

# D47 MD Bolt



The D47 Mechanical Dynamic (MD) Bolt is a 47 mm friction bolt reinforced with a 20 mm bar and a wedge arrangement at the bolt top end. Once the bolt is fully driven into the hole (like the friction bolt), the nut at the bottom is rotated to actuate a set of wedges that firmly anchor the bolt top end in the rock.

The D47 MD Bolt was the first in the emerging hybrid bolt technologies developed to produce a high capacity single pass bolt.

Mining methods, and ground conditions continuously vary while the ultimate safety of personnel and profitability must continue. The D47 MD Bolt is the ideal product to achieve these goals.

## Features

- Good all purpose bolt useful for all conditions (including normal rock conditions)
- A productivity improving bolt with high static capacity
- Very simple bolt installation (similar to a standard friction bolt)
- No resins or grouts required, making it far easier to install, able to hammer straight in through wet and broken ground with no complications
- High friction anchorage capacity at the bolt top end
- Applicable to moving ground conditions
- High tensile and shear strength
- Rock plate secured to allow transfer of load to friction bolt and 20 mm bar
- The stopper safety device eliminates possible bar ejection
- The bottom of the tube is sealed to prevent atmospheric corrosion
- Low profile bolt head (no bar protrusion below the nut)
- Accessories can be screwed directly onto the installed bolts
- Fully galvanized for corrosion protection
- Bolt installation quality apparent to operator
- With the common size being 2.4 m these bolts are available in a range of sizes from 1.8 m, 2.1 m, 2.4 m, 3.0 m and 3.8 m

## Component properties

Bar diameter	Ø20 mm
Bar elongation (5d)	22 %
Bar rolled thread	M22x2.5 LH
Bar ultimate tensile strength	225 kN
Bar yield strength	180 kN
Tube thickness	3.0 mm
Tube ultimate tensile strength	165 kN typical
Tube yield strength	140 kN typical
Drill bit size	Ø43-45 mm
Bolt diameter	47 mm
Bolt length	1.8 m, 2.1 m, 2.4 m, 3.0 m and 3.8 m

## Bolt technical specifications

Property	Minimum	Typical
Ultimate tensile strength	280 kN	300 kN
Shear strength (calculated)	246 kN	270 kN
Dynamic capacity	19 kJ	21 kJ
Dynamic displacement	60 mm	200 mm
	<b>Maximum</b>	
Wedge expansion	52 mm	

Part number	Description	Weight
BMG2018S	1.8 m long MD Bolt galvanized	10.2 kg
BMB2018S	1.8 m long MD Bolt black	9.8 kg
BMG2021S	2.1 m long MD Bolt galvanized	12.0 kg
BMB2021S	2.1 m long MD Bolt black	11.7 kg
BMG2024S	2.4 m long MD Bolt galvanized	13.2 kg
BMB2024S	2.4 m long MD Bolt black	12.9 kg
BMG2030S	3.0 m long MD Bolt galvanized	16.5 kg
BMB2030S	3.0 m long MD Bolt black	16.2 kg
BMG2038S	3.8 m long MD Bolt galvanized	21.0 kg

