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MasterRoc[®] SA 167

Alkali-Free, Liquid, High-Performance Set Accelerator for Sprayed Concrete

Formerly MEYCO SA 167*

Description

MasterRoc SA 167 high-performance alkali-free set accelerating admixture is used for sprayed concrete. It is a liquid whose dosage can be varied to achieve desired setting and hardening times. MasterRoc SA 167 admixture meets the requirements of ASTM C 1141/C 1141M, Types I / II, Grade 9, Class A.

Applications

Recommended for use in:

- Applications where high early and ultimate strength development and thick layers are required
- Temporary and permanent ground support in tunnels
- Ground support in mining
- General support in poor ground conditions
- Slope stabilization
- Acceleration of cementitious grouts, such as those used in annulus grouts, permeation grouts and cellular concrete

Features

- Rapid early strength development for ground support allowing for increased advance
- Supplied as a liquid, providing easy handling as well as improved dosing accuracy

Benefits

- Provides extremely fast setting coupled with continual high early-age strength development
- Excellent long-term strength and durability
- Lower in-place costs compared to traditional accelerators

Performance Characteristics

Technical Data

Form	Suspension
Color	Beige to white
Density at 68 °F (20 °C)	12.26 ± 2.5 lb/gal (1.47 ± 0.30 kg/L)
pH (1:1 water solution)	2.7 ± 0.5
Viscosity ¹	750 ± 250 cP (mPa.s)
Thermal stability	41 °F to 95 °F (5 °C to 35 °C)
Chloride content	<0.1%
Na ₂ O _e , by mass	<1%

¹ Brookfield, 68 °F (20 °C). Viscosity is dependent on degree of product agitation and temperature.

Guidelines for Use

The following results should be taken as a performance guide only:

Initial set	Final set	24 h strength	Rating
2 min	6-8 min	2,610-2,900 psi (18-20 MPa)	good
5 min	8-12 min	1,740-2,180 psi (12-15 MPa)	ok
>10 min	>15 min	<1,450 psi (<10 MPa)	poor

Remark: If the setting times are poor, the 24 h strength usually remains good.

Dosage: The dosage of MasterRoc SA 167 admixture depends upon the temperature, conditions, reactivity of cement used, required layer thickness, setting time and early strength development. The consumption of MasterRoc SA 167 admixture is normally in the range of 3 to 8% by binder weight. Overdosing (>10%) may result in decreased final strength.

Dispensing: MasterRoc SA 167 admixture is added at the nozzle. It is very important that a constant and accurate dosage is maintained to ensure quality sprayed concrete. It is important that the following pump selection guidelines be followed.

Works very well with:

- Mono pumps (screw pumps)
- Squeeze pumps

Should not be used with:

- Piston pumps
- All pumps with ball and seat valves
- Pressure tanks
- Gear pumps

Do not use a filter on the suction hose as this causes obstructions. Preferably the material should be drawn off the bottom of the drum/container.

Mixing: When MasterRoc SA 167 admixture is used for wet mix spraying, the water-binder ratio (w/b) should be less than 0.5 and preferably less than 0.45. When targeting extremely high-early strengths, it is recommended that it be 0.40 or lower. Lower w/b provides the following benefits: faster setting, higher-early strength, better durability, lower accelerator dosage and increased application thickness.

Application Procedure: The substrate should be clean and free from loose particles and preferably damp.

Evaluation of cement compatibility should be carried out on a test mortar in accordance with ASTM C 1398, Standard Test Method for Time of Setting of Portland Cement Pastes Containing Accelerating Admixtures for Shotcrete by the use of Gillmore Needles.

Cleaning of Dosing Pump: Prior to the use of MasterRoc SA 167 admixture, the dosing pump and other parts of the system must be thoroughly cleaned with plenty of water. Failure to do so can result in dosing system blockage. Make sure that all operators involved in testing and application are fully informed.

Product Notes

Compatibility: MasterRoc SA 167 admixture can be interchanged with other BASF alkali-free accelerators including MasterRoc SA 160 admixture.

Do not mix MasterRoc SA 167 admixture with any type of accelerator produced by another manufacturer, as this could cause immediate clogging of dosing pumps and hoses.

The information provided represents our best knowledge and is based not only on laboratory work but also on field experience. However, because of numerous factors affecting results, it is recommended that trial mixtures be conducted to evaluate actual performance with local materials. For additional information or questions, please contact your local sales representative.

Storage and Handling

Storage Temperature: MasterRoc SA 167 admixture should not be stored at temperatures below 41°F (5 °C) or above 95 °F (35 °C). Optimum temperature for storage and performance is 68 °F (20 °C).

MasterRoc SA 167 admixture should be kept in closed containers made of plastic, fiberglass or stainless steel. **Storage in non-stainless steel containers is not recommended as the pH can cause corrosion that might affect the performance of the product.**

After prolonged storage, agitation by mechanical stirring or recirculation pump is recommended prior to use. **Do not use compressed air.**

Shelf Life: If stored in tightly-closed original containers under the above recommended conditions, MasterRoc SA 167 admixture has a shelf life of six months. It is recommended that you contact your local sales representative prior to using any product that has frozen. Performance testing should always be performed before use.

Safety: It is recommended that guidelines for the use and handling of cementitious materials be followed.

Avoid eye and skin contact and wear rubber gloves and goggles. If contact occurs, rinse with water. In case of eye contact, seek immediate medical attention.

Packaging

MasterRoc SA 167 admixture is supplied in 55 gal (208 L) drums, 264 gal (1000 L) containers or in bulk.

Related Documents

Safety Data Sheets: MasterRoc SA 167 admixture.

Additional Information

For additional information on MasterRoc SA 167 admixture, consult your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

Limited Warranty Notice

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* MEYCO SA 167 became MasterRoc SA 167 under the Master Builders Solutions brand, effective October 1, 2013.