

# MasterRoc<sup>®</sup> MP 320

Solvent-free, low viscosity, hydrophilic grout for rock injection and consolidation of sandy and silty strata

## Material Description

MasterRoc MP 320 is a one-component injection system, based on a nanometric colloidal silica suspension of primary, discrete particles. Due to the hydrophilic nature of the product, the adhesion is also good to wet surfaces. The non-foaming product contains neither solvents nor toxic components.

## Areas of Application

- Pre-injection grouting for underground application
- Also suitable for post injection
- Ground improvement
- Water ingress reduction
- Slope stabilization

## Characteristics and Benefits

- Very low viscosity
- As the product is non-aggressive, it provides improved working safety
- No environmental impact
- Good bonding to wet surfaces
- Controlled gel time with the use of an accelerator
- Simple mixing and pumping equipment as used with cementitious grouts can be used

## Packaging

Part A:  
210 liter drums and 1000 liter containers  
Accelerator for Part A:  
210 liter drums and 1000 liter containers

## Technical Data

### MasterRoc MP 320 Part A

Color	Whitish/clear
Viscosity (20°C, AP-014)	~10 mPa·s
Density (20°C, AP-005)	1.3 kg/l
pH (20°C, AP-009)	9.5 to 9.8
SiO <sub>2</sub> concentration	40 ± 1 %

### MasterRoc MP 320 series Accelerator

Color	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)

Color	Whitish/clear
Viscosity (20°C, AP-014)	~5 mPa·s
Density (20°C, AP-005)	~1.25 kg/l
pH (20°C, AP-009)	~9 dependent on ratio
Final curing (20° C)	10 to 20 minutes

## Application Procedure

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

The mixture of MasterRoc MP 320 and the MasterRoc MP 320 series accelerator is workable between +5°C and +40°C. It is pumped with a one component pump, such as a cement grout injection pump, through an injection packer system into the strata. For slow migration into sand and gravels, a worm pump may also be considered.

MasterRoc MP 320 and accelerator can also be injected using a two-component pump. In this case, a static in-line mixer is necessary to achieve a good mixing of the two components.

To achieve controlled, targeted injection into sands and gravels, it is advised to use double packers within tube a manchette injection tubes (often referred to as "TAMs" or "SPPs") with port centers dependent on the fineness of soils, and degree of stabilization required.

### Gel time

MasterRoc MP 320 is produced in three different facilities worldwide. It is important to establish which product you have been supplied to choose the correct accelerator dosage for a given gel time.

The gel time may be adjusted by varying the quantity of accelerator for MasterRoc MP 320 added to Part A.

It can be adjusted between 10 minutes and several hours as indicated in Figure 1. For long gel time, the temperature will have a big influence. Site tests are recommended.

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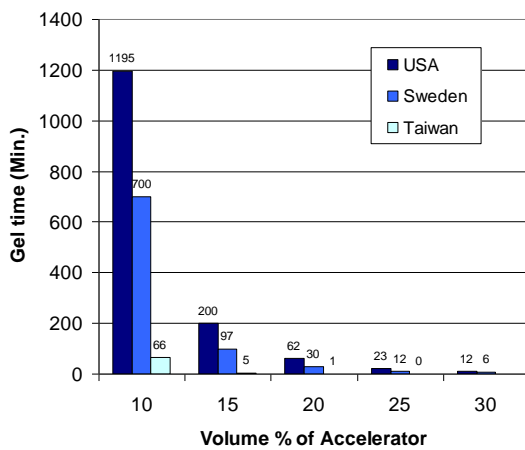


Figure 1: Adjustable gel time with varying accelerator dosage. Values given are at 8°C.

## Cleaning of Injection Equipment

All equipment can be cleaned with fresh water.

## Storage

In unopened, tightly closed original containers, the components of MasterRoc MP 320 may be stored for up to 18 months, if kept dry and within a temperature range of +5 to +35 °C. Protect from sunlight.

## Precautions

Colloidal silica will irritate the eyes and the skin. Normal precautions (safety glasses, gloves and overall) should be taken. MasterRoc MP 320 is physiologically harmless. For further information, refer to the product Safety Data Sheet.

## Disclaimer

The information given here is true, represents our best knowledge and is based not only on laboratory work but also on field experience. However, because of numerous factors affecting results, we offer this information without guarantee and no patent liability is assumed. For additional information or questions, please contact your local representative.

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