

MasterRoc[®] MP 325

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

Product description

MasterRoc MP 325 is a “one component” injection system, based on a nanometric colloidal silica suspension. The open time can be adjusted with an accelerator. The product may be used between +5°C and +40°C and contains neither solvents nor toxic components.

The gel time may be adjusted by varying the quantity of accelerator for MasterRoc MP 325 added to Component A. Due to the hydrophilic nature of the product, the adhesion is also good to wet surfaces. There is no foam reaction that can negatively influence the bond. Equipment can easily be cleaned using water.

Fields of application

MasterRoc MP 325 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 stabilisation in rock
- As a component of ground improvement techniques
- Pre-injection grouting for tunnelling projects
- Waterproofing of existing tunnels
- Mining applications for waterproofing and stabilisation

Features and benefits

- Very low viscosity giving excellent penetration
- Controlled gel time with the use of an accelerator
- Simple mixing and pumping equipment as used with cementitious grouts
- Can be used with both 1 and 2 component pumps
- Good bonding to wet surfaces
- Workable between +5 °C and + 40 °C

- As the product is non-aggressive, it provides improved working safety, reduced environmental impact and low handling costs

Packaging

MasterRoc MP 325 is available in standard sets containing:

- MasterRoc MP 325 Component A: 210 litre drums or 1000 litre containers
- MasterRoc MP 320 series Accelerator: 210 litre drums or 1000 litre containers

For bulk supply, please discuss with your local Master Builders Solutions Representative.

Technical data

MasterRoc MP 325 Component A

Colour	Clear
Viscosity (20°C, AP-014)	~10 mPa.s
Density (20°C, AP-005)	1.1 kg/l
pH (20°C, AP-009)	10 ± 1
SiO ₂ concentration	15 ± 1 %

MasterRoc MP 320 series Accelerator

Colour	Clear
Viscosity (20°C, AP-014)	~1 mPa.s
Density (20°C, AP-005)	1.07 kg/l
pH (20°C, AP-009)	7

Mixed material (values given are dependent on mix)

Colour	Clear
Viscosity (20°C, AP-014)	~10 mPa.s
Density (20°C, AP-005)	~1.10 kg/l
pH (20°C, AP-009)	~9.8 dependent on ratio

Application procedure

The accelerator is added to component A at the required ratio. Ensure component A is continuously stirred during the addition of the accelerator, and fully pre-mixed prior to pumping.

The mixture of MasterRoc MP 325 and MasterRoc MP 320 series accelerator is pumped with a one

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component pump, such as a cement grout injection pump, through an injection packer system into the strata.

MasterRoc MP 325 and accelerator can also be injected via 2 component equipment. If the product is used with 2 component pumps, it is necessary to use a static in-line mixer to get good mixing of MasterRoc MP 325 and the MasterRoc MP 320 series accelerator.

To achieve controlled, targeted injection into sands and gravels, it is advised to use double packers within tube à manchette injection tubes (often referred to as “TAMs” or “SPPs”) with port centres dependant on the fineness of soils, and degree of stabilisation required.

Gel time

It is always important pre-test to decide on the appropriate dosage of accelerator prior to injection.

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

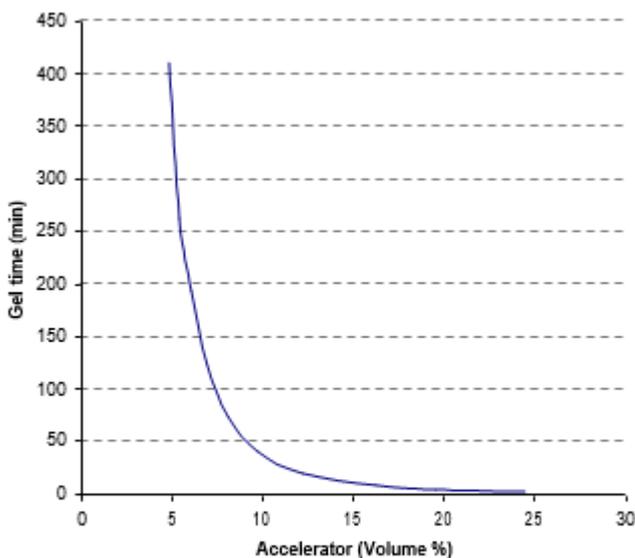


Figure 1: Adjustable gel time with varying accelerator dosage. Values given are at 20°C

Cleaning of injection equipment

All equipment can be cleaned with fresh water.

Storage

In unopened, tightly closed original containers, the components of MasterRoc MP 325 may be stored for up to 3 months, if kept dry and within a temperature range of +5 to +35°C. Protect from sunlight. After 3 months, the product remains perfectly useable, but a modest increase in dosage of accelerator may be needed.

Safety precautions

Colloidal silica irritates the eyes and the skin. Normal hygienic precautions (safety glasses, gloves and overall) should be used. Wash hands before eating or smoking. The cured MasterRoc MP 325 is physiologically harmless.

For further information, refer to the product Material Safety Data Sheet.

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