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MasterRoc[®] MP 325

Solvent-free, low viscosity, hydrophilic grout for rock injection and consolidation of sand and silt strata

Description

MasterRoc MP 325 grout is a “one-component” injection system, based on a nanometric colloidal silica suspension. The open time can be adjusted with a 10 percent solution of NaCl as accelerator. The gel time may be adjusted by varying the quantity of accelerator added to MasterRoc MP 325 grout Component A. Due to the hydrophilic nature of the product, it also adheres well to wet surfaces. There is no foam reaction that can negatively influence the bond. Equipment can easily be cleaned using water.

Applications

MasterRoc MP 325 grout has been developed for consolidation of sand- and silt-based strata and for injection into fine joints and fissures in rock. These properties are particularly well-suited for the following:

- Slope stabilization in rock
- For ground improvement
- Pre-injection grouting for tunneling projects
- Waterproofing of existing tunnels
- Mining applications for waterproofing and stabilization

Features

- Very low viscosity
- Workable between 40 °F and 105 °F (5 °C and 40 °C)
- Uses simple mixing and pumping equipment as used with cementitious grouts
- Can be used with both one- and two-component pumps

Benefits

- Excellent penetration
- Controlled gel time with the use of a 10 percent solution of sodium chloride (NaCl) as accelerator
- Improved working safety, reduced environmental impact and low handling costs
- Non-aggressive
- Good bonding to wet surfaces
- Environmentally-preferable, contains no solvents nor toxic components

Performance Characteristics

Technical Data

Typical values

MasterRoc MP 325 Grout Component A

Color	Clear
Viscosity*	~10 cP (mPa.s)
Density*	68.7 lb/ft ³ (1.098 kg/L)
pH*	10 ± 1
SiO ₂ concentration	15 ± 1 %

*at 68 °F (20 °C)



Guidelines for Use

Add a 10 percent solution of NaCl as accelerator to MasterRoc MP 325 grout Component A at the required ratio. Ensure Component A is continuously stirred during the addition of the accelerator, and fully mixed prior to pumping.

The fully mixed MasterRoc MP 325 grout is pumped with a one-component pump, such as a cement grout injection pump, through an injection packer system into the strata.

MasterRoc MP 325 grout Component A and the NaCl accelerator solution can also be injected via two-component equipment. If the product is used with two-component pumps, it is necessary to use a static “space” in-line mixer to get good mixing of MasterRoc MP 325 grout and the accelerator.

To achieve controlled, targeted injection into sands and gravels, the use of double packers with tube à manchette injection tubes (often referred to as “TAMs” or “SPPs”) with port centers is recommended, depending on the fineness of soils, and degree of stabilization required.

Gel Time

It is always important to do a pre-test to determine the appropriate dosage of accelerator prior to injection.

The gel time of MasterRoc MP 325 grout is controlled by the dosage of accelerator and is affected by temperature. The gel time can be adjusted between 10 minutes and up to several hours as indicated in Figure 1. For longer gel times, the temperature should also be considered.

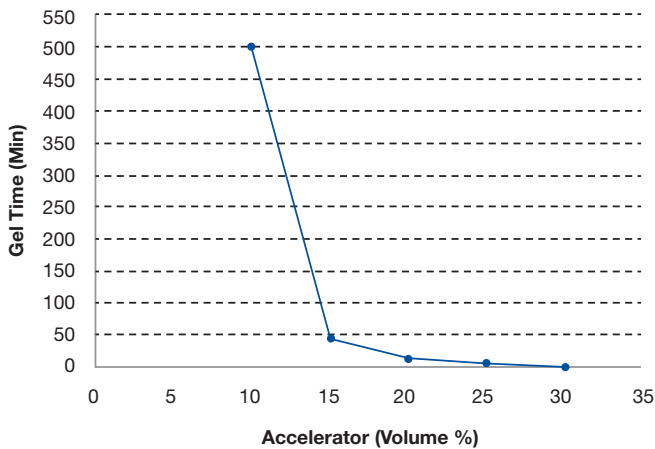


Figure 1. Adjustable gel time with varying accelerator dosage. Values given are at 68 °F (20 °C).

Cleaning of Injection Equipment

All equipment can be cleaned with fresh water.

Storage and Handling

Storage Temperature: In unopened, tightly closed original containers, the components of MasterRoc MP 325 grout may be stored for up to 6 months, if stored in a dry area and within a temperature range of 40 °F and 95 °F (5 °C and 35 °C). Protect from sunlight. After 6 months, the product remains perfectly useable, but a modest increase in dosage of accelerator may be needed.

Safety: Colloidal silica will irritate the eyes and the skin. MasterRoc MP 325 grout contains no hazardous materials requiring labeling. However, standard precautions for handling chemical products should be observed: Avoid eye and skin contact and wear hand gloves and safety goggles. If contact occurs, rinse with plenty of water. In case of eye contact, seek medical advice. The cured MasterRoc MP 325 grout is physiologically harmless.

Packaging

MasterRoc MP 325 grout is available in standard sets containing:

- MasterRoc MP 325 Component A: 55 gal (208 L) drums or 264 gal (1,000 L) containers

Related Documents

Safety Data Sheets: MasterRoc MP 325 grout

Additional Information

For additional information about MasterRoc MP 325 grout, consult your local sales representative.

Master Builders Solutions creates technologies for the construction industry inspiring people to build better. We are active in ~40 countries and operate 35 production sites with over 1,600 employees. We develop, produce, and market high-quality chemical admixtures, as well as adjacent core technologies, to master the challenges of today and support a decarbonized future. Our people are pivotal and pair leading technologies and a strong brand heritage to surpass our customers' expectations and drive continuous value creation.

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