

# MasterRoc MG 04

## High early strength, high yield, thixotropic cable bolt grout

### MATERIAL DESCRIPTION

**MasterRoc MG 04** is a high early strength, thixotropic grout for placement of cable and rock bolts in underground mine and civil tunnel applications. **MasterRoc MG 04** is high yield and shrinkage compensated with an extended working time.

### RECOMMENDED USES

**MasterRoc MG 04** is designed for use in the post-grouting of roof bolts and cable anchors where the “top-down” grouting method is preferred.

**MasterRoc MG 04** has been developed to provide high early and long-term strengths with an extended working time. **MasterRoc MG 04** allows for early re-entry times without flash-setting in the mixing bowl.

The grout is recommended for the latest generation of cable bolts.

### FEATURES AND BENEFITS

- High early strength development (35MPa @ 4h) for early re-entry times for critical path installations.
- Extended working time (60 minutes at 22°C) enabling easier clean-up of pumps and hoses.
- Extremely pumpable but shows rapid thixotropy to restrict flow into surrounding strata.
- Eliminates the requirement for sealing of the collar and plate with cotton waste etc.
- Good ultimate strength to ensure the permanence and safety of critical installations.
- Shrinkage compensated for greater bond strength to surrounding strata.
- High bond to steel.

### PERFORMANCE DATA

Grout strength development is dependent on amount of mixing water, ambient temperature, age, and curing. Typical rates of compressive strength development for **MasterRoc MG 04** at the recommended water to product ratio under controlled laboratory conditions are shown below:

**MasterRoc MG 04** Compressive Strength (MPa) – 4L water per 20kg bag.

| Time     | Typical Result (MPa) |
|----------|----------------------|
| 2 hours  | 10                   |
| 4 hours  | 35                   |
| 24 hours | 55                   |
| 7 days   | 65                   |
| 28 days  | 80                   |

### MIXING EQUIPMENT

Master Builders Solutions recommend using a high shear paddle mixer with accurate water dosing measurement.

### MIXING

**MasterRoc MG 04** is supplied in a ready to use form requiring only the addition of clean potable water. Do not use hardened or lumpy grout caused by torn or water damaged bags.

Fill mixer with correct volume of water to match number of bags of **MasterRoc MG 04**. A good mixer should have a method of accurately determining water content.

Start the mixer and slowly add **MasterRoc MG 04** powder. Continue mixing the grout until a thick creamy, no-lump consistency is obtained.

Actual amount of water will depend on the desired consistency of the grout required and the grout pump available. As a guide, use 4 litres per 20kg bag.

Do not use excess water (above 7.0 litres for thixotropic mixes). Discard any grout that has been left more than 20 minutes. Do not retemper.

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## PLACEMENT – “THICK MIX” METHOD

**MasterRoc MG 04** can be pumped with a piston or mono type pump.

The grout is pumped into a drilled bore hole via the grout tube, which extends to the top of the hole. Grouting continues until the **MasterRoc MG 04** completely fills the bore hole, encasing the cable or roof bolt and can be seen emitting past the plate under pump pressure.

Where broken or loose strata is encountered, the grouts thixotropic consistency restricts flow into the voids and pockets effectively sealing off the bore hole, minimising grout loss (grouting methodology varies according to the type of anchor being used).

## CLEANING

As with all grouting operations, systematic cleaning of the pump and grout lines with clean water is essential. This should be done immediately after completion of grouting operations. If delays occur greater than 30 minutes, the batched grout should be discarded, and the pump and grout lines cleaned.

## ESTIMATING DATA

20kg of **MasterRoc MG 04** mixed with 4 litres of water will yield approximately 11 litres.

## PACKAGING

**MasterRoc MG 04** is packaged in 20kg bags.

## STORAGE AND SHELF LIFE

Pallets should be stored in a dry covered place. **MasterRoc MG 04** has a shelf life of 12 months.

## PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, make sure that you obtain a copy of the Master Builders Solutions Safety Data Sheet (SDS).

## NOTE

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\* Properties listed are based on laboratory controlled tests.

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