

MasterRoc[®] MP 910

Blast furnace slag based ultrafine cement for rock and soil injection

Description

MasterRoc MP 910 is a well-graded, sulfate-resistant ultrafine cement milled from granulated blast furnace slag. The product has a Blaine value greater than 950 m²/kg. Due to the small particle size and the specially adapted admixtures, MasterRoc MP 910 ultrafine cement can penetrate well into tight joints, fissures, and pore spaces, and can provide a water-tight grouted rock or soil mass much more effectively than ordinary portland cement systems. MasterRoc MP 910 ultrafine cement shows high resistance to aggressive water-soluble media such as sulphates, chlorides, and acids.

Applications

MasterRoc MP 910 ultrafine cement is recommended for use in rock and soil injections for:

- Geotechnical grouting and ground improvement
- Pre- and post-excavation injections in tunnels, caverns, and mines
- Permeability grouting
- Contact injection

Features

- Sulfate-resistant binder
- High chemical resistance to aggressive environments
- Produces stable cementitious grout
- Compatible with standard cement injection equipment

Benefits

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

Performance Characteristics

Technical Data

Fineness (Blaine)	>950 m ² /kg	ASTM C 204
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Particle Size Distribution

Anton Parr PSA

$d_{95} < 10 \mu\text{m}$

$d_{95} < 3.5 \mu\text{m}$

$d_{95} < 1.1 \mu\text{m}$

Dry Properties

Color	Grey	
Specific Gravity	2.9 g/cm ³	ASTM C 150

Typical Grout Properties

Typical results for a grout mix with a water-cement ratio of 0.8:1 and containing 1.5% of MasterRheobuild 1000 (by dry mass of cement):

Water : Cement	0.8:1	
MasterRheobuild 1000	1.5%	
Density (68 °F / 20 °C)	1.56 – 1.58 g/cm ³	ASTM D 4380
Initial Viscosity	44 - 49 sec	ASTM D 6910

Internal Cohesion	10 Pascal	Lombardi Plate
Initial Set	12 - 14 hr	ASTM C 191
Final Set	17 - 19 hr	ASTM C 191

Bleeding	ASTM C 940	
1-hour	< 0.5%	
2-hour	< 0.5%	
3-hour	< 1.0%	

Compressive Strength	ASTM C 109	
3-day	≥ 2000 psi (13.8 mPa)	
7-day	≥ 2500 psi (17.2 mPa)	
28-day	≥ 3500 psi (24.1 mPa)	

Guidelines for Use

Application Procedure

- MasterRoc MP 910 ultrafine cement should always be used with a Master Builders Solutions High Range Water Reducing Admixture (such as MasterRheobuild 1000 or MasterGlenium) at 0.5 – 2 % of dry cement by mass.
- Water-cement ratio (by mass) should normally be between 0.6 - 3.0.

Product Note

MasterRoc MP 910 ultrafine cement is compatible with other admixture products from Master Builders Solutions, including the MasterGlenium series of high-range water reducers, MasterMatrix UW450, MasterEase 5000, etc. Combining these admixtures in the mix allows for different desirable grout properties to be achieved depending on the project specifications.

Mixing:

- Fill the mixer with water (colloidal mixer is recommended)
- Add MasterRoc MP 910 ultrafine cement while running the mixer
- Mix for 2 minutes
- Add MasterRheobuild 1000 admixture and mix for one minute
- Transfer the mix to the 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 result in setting of the grout in the pump and hoses.

Pot life: The mix should be kept under constant agitation prior to

injection. The mix has a pot life of up to 8 hours.

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

Storage and Handling

Shelf Life: MasterRoc MP 910 ultrafine cement has a minimum shelf life of 12 months when stored in the original unopened bags in ventilated dry areas.

Safety: Direct contact between bare skin and MasterRoc MP 910 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 sales representative.

Packaging

MasterRoc MP 910 ultrafine cement is supplied in 55 lb (25 kg) plastic bags and 2200 lb (1000 kg) bulk Bags.

Related Documents

Safety Data Sheets: MasterRoc MP 910 ultrafine cement

Additional Information

For additional information on MasterRoc MP 680 foaming agent, please contact 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

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