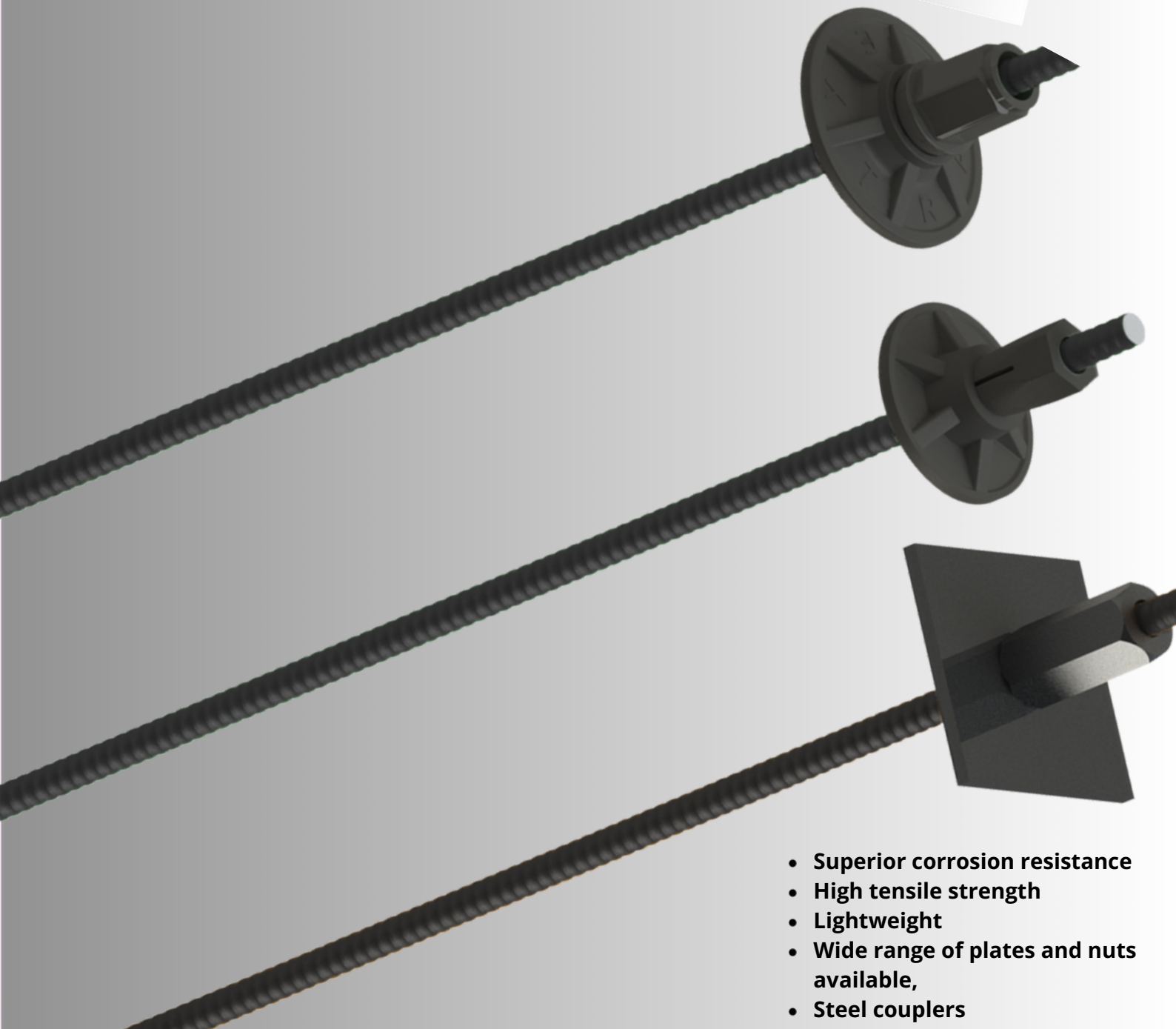




GFRP Rock-Bolt

Excavation Support - Slope Stabilisation - Face Stabilisation



- Superior corrosion resistance
- High tensile strength
- Lightweight
- Wide range of plates and nuts available,
- Steel couplers

Temporary Application



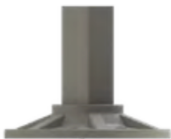
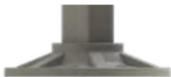
Temporary grade rock-bolt is a lightweight and economical solution for temporary tunnel support. It is made with polyester resin.

Permanent Application



Permanent grade rock-bolt is a perfect alternative to steel rock-bolt. Designed for corrosive environments, it is made with acid/alkali-resistant vinyl-ester resin.

Accessories

Item	Images	Usage
Domed Plate + Domed Nut		GFRP accessories for angle compensated support which allows inclination.
Lock Plate + Lock Nut		GFRP accessories for angle compensated support which allows inclination. Economic alternative to the domed plate & domed nut, with no guaranteed mechanical performance
Swivel Plate + Swivel Nut		GFRP accessories for straight 90-degree angle support.
Flat Plate + Flat Nut		Steel accessories for straight 90-degree angle support.

BlackBar Rock Bolt (Fully Threaded)



Unlike steel, GFRP Mining Rock Bolt can be easily cut or chewed up by Tunnel Boring Machines (TBMs), longwall mining machine or continuous miners without damaging expensive cutting teeth, causing sparks, or contaminating the extracted ore.

Solid Bar							
Dia.	Physical Properties		Mechanical Properties		Mechanical Properties		System Properties
					Fiber: ECR	Resin: PE	FRP Domed Nut & Plate
	Nominal Dia. (mm)	Nominal CSA (mm ²)	Single Shear Strength (MPa)	* MoE (GPa)	Ultimate Tensile Load (kN)	Ultimate Tensile Strength (MPa)	Head Breaking Load (kN)
25	21	350	400	50	350	1,000	90

*MoE is the abbreviation for Modulus of Elasticity

Hollow Bar							
Dia.	Physical Properties		Mechanical Properties		Mechanical Properties		System Properties
					Fiber: ECR	Resin: PE	FRP Domed Nut & Plate
	Internal Dia. (mm)	Nominal CSA (mm ²)	Single Shear Strength (MPa)	* MoE (GPa)	Ultimate Tensile Load (kN)	Ultimate Tensile Strength (MPa)	Head Breaking Load (kN)
32	15	365	400	50	320	875	100

*MoE is the abbreviation for Modulus of Elasticity

Property Limits and Test Methods			
	Property	Dextra Spec.	Test Method
1	Fiber Content	≥75 %	ASTM D2584
2	Measured OD	OD ± 0.3mm	Vernier caliper (Internal control only)
3	Ultimate Tensile Load	Refer to above table	ASTMD7205
	Ultimate Tensile Strength		
	Ultimate Strain	≥1.5%	
4	Tensile Modulus of Elasticity	≥50GPa	
5	Antistatic Conductivity	≤10 ⁹ Ω	MT/T 1061
6	System Failure Load (Assembly with Nut/Plate)	Refer to above table	BS 7861-1 Annex K



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