

3
31

03 64 00

Injection Grouting

31 01 70

**Maintenance of
Tunneling and Mining**

31 73 00

Tunnel Grouting

MasterRoc[®] MP 650

Microfine portland cement for rock and soil injection

Description

MasterRoc MP 650 is a well-graded microfine cement milled from pure portland cement clinker and has a Blaine value of 650 m²/kg. MasterRoc MP 650 microfine cement has a small particle size making it particularly well-suited for penetration into tight joints, fissures and pore spaces. This superior penetration provides a water-tight grouted rock or soil mass much more effectively than ordinary portland cement systems.

Applications

Recommended for use in soil and rock injection for:

- Tunnels, caverns and mines for pre- and post-excavation injection
- Ground water sealing and ground stabilization
- Pre-packed injection
- Contact injection

Features

- Fast setting time
- Durable
- Cost effective
- Fine particle size
- Non-hazardous

Benefits

- Excellent penetration in tight joints, fissures and pore spaces
- Improved water tightness following proper application
- Better working environment
- Improved grouting efficiency and less waste

Performance Characteristics

Technical Data

Fineness (Blaine)	> 625 m ² /kg
-------------------	--------------------------

Particle Size Distribution

< 40 microns	100%
< 30 microns	99%
< 20 microns	97%
< 15 microns	93%
< 10 microns	80%
< 5 microns	50%
< 2 microns	23%
d95	16 microns
d50	5 microns
d25	2 microns



Setting Time

The setting times (measured by Vicat needle) at a water-cement ratio of 1.0 (by mass) and at 68 °F (20 °C) are as follows:

Initial Set	60 - 120 min.
Final Set	120 - 150 min.

Injection Grout Properties

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

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

Guidelines for Use

Application Procedure: MasterRoc MP 650 microfine cement should always be used with MasterRheobuild 1000 admixture (1.0 - 3.0% of cement by mass). Water-cement ratio (by mass) should normally be between 0.5 - 1.0.

Mixing:

- Fill the mixer with water
- Add cement
- Mix for 2 minutes
- Add MasterRheobuild 1000 admixture and mix for one 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.

Minimum speed for colloidal mixers is 1,500 rpm.

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

Pot Life: The mix should be kept under constant agitation prior to injection. Do not keep mix in agitator longer than 30 to 40 minutes.

Injection: High-pressure piston pumps are normally used to pump mix into the rock.

The mix should be injected within 30 to 40 minutes after mixing to ensure that it keeps penetrating into the fissures. Longer open times can be achieved by using MasterSet® DELVO admixture.

Hardening: MasterRoc MP 650 microfine cement will set sufficiently in 2 to 2-1/2 hours to allow drilling to commence for control or blast holes.

Storage and Handling

Shelf Life: MasterRoc MP 650 microfine cement has a shelf life of 9 months when stored in original closed bags in ventilated dry areas.

Safety: Direct contact between bare skin and MasterRoc MP 650 microfine 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 sales representative.

Packaging

MasterRoc MP 650 microfine cement is supplied in 44.1lb (20 kg) plastic bags.

Related Documents

Safety Data Sheets: MasterRoc MP 650 microfine cement

Additional Information

For additional information on MasterRoc MP 650 microfine cement, 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.