

MasterRoc MP 650

Ultra-fine, ultra-fast setting Portland cement for injections into rock and soil.

Material description

MasterRoc MP 650 is a fine injection Portland cement for rock and soil. Thanks to the small size of the granules and to an expressly adapted additive system, MasterRoc MP 650 penetrates perfectly into layer joints, cracks and porosities, ensuring very high mechanical and hydraulic performance of the rocky substrate or of the injected soil.

MasterRoc MP 650 is a well graded cement, ground from pure Portland cement clinker with a Blaine value of 650 m² / kg.

MasterRoc MP 650 achieves initial and final setting faster than normal and microfine cements, allowing you to increase productivity in tunnel injection operations. The reduced workability time, ranging from one to one and a half hours, and the extremely short hardening time of two and a half hours (at about 20°C), allow you to minimize the wait before starting the next activity.

Fields of application

The material is suitable for pre- and post-excavation injections in soils and rock:

- Underground works, tunnels, stations, foundations, dams.
- Consolidation and waterproofing of structures and granular or rocky substrates.

Features and benefits

- Possible use of standard equipment for cement injection.
- Better penetration into tight joints, cracks and porosities.
- Superior water tightness thanks to greater penetration.
- Quick grip.
- Better working environment and absence of dangerous components.
- High durability.

Packaging

MasterRoc MP 650 is supplied in 20 or 1000 kg bags.

Storage

MasterRoc MP 650 has a shelf life of 6 months when stored in original closed bags, in ventilated dry area.

Essential characteristics		
Fineness (Blaine)		> 625 m ² /kg
Particle size distribution:	100 %	100 %
	98 %	98 %
	97 %	97 %
	94 %	94 %
	77 %	77 %
	44 %	44 %
	16 %	16 %
The setting times, at a 1 : 1 w/c ratio (by weight) and at 20°C are as follows:	Initial set: 60-120 min (Measured by Vicat needle)	
	Final set: 120-150 min (Measured by Vicat needle)	
Flow cone	35 - 41 s	
Bleeding maximum	1 %	
Mud balance	1.48 – 1.50 kg/l	

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Application sheet

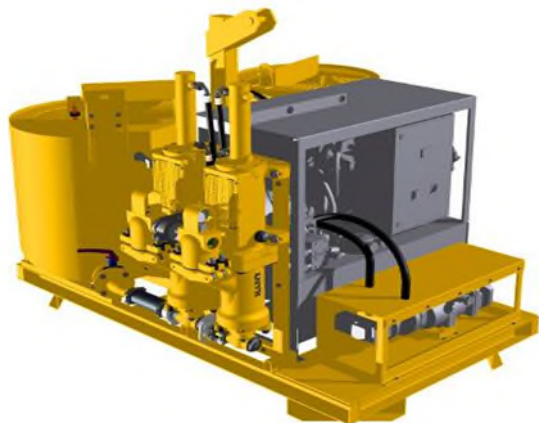
Application procedure

Always use MasterRoc MP 650 together with the superplasticizing additive of the MasterRheobuild or MasterGlenium SKY series which allows you to reduce the a / c ratio, with the same fluidity, in order to increase the final strength. The water / cement ratio (based on weight) will normally be between 0.7 and 1.2.

Mixing

- Fill the mixer with water.
- Add cement and mix for 2 minutes.
- Add the superplasticizer, if used, and mix for another minute.
- Transfer to the agitator.
- It is very important to use an efficient mixer. The best solution is colloidal mixers, but high speed paddles are also acceptable:
 - Minimum rpm for paddle mixers: 400
 - Minimum rpm for colloidal mixers: 1500

NB: Do not exceed in mixing. Mixing times higher than those recommended can cause an increase in the temperature of the grout and induce the setting inside the pump and pipes.



Storage period

Stir the mixture constantly before injecting. Do not keep the grout in the mixer for more than 30 - 40 minutes.

Injection

Normally the suspension is injected into the rock using high pressure piston pumps. The grout must be injected within 30 - 40 minutes of mixing in order to ensure constant penetration into the cracks. Longer opening times can be achieved by using the MasterRoc HCA 20 hydration control additive. For significantly longer workability times, an alternative is to use MasterRoc MP 580 S which ensures longer time intervals.

Hardening

MasterRoc MP 650 achieves sufficient grip in 2 - 2.5 hours to start drilling control holes.

Warnings

MasterRoc products are for professional use. For further information, consult the Master Builders Solutions Italia Spa area technician.

Safety instruction

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

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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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