

3	03 30 00	Cast-in-Place Concrete
	03 40 00	Precast Concrete
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MasterMatrix[®] VMA 358

Viscosity-Modifying Admixture

Description

MasterMatrix VMA 358 organic, viscosity-modifying admixture (VMA) is a ready-to-use, liquid admixture developed for producing concrete with enhanced viscosity and controlled rheological properties. Concrete with MasterMatrix VMA 358 admixture exhibits superior stability, thus increasing resistance to segregation and facilitating placement.

MasterMatrix VMA 358 admixture meets ASTM C 494/C 494M requirements for Type S, Specific Performance, admixtures.

Applications

Recommended for use in:

- Concrete containing "gap-graded" aggregates
- Lean concrete mixtures
- Concrete containing manufactured sand
- Concrete as a pumping aid
- Concrete as a finishing aid
- Concrete mixtures requiring "more body"
- Self-Consolidating Concrete (SCC)
- Liquid Sand program
- Pervious Concrete
- Self-Consolidating Grout
- Geotechnical grouting and ground improvement

Features

- Modifies viscosity of concrete

Benefits

- Controls bleeding
- Reduces segregation, even with highly fluid concrete mixtures
- Enhances pumping and finishing
- Reduces sagging, helping plastic concrete maintain its shape on slopes and arches
- Facilitates production of highly fluid concrete mixtures such as SCC
- Facilitates placement of pervious concrete mixtures
- Superior and predictable in-place concrete properties
- Enhances surface appearance
- Flexibility in mixture proportioning
- Provides concrete stability during transport and placement

Performance Characteristics

Setting Time: MasterMatrix VMA 358 admixture has little to no impact on concrete setting time within the recommended dosage range of 2 to 10 fl oz/cwt (130 to 650 mL/100 kg) of cementitious materials.

Compressive Strength: MasterMatrix VMA 358 admixture does not affect the compressive strength of concrete. Slight increases in compressive strength have, however, been noted in SCC mixtures containing MasterMatrix VMA 358 admixture.

Workability: A slight decrease in slump or slump flow may be noted after the addition of MasterMatrix VMA 358 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 admixture dosage. Very high slump flows can be achieved in SCC produced with MasterMatrix VMA 358 admixture.

Slump Retention: In general, the slump retention characteristic of concrete mixtures containing MasterMatrix VMA 358 admixture is similar to that of plain concrete.

Air Content: Typical dosages of air-entraining admixtures may be used to achieve the desired air content when using MasterMatrix VMA 358 admixture.

Guidelines for Use

Dosage: To provide stability in self-consolidating concrete (SCC) mixtures, the recommended dosage for MasterMatrix VMA 358 admixture is up to 10 fl oz/cwt (650 mL/100 kg) of cementitious materials. For other concrete mixtures that require "more body" to facilitate pumping and finishing, a dosage of up to 6 fl oz/cwt (390 mL/100 kg) is recommended. Because of variations in concrete materials, job site conditions and/or applications, dosages outside of the suggested range may be required. In such cases, contact your local sales representative.

Mixing: MasterMatrix VMA 358 admixture is typically added with the initial mix water. Alternately, MasterMatrix VMA 358 admixture may be added after all other concreting ingredients have been batched and thoroughly mixed, either at the batch plant or at the jobsite.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterMatrix VMA 358 admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: Do not use MasterMatrix VMA 358 admixture with admixtures containing beta-naphthalene sulfonate such as MasterRheobuild® 1000 admixture. Erratic behaviors in slump, slump flow and pumpability may be experienced. MasterMatrix VMA 358 admixture is compatible with most other 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. However a field trial is recommended to ensure appropriate performance.

Storage and Handling

Storage Temperature: MasterMatrix VMA 358 admixture must be stored at temperatures above 41 °F (5 °C) to avoid dispensing difficulties due to thickening. Do not allow MasterMatrix VMA 358 admixture to freeze since it cannot be reconstituted after thawing.

Shelf Life: MasterMatrix VMA 358 admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use and dosage recommendations if the shelf life of MasterMatrix VMA 358 admixture has been exceeded.

Dispensing: Consult your local sales representative for the proper dispensing equipment for MasterMatrix VMA 358 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

MasterMatrix VMA 358 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterMatrix VMA 358 admixture

Additional Information

For additional information on MasterMatrix VMA 358 admixture or on its use in developing concrete mixtures with special performance characteristics, 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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