

MasterRoc MP 325

Low viscosity, non-solvent-based, hydrophilic mineral blend for rock injection and consolidation of sand and silt strata.

Material description

MasterRoc MP 325 is a single component injection system consisting of a nanometric colloidal silica suspension. The gelation time can be adjusted by adding an accelerator. The product is used at temperatures between 5 and 40° C and is free from solvents or toxic components.

The gel formation time can be adjusted according to the amount of accelerator added to Component A of the system, ie the colloidal nanosilica. Thanks to the hydrophilic nature of the product, adhesion is excellent even on wet surfaces. No foamy reaction develops that can negatively affect adhesion.

The equipment used for the injection of the product can easily be washed with water only.

Fields of application

MasterRoc MP 325 has been designed for injections in finely cracked rocks, but above all for consolidation injections of sandy-silty sedimentary soils.

The product is particularly suitable for:

- preconsolidation injections in tunneling in general;
- waterproofing interventions in tunnels already built (transudation, dripping);
- consolidation of degraded rocky slopes;
- improvement of the geotechnical characteristics of the soils (as a component of the various consolidation techniques);
- decrease in the risk of sand liquefaction.

Features and benefits

- Extremely low viscosity and therefore excellent penetration capacity.
- Regulation of the gel formation time.
- The mixing and pumping equipment used are those typical for the injection of cement slurries.
- It can be applied with one-two-component pumps.
- Good adhesion on wet surfaces.
- Can be used at temperatures between 5 and 35°C.
- Being a mineral blend, the product is not aggressive so safety and hygienic conditions in the workplace are respected.

Packaging

MasterRoc MP 325: 27.5 kg canister; 220 kg drum, 1100 kg tanks.

Accelerator: 26.75 kg canister, 1000 kg tanks.

Storage

If the material remains in storage in its original well-closed containers, the useful life of the product is 6 months, taking care to keep it at a temperature between 5 and 35° C, not exposed to sunlight.

After 6 months, the product still remains usable for a long time, in this case a modest increase in the accelerator dosage may be required.

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Essential characteristic		
MasterRoc MP 325 (Component A)	Color	Transparent, pale yellow
	Viscosity, mPa s (20°C, AP-014)	ca. 10
	Density, kg / l (20°C, AP-005)	1.1
	pH (20°C, AP-009)	10 ± 1
	SiO ₂ concentration, %	15 ± 1
Accelerator of the MasterRoc MP 320 series	Color	Light
	Viscosity, mPa s (20°C, AP-014)	ca. 1
	Density, Kg / l (20°C, AP-005)	1.07
	pH (20°C, AP-009)	7
Mixture: Component A + Accelerator (given values depend on mixing ratio)	Color	Transparent, pale yellow
	Viscosity, mPa s (20°C, AP-014)	ca. 5
	Density, Kg / l (20°C, AP-005)	ca. 1.10
	pH (20 ° C, AP-009)	ca. 9.8

Directions for use

The accelerator is added to Component A in the desired ratio. Make sure that Component A (i.e. the nanosilica) is stirred continuously during the addition of the accelerator and totally premixed before pumping.

The mixture composed of MasterRoc MP 325 and the special accelerator is generally pumped into an injection packer, introduced into the support, by means of a single-component pumping equipment, similar to those used for the injection of cement slurries.

MasterRoc MP 325 and the accelerator can also be injected separately through dual-component pumping equipment. In this case it is necessary to use an in-line static mixer to obtain a perfect mixing between Component A and the appropriate accelerator.

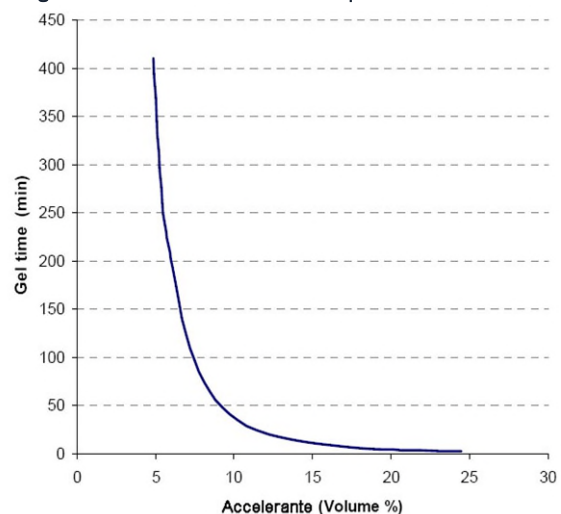
To perform effective injections in loose soils, designed according to the granulometric distribution of the soil and the degree of consolidation required, it is advisable to follow the technique with valve tube (TAM) and double shutter packer.

Gel formation time

It is very important to carry out preliminary tests to decide the appropriate dosage of accelerator, before the actual injection.

The gel formation time, as well as conditioned by the temperature, is regulated by the dosage of the accelerator and, as indicated in Figure 1, can vary within an interval of between 10 minutes and several hours.

Figure 1
 Gel formation time adjustable according to the accelerator dosage. The values shown are for temperatures at 20°C



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Safety instruction

For information on the correct and safe use, transport, storage and disposal of the product, consult the most recent Safety Data Sheet.

Other services

For additional technical information, brochures, references, technical reports and technical support please visit www.master-builders-solutions.com/it-it or alternatively contact infomac@masterbuilders.com.

Scan QR code to visit the product page and download the latest version of this technical data sheet and any additional documentation.



Disclaimer

Since 16/12/1992, Master Builders Solutions Italia Spa has been operating under a Certified Quality System compliant with the UNI EN ISO 9001 Standard. Furthermore, the Environmental Management System is certified according to the UNI EN ISO 14001 Standard and the Safety Management System is certified according to the UNI ISO 45001 Standard.

For further information, please consult the local Technician of Master Builders Solutions. The technical advice on how to use our products, either written or verbally given, are based on the current state of our scientific and practical expertise, and does not imply the assumption of any guarantee and/or responsibility for the final results of works executed using our products.

Therefore, the customer is not exempted from the exclusive task and responsibility of verifying the suitability of our products for the intended use and purposes.

This version supersedes all the previous ones.

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