

Description

Rheomac VMA 450 organic, viscosity-modifying admixture (VMA) is a premier ready-to-use, liquid admixture specially developed for producing concrete with enhanced viscosity and controlled rheological properties. Concrete containing Rheomac VMA 450 admixture exhibits superior stability and controlled bleeding characteristics, thus increasing resistance to segregation and facilitating placement.

Applications

Recommended for use in:

- Concrete containing “gap-graded” aggregates
- Lean concrete mixtures
- Concrete containing manufactured sand
- Concrete mixtures requiring “more body”
- Rheodynamic® Self-Consolidating Concrete (SCC)
- Self-Consolidating Grout

RHEOMAC® VMA 450

Viscosity-Modifying Admixture

Features

- Increased viscosity
- Thixotropic properties

Benefits

- Reduces segregation, even with highly fluid concrete mixtures
- Controls bleeding
- Reduces sagging, helping plastic concrete maintain its shape on slopes and arches
- Facilitates production of highly fluid concrete mixtures such as Rheodynamic SCC
- Superior and predictable in-place concrete properties
- Enhances surface appearance
- Uniform appearance in high coarse aggregate content and exposed-aggregate architectural concrete
- Provides flexibility in mixture proportioning
- Provides concrete stability during transport and placement

Performance Characteristics

Workability: A slight decrease in slump or slump flow may be noted after the addition of Rheomac VMA 450 admixture due to the increase in concrete viscosity. If necessary, the slight decrease in slump or slump flow can be offset easily by a minor increase in water-reducing or high-range water-reducing admixtures dosage. Very high slump flows can be achieved in Rheodynamic SCC produced with Rheomac VMA 450 admixture. Also, because of its thixotropic properties, concrete containing Rheomac VMA 450 admixture may stiffen if left in a mixing vessel or truck without agitation. Workability can be restored simply by remixing the concrete mixture.

Slump Retention: In general, the slump retention characteristic of concrete mixtures containing Rheomac VMA 450 admixture is similar to that of plain concrete.

Air Content: A slightly higher dosage of air-entraining admixture may be required to achieve the desired air content when using Rheomac VMA 450 admixture.

Setting Time: Rheomac VMA 450 admixture has little to no effect on concrete setting time within the recommended dosage range.

Compressive Strength: Rheomac VMA 450 admixture has little to no effect on compressive strength within the recommended dosage range.

Product Data: RHEOMAC® VMA 450

Guidelines for Use

Dosage: The recommended dosage range for Rheomac VMA 450 admixture is 0.5-4 fl oz/cwt (32-260 mL/100 kg) of cementitious materials for most concrete mixtures. Because of variations in concrete materials, job site conditions and/or applications dosages outside of the recommended range may be required.

Mixing: Rheomac VMA 450 admixture should not be added with the mix water and, therefore, must be dispensed into the concrete mixture as a delayed addition. Rheomac VMA 450 admixture may be added after all other concreting ingredients have been batched and thoroughly mixed, either at the batch plant or at the job site.

Concrete Placement: Concrete containing Rheomac VMA 450 admixture can be placed using conventional placement methods. Concrete placement should be continuous and without interruption.

Product Notes

Compatibility: Do not use Rheomac VMA 450 admixture with admixtures containing beta-naphthalene sulfonate, such as Rheobuild® 1000 Admixture. Erratic behaviors in slump, slump flow and pumpability may be experienced.

Rheomac VMA 450 admixture is compatible with most admixtures used in the production of quality concrete including normal, mid-range and high-range water-reducing admixtures, air-entrainers, accelerators, retarders, extended-set control admixtures, corrosion inhibitors and shrinkage reducers.

Rheomac VMA 450 admixture is also compatible with slag cement and pozzolans such as fly ash and silica fume.

Storage and Handling

To prevent gelling, contact between Rheomac VMA 450 admixture and water in hoses, pumps, tanks or receiving vessels must be avoided.

Storage Temperature: Rheomac VMA 450 admixture must be stored at temperatures above 44 °F (7 °C) to avoid dispensing difficulties due to thickening. Do not allow Rheomac VMA 450 admixture to freeze since it cannot be reconstituted after thawing.

Shelf Life: Rheomac VMA 450 admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your BASF Construction Chemicals representative regarding suitability for use and dosage recommendations if the shelf life of Rheomac VMA 450 admixture has been exceeded.

Dispensing: Consult your local BASF Construction Chemicals sales representative for the proper dispensing equipment for Rheomac VMA 450 admixture. If dispensing directly from the 55 gal (208 L) drum, it is recommended that the larger 2 in. (50 mm) opening be used.

Packaging

Rheomac VMA 450 admixture is supplied in 55 gal (208 L) drums and 275 gal (1040 L) totes.

Related Documents

Material Safety Data Sheets: Rheomac VMA 450 admixture.

Additional Information

For additional information on Rheomac VMA 450 admixture or on its use in developing concrete mixtures with special performance characteristics, contact your BASF Construction Chemicals representative.

The Admixture Systems business of BASF Construction Chemicals is a leading provider of innovative additives for specialty concrete used in the ready mix, precast, manufactured concrete products, underground construction and paving markets throughout the NAFTA region. The Company's respected Master Builders brand products are used to improve the placing, pumping, finishing, appearance and performance characteristics of concrete.

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