

MINOVA

GFRP BOLT

EFFICIENT, CORROSION-RESISTANT
STRATA SUPPORT



DESCRIPTION

The GFRP bolting system is a comprehensive rock support solution comprising GFRP nuts, steel nuts, plates, couplings, and adapters. The solid GFRP bolt provides a high ultimate load and, due to its profiled geometry, delivers excellent bond strength with cementitious and resin based grouting materials. The continuous thread allows the bolt to be trimmed on site as required. Solid bolts can be installed using cement grout or Lokset® resin capsules. Solid GFRP bolts are available with Torque Tension Nut and Thrust Nut to suit various application needs.

APPLICATION AND USES

The GFRP rock bolt applications include strata support in mining and tunnelling, as well as for slope and face stabilisation. Nuts are available for breakout or thrust applications.

TECHNICAL PROPERTIES

UNIT PROPERTIES		SOLID BOLT								
		S18/150	S20/200	S22/250	S23/270	S24/300	S25/350	S27/400	S30/490	S32/560
Material		GFRP (Fiberglass + Polymer Resin)								
Outer Diameter (mm)		18	20	22	23	24	25	27	30	32
Tensile Stress Area (mm ²)		150	200	250	300	300	350	400	510	580
Ultimate Load (kN)		150	200	250	270	300	350	400	490	560
Breaking Load Thread (kN)	Steel Nut L100	-	100	120	-	160	180	200	240	320
	GFRP Nut L70	60	60	70	70	70	70	80	80	90
	GFRP Conical Nut L80	70	80	100	-	160	180	180	200	200
Torsion Resistance (Nm)		60	70	80	-	100	120	150	180	240
Fibre Content by Weight		75%								
Tensile Modulus (GPa)		50								
Strain at Failure (%)		2								
Double Shear Load			120			140	150			240
Weight (kg/m)		0.42	0.56	0.69	0.77	0.76	0.90	1.04	1.30	1.45
GFRP Nut Diameter		60	60	60	60	60	60	60	70	70



ADVANTAGES

- > High tensile strength and reliable load-bearing- GFRP Solid bolts have a high ultimate load, giving strong support capacity for roof or strata support
- > Cuttable on site (safe cutting, non-sparking) GFRP Solid Bolts can be trimmed or cut to length on location. Protects machinery and equipment, preventing damage when drifting and enlarging tunnels.
- > Corrosion resistance and long-term durability- GFRP Solid Bolts are highly resistant to corrosion and degradation. Suitable for long-term support
- > High flexibility- GFRP Bolts are suitable for tight, irregular or constrained/confined locations
- > Low weight and easy handling- The reduced weight of GFRP bolts minimises manual-handling requirement and supports safer, more efficient installation.
- > Non-conductive / non-magnetic / anti-static option- Suitable for areas where explosive risk exists.

SUPPORTING PRODUCTS

Plates

Minova can supply a comprehensive range of plates for use with Coal bolts. Plates most typically used with Coal bolts are:

PLATE NAME	IMAGE
Steel insert HDPE Plate	
HDPE Plate	

PACKAGING AND TRANSPORTATION

Packaging is customisable to meet specific site requirements.

DISCLAIMER

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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.

MANUFACTURER

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