

3	03 64 00	Injection de coulis
31	31 00 00	Earthwork
31	31 01 70	Maintenance of Tunneling and Mining
31	31 71 19	Tunnel Excavation by Tunnel Boring Machine



MasterRoc[®] MP 900 SR

Sulfate-Resistant Ultrafine Portland Cement for Injection into Rock and Soil

Description

MasterRoc MP 900 SR is a well-graded cement milled from pure and sulfate-resistant portland cement clinker with a low tricalcium aluminate (C₃A) and low alkali content. MasterRoc MP 900 SR ultrafine cement has a Blaine value of 900 m²/kg. Due to its small particle size and a specially adapted admixture system, MasterRoc MP 900 SR ultrafine cement can effectively penetrate tight joints, fissures, and pore spaces to provide a watertight grouted rock or soil mass.

Application

- Pre- and post-excavation injections in tunnels, caverns, and mines
- Groundwater sealing and water ingress reduction
- Geotechnical grouting, ground improvement, and ground stabilization
- Dam foundation injection
- Concrete crack injection
- Contact injection
- Prepacked injection

- Features**
- Ultrafine particle size
 - Fast setting
 - Superior performance and durability
 - Compatible with standard cement injection equipment
- Benefits**
- Excellent penetration in tight joints, fissures, and pore spaces
 - Increases productivity and shortens injection downtimes
 - Reduces rock falls due to unstable ground conditions
 - Economical solutions for underground water management

Performance Characteristics

Technical data

Fineness (Blaine)	> 900 m ² /kg
Particle Size Distribution	
< 40 micron	100%
< 30 micron	100%
< 20 micron	99%
< 15 micron	99%
< 10 micron	98%
< 5 micron	73%
< 2 micron	25%
< 1 micron	12%

Other Properties

Alkali (Eq Na ² O):	0.3 - 0.6%
Tricalcium aluminate (C3A):	< 3.5%

Setting Time

MasterRoc MP 900 SR ultrafine cement has the same setting time as normal microfine cement with the initial set in > 4 hours.

Injection Grout Properties

Relate to a mix containing 1.5% MasterRheobuild® 1000 admixture (by mass of cementitious materials):

Mud balance:	12.4 – 12.5 lb/gal (1.48 - 1.50 kg/L)
Water-cement ratio:	1.0
Flow cone:	32 – 34 s
Bleeding:	< 2 %

Guidelines for Use**Dosage and Application Procedure:**

MasterRoc MP 900 SR ultrafine cement should always be used with a Master Builders Solutions high-range water-reducing admixture (HRWR—MasterRheobuild 1000 with 0.6 - 2.0% of cementitious materials by mass). The water-cement ratio (by mass) should be between 0.6 and 1.0.

Mixing

- Fill the mixer with water
- Add MasterRoc MP 900 SR ultrafine cement
- Mix for two (2) minutes
- Add MasterRheobuild 1000 admixture and mix for one (1) minute
- Transfer to agitator

It is very important to use an efficient mixer. Colloidal mixers are preferred and give the best results for complete mixing.

The minimum speed for colloidal mixers is 1500 rpm.

Do not over-mix. Mixing longer than recommended may cause the grout temperature to increase and the grout to set in the pump and hoses.

Pot life

The mix should be kept under constant agitation before injection. MasterRoc MP 900 SR ultrafine cement has a pot life of above 90 minutes.

Injection

High-pressure piston pumps are normally used to inject the mix into the rock. Moyno pumps are also suitable for lower-pressure injection into rock and soil. The grout should be injected within 30 to 40 minutes after mixing to ensure proper penetration into the fissures. Using MasterSet® DELVO hydration control admixture can achieve longer open times.

Hardening

MasterRoc MP 900 SR ultrafine cement has set times comparable to regular portland and other microfine cements. It will be hard and ready to drill again in less than 24 hours.

Storage and Handling**Shelf Life**

MasterRoc MP 900 SR ultrafine cement has a minimum shelf life of 9 months when stored in original closed bags in ventilated dry areas.

Safety

Direct contact between bare skin and MasterRoc MP 900 SR ultrafine cement should be avoided as it may cause irritation or burns. If contact does occur, flush the affected area with copious amounts of clean water. In case of eye contact, seek immediate medical advice. For further information, please refer to the Safety Data Sheet or contact your local Master Builders Solutions sales representative.

Packaging

MasterRoc MP 900 SR ultrafine cement is supplied in 44.1 lb (20 kg) plastic bags and 2200 lb (1000 kg) bulk bags.

Related Documents

Safety Data Sheets: MasterRoc MP 900 SR ultrafine cement

Additional Information

For additional information on MasterRoc ACP 211 liquid anti-clay agent, 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.

Limited Warranty Notice

Master Builders Solutions Admixtures US, LLC ("Master Builders Solutions") warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. MASTER BUILDERS SOLUTIONS MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of Master Builders Solutions. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. MASTER BUILDERS SOLUTIONS WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on Master Builders Solutions' present knowledge and experience. However, Master Builders Solutions assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. Master Builders Solutions reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.