

HARD ROCK MINING

HCF BOLTS

HEAVY DUTY FRICTIONAL SUPPORT

DESCRIPTION

HCF (High-Capacity Friction) bolts are designed to deliver superior ground support in high-load environments, including, but not limited to, squeezing ground conditions. Manufactured from overlapped high-tensile steel with a continuous welded ring, these bolts offer enhanced strength and load-bearing capacity.



APPLICATION AND USES

HCF bolts provide up to 40% greater load-bearing capacity compared to standard friction bolts, making them ideal for operations requiring immediate and sustained support. Their advanced design is suitable for a range of challenging ground conditions, including deformation, high-stress areas. Available in either black or hot-dip galvanized steel, HCF bolts are offered in a 47mm diameter. Standard lengths include 2.4 meters and 3 meters. Additional lengths can be provided.

ADVANTAGES

- **Immediate Frictional Support:** HCF bolts provide instant frictional resistance upon installation, stabilizing ground conditions immediately and effectively during excavation or tunnel advance.
- **Higher Load-Bearing Capacity:** The reinforced bolt profile, along with the heavy-duty welded ring, reduces point loading and distributes stress evenly along the bolt, making it capable of withstanding higher loads in demanding conditions.
- **Versatile Installation:** The bolts are designed for easy installation using both handheld and mechanized equipment, offering flexibility in application depending on site-specific requirements.
- **Robust Welded Ring Design:** Continuous welded ring minimises point loading resulting in lower ring failures in squeezing ground.
- **Greater Radial Pressure:** The overlapping high-tensile steel sheets exert increased radial pressure against the borehole walls, enabling superior load transfer and enhanced stability in various ground conditions, including those with ground movement.

TECHNICAL DATA

Mechanical Properties

Product Properties	HCF Bolt 47
Bolt Diameter ² (mm)	47±0.5
Tensile Force ¹ (MT)	24
Yield Strength ² (MPa)	465
Tensile strength ² (MPa)	550
Taper Diameter ² (mm)	39± 3
Mass Per meter (kg)	3.6
Bolt Length ² (mm)	L +/- 5mm
Cross Sectional Area(mm ²)	420



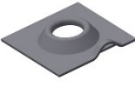

¹ Minimum Values, ² Typical Value

SUPPORTING PRODUCTS

Plates



Minova can supply a comprehensive range of plates for use with HCF bolts.

Plates most typically used with HCF bolts are:

Item Code	Description	Image
NT0005113	PLATE MYBOLT 200X200 GL	
NT0005115	PLATE COM MY 280X300 200X165X5 GL	
NF0000205	PLATE DOM 47X200X200X4MM GL	
NF0000192	PLATE COM 280X300 150X47MM GL	

Drivers

Minova can supply a range of drivers for use with hand-held or mechanised bolting equipment.

Item Code	Description	Image
NF0000171	DRIVER STR BOLT 47 T38	
NF0000198	DRIVER STR BOLT 47 HANDHELD	

PACKAGING AND TRANSPORTATION

ITEM CODE	DESCRIPTION	PACK QTY
NT0005164	BOLT STR HCF 47X2400 BK	150
NT0005166	BOLT STR HCF 47X2400 GL	150
NT0005165	BOLT STR HCF 47X3000 BK	150
NT0005167	BOLT STR HCF 47X3000 GL	150

ANCHORING CEMENT GROUTS

Minova offers a comprehensive range of cement grouts for general and specific bolting applications. Visit www.minovaglobal.com/apac to learn which grout is right for your application.

APPROVALS AND CERTIFICATES

Comply with AS 1554.1
Comply with AS/NZS 4680

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. All technical data sheets can be found on www.minovalgobal.com.

MANUFACTURER

Minova Australia Pty Ltd

An ISO 9001:2015 Quality Management Certificated Company



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ADDITIONAL INFORMATION

Minova Australia offers a comprehensive range of products, all of which have been developed after extensive research and testing on a global scale via our international network of operations. These products include:

- Resin anchor systems
- High yield grouts and foams
- Monolithic chock systems
- High performance cable bolt grouts
- Polyurethane resin systems
- Sprayable coatings for ventilation control
- Water-stop grouts
- Ventilation formwork systems including: Meshblock and Tecmesh
- Grout mixers and batchers both air and hydraulically operated
- Contract Installations
- Flexible membranes for strata support and waterproofing applications

CUSTOMER SERVICE

Minova Australia Pty Ltd

(1800 Minova) 1800 646 682
(1300 Minova) 1300 646 682
+61 2 4939 5159 (International)

Email: sales_au@minovaglobal.com
Website: www.minovaglobal.com/apac

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