



P.O. Box 465 Ladanna, 0704

43 Staal Street Ladanna Polokwane 0704

# SAFE-T-GROUT 40 - 60 TEMPERATURE ACTIVATED GROUT A PUMPABLE AND ENCAPSULATED NON - SHRINK ROCK SUPPORT GROUT

#### Description

SAFE-T-GROUT 40/60 is a new concept grout that is temperature activated to give the required two hour specified strength.

SAFE-T-GROUT 40/60 is a pre-mixed dry powder composed of blended cements, shrinkage compensating chemicals, plasticisers and new concept additives. It is non-toxic and has so added chlorides or nitrates. At ambient temperatures ranging between 25° C and 30° C the product mixed with the specified water will have a pot life of 60 minutes, and give the required two hour strength.

## **Typical Applications**

- \* Mining rock support.
- Grouting of anchor
- bolts.

\* Tunneling.

Cavity filling in pipes and concrete members.

# **Advantages**

- \* Extended pot life at ambient temperatures (60 minutes).
- \* Early strength gains at elevated temperatures.
- \* Temperature above 25° C will activate product reaction and give the two hour strength required.
- \* Highly pumpable through small orifices.

- \* Excellent bonding characteristics.
- \* Nontoxic.
- \* Easy application.
- \* Thixotropic action no volume loss or slumping of grout from overhead holes.
- \* Pre-mixed eliminates mix selection problems and therefore reduces risk offailure.

### **Typical Properties**

SAFE - T - GROUT 40/60 can be applied in areas where rock face temperatures range between 25° C - 70° C. The product performs in areas having elevated temperatures and will give the two hour strength requirements.

Test results of the SAFE - T - GROUT 40/60 are given in the table below. It must be noted that the given results were determined under laboratory conditions. Site adjustments and conditions may alter the final results.

## TABLE 1.0- BOND PULL-OUTSTREGTHS (TONS)

Supplier	мсс	MCC	MCC	мсс	MCC
Product Name	Safe-T-Grout 40 - 60				
Setting Grade (fast, med, slow)	Med/Fast	Med/Fast	Safe-T-Grout 40 - 60	Med/Fast	Med/Fast
Temperature ° C	25	35	40	50	60
Capsule mass (kg)	6kgl/kg	6kg/8kg	6kg/8kg	6kgl8kg	6kgl8kg
Tendon length pulled	200mm x 16mm				
Pull load after 2 hours	3 - 3.5 tons	3.2 - 4.2 tons	3.8 - 4.5 tons	4.3 - 4.8 tons	4.8 - 5.3 tons
Pull load after 3 hours	4.0 - 5.0 tons	4.5 - 5.5 tons	5.0 - 5.8 tons	5.8 - 6.3 tons	5.8 - 6.5 tons
Pull load after 4 hours	4.8 - 5.5 tons	5.0 - 5.9 tons	5.5 - 6.2 tons	5.9 - 6.5 tons	6.0 - 6.9 tons
Pull load after 24 hours	5.5 - 6.5 tons	5.8 - 6.6 tons	6.5 - 7.0 tons	6.8 - 7.2 tons	7.0 - 7.5 tons
Pot life at 25° C (minutes)	50 - 60	50- 60	50-60	50- 60	50- 60
Wetted yield/litres (encapsulated) 6kg	3.6	3.6	3.6	3.6	3.6
Wetted yield/ litres (loose) 8kg	5.8	5.8	5.8	5.8	5.8



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# **Application Procedures**

SAFE - T - GROUT 40/60 is packaged and supplied in two different forms, namely:

Encapsulated where the product is packed in material socks (450mm x 65 mm). The six kilograms per bag consists of four capsules each weighing one and a half kilograms.

#### **OR**

In moisture resistant lined Polypropylene bags. The Packaged product has a weight of eight kilograms.

It must be noted that the given results were determined under laboratory conditions. Site conditions may affect the final results.

## Preparation of material before application

If SAFE - T - GROUT 40/60 encapsulated is used, the capsules are dipped into potable water and left to soak in water until all the air bubbles have dissipated - 3-5 minutes. The capsules are then removed from the water and left to drain for 2 minutes.

- \* Remove the material by stripping off the one end of the sock and empty the capsule content into a pneumatic pump.
- \* Once the pump is full, clamp down the lid of the pump and apply the necessary air pressure which will push the material into the bolt hole via a discharge hose.

# OR

If SAFE - T - GROUT 40/60 is supplied as a loose material in a polypropylene bag having a mass of eight kilograms, it will then require the addition of 3 litres water (one miners hat full) in order to form pumpable slurry. In practice, the powdered product is placed into a mixing vessel and the required water is then added. The water and powder must be thoroughly mixed until smooth lump free slurry is obtained. Transfer the mixed slurry into the pneumatic pump and pump the mixed material via a discharge hose into the drilled holes.

#### **Yields**

- \* The encapsulated SAFE T GROUT 40/60 will have a wetted yield of 3,6 litres.
- \* The pre-mixed dry powdered SAFE T GROUT 40/60, once mixed with the required amount of water will have a wetted yield of 5.8 litres.

# **Packaging**

**The SAFE - T - GROUT 40/60** is packaged into two different packaging systems: -

- \* Encapsulated, four capsules having a mass of 1.5kg each -6kg per bag.
- \* Powdered SAFE T GROUT 40/60 is packaged into a custom designed woven Polypropylene bag with a water resistant inner plastic liner. The weight per bag is 9kg's.

## **Quality Assurance**

MCC LIMPOPO's production and testing programmes comply with local and international standards.

VAT No: 4470209109

#### **Updates**

REG No: 2003/054665/23

This data sheet supersedes all previous issues.