

MULTI SAFE-T-SPIN CAPSULE

An encapsulated non-shrink cementitious support grout

Description

MULTI SAFE-T-SPIN CAPSULE consists of a two part encapsulated capsule, having a cementitious base (paste) and activator (paste) as its components. The separate components (base and activator) can be stored under fairly extreme conditions for periods exceeding 3 months without hardening or deteriorating. The product performance relies on the mixing of the two pastes through mechanical spinning using the standard anchor bolt as the mixing spindle. The reaction rate of the finished product once mixed is very rapid, but controllable. Very substantial strengths are achieved in under 30 minutes.

Product Design and Safety Standards:

In deep level mining safety and safety standards play a major role in everyday working conditions and it is for this reason that high early strength products are utilized to ensure an early safe environment. In order to maintain these stringent safety standards the supplier (MCC) of these grout products used in anchoring systems have had to consider a number of factors in designing and developing these products, namely

1. Underground ambient temperatures (25- 35 ° C)
2. Rock face temperatures (60 ° C)
3. Pot life of the product under ground
4. Heat of hydration of the grout products.
5. Application of products
6. Storage-Min. 3 months

A new technology has been developed that does away with all of the above problems. The technology is simply known as the Cementitious Spin Capsule Technology.

Typical Applications

- * Mining rock support.
- * In place of the standard pumpable grout applications in underground mining.
- * In place of the standard resin applications.
- * Where high early strengths are required with non shrink characteristics.

Advantages

- * No pot life constraints regardless of temperature (25° - 70° C)
- * High early strengths-10 minutes
- * No storage constraints - the product can be stored in temperatures Exceeding 35° C
- * No application constraints - the product only requires the insertion of the spin capsule into the drilled holes followed by the spinning of the anchor bar
- * No specialized application equipment - i.e. applicators (guns) or pumps
- * No restriction on the size of the drilled holes
- * No problems as regards over and under spin.

Typical Properties

Multi Safe - T -Spin capsules can be applied in areas where rock face temperatures range between 20° c - 70° C. The product performs in low and high temperatures. Reference must be made to the specification for the two grades of the Multi Safe-T- Spin capsule grouts, which gives a summary of the properties of the Safe-T-Spin capsule.

Application Procedures:

Multi Safe-T-Spin Capsules is supplied in two different forms, namely:

Encapsulated blend consisting of a 70% Blend of Base (Cementitious Paste) and 30% Blend of Activator (Paste),

OR

Encapsulated blend consisting of 50% Base (Cementitious Paste) and 50% Activator (Paste).

The following sequence of events will take place when installing the Capsules into the previously drilled holes:

- * Remove capsules from the supplied holder/bag.
- * Insert the capsules into a thin half moon plastic holder which has a similar length of that of the drilled hole and insert plastic capsule holder into the drilled hole.
- * Apply pressure to the end of the inserted capsule using an ordinary wooden dowl.
- * Slide out the thin plastic holder, leaving the capsules in the drilled hole.
- * Clamp the end of the anchor bar into a special clamp connected to the automatic rock drilling machine.
- * Place the end of the anchor bolt into the protruding capsule and spin the anchor bolt into the remaining capsules housed in the drilled hole.
- * Continue the spin operation until the anchor bolt reaches the end of the hole-30 seconds.
- * Unclamp the anchor bolt from the machine and leave the product in the hole to set.

Packaging:

Storage:

Multi safe-T-Spin Capsule Grout has a shelf life of 3 months when stored in cool, dry conditions.

Health and Safety:

Refer to material safety data sheet.

Quality Assurance:

MCC LIMPOPO's production and testing programmes comply with Local and International Standards.

Updates: This data sheet supersedes all previous issues prior to this date: 25/02/2014