MASTER® BUILDERS SOLUTIONS

MasterAir® AE 400

Air-Entraining Admixture

Description

MasterAir AE 400 air-entraining admixture is designed for use in low-slump concrete mixtures and will meet the requirements of ASTM C 260, AASHTO M 154 and CRD-C13.

Applications

Recommended for use in:

- All low-slump concrete mixtures exposed to cyclic freezing and thawing

Features

- Ready-to-use in the proper concentration for rapid, accurate dispensing

Benefits

- Improved resistance to damage from cyclic freezing and thawing
- Improved resistance to scaling from deicing salts
- Improved plasticity and workability
- Reduced permeability – increased durability

Performance Characteristics

Concrete durability research has established that the best protection for concrete from the adverse effects of freezing and thawing cycles and deicing salts results from: proper air content in the hardened concrete, a suitable air-void system in terms of bubble size and spacing, and adequate concrete strength, assuming the use of sound aggregates and proper mixing, placing, handling and curing techniques. MasterAir AE 400 admixture can be used to develop a stable air-void structure in low-slump concrete.

Guidelines for Use

Dosage: The amount of MasterAir AE 400 admixture will depend upon the amount of entrained air required under actual job conditions, taking into consideration transport, placing and consolidation methods. The exact quantity of air-entraining admixture needed to achieve a given air content in concrete varies because of differences in concrete-making materials and ambient conditions. Typical factors which might influence the dosage of an air-entraining admixture include: temperature, cementitious materials type and amount, water-cementitious materials ratio, fine aggregate gradation, sandaggregate ratio, admixtures and slump.

There is no stated dosage for MasterAir AE 400 admixture; however, a starting dosage in the range of 0.25 - 4 fl oz/cwt (16-260 mL/100 kg) of cementitious material is recommended for trial mixes. Measure the air content of the trial mix and adjust the quantity of MasterAir AE 400 admixture as necessary to obtain the desired air content. In mixes containing water-reducing and set-control admixtures, the dosage of MasterAir AE 400 admixture may be less than the amount required in plain concrete. Due to possible changes in the factors that affect air entrainment, periodic air content checks should be made during the course of a placement and the dosage of MasterAir AE 400 admixture adjusted as needed.

Certain applications may require the use of non-typical dosages of MasterAir AE 400 admixture. In such instances, consult your local sales representative.

Dispensing and Mixing: Add MasterAir AE 400 admixture to the concrete mix using a dispenser designed for air-entraining admixtures, or add manually using a suitable measuring device that ensures accuracy within plus or minus 3% of the required amount.

For optimum, consistent performance, the air-entraining admixture should be dispensed on damp, fine aggregate. In concrete mixes containing lightweight fine aggregate, field evaluations should be conducted to determine the most appropriate way of dispensing the air-entraining admixture – either on the damp, fine aggregate or with the initial batch water.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterAir AE 400 admixture will neither initiate nor promote corrosion of reinforcing and prestressing steel embedded in concrete, or of galvanized steel floor and roof systems. No calcium chloride or other chloride-based ingredients are used in the manufacture of this admixture.

Compatibility: MasterAir AE 400 admixture is a ready-to-use solution. Do not dilute or mix it directly with any other admixture prior to batching.

MasterAir AE 400 admixture may be used in combination with any Master Builders Solutions admixture. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mix.

Storage and Handling

Storage Temperature: MasterAir AE 400 admixture should be stored and dispensed at 35 °F (2 °C) or higher. Although freezing does not harm this product, precautions should be taken to protect it from freezing. If MasterAir AE 400 admixture freezes, thaw at 35 °F (2 °C) or above and completely reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

Shelf Life: MasterAir AE 400 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 MasterAir AE 400 admixture has been exceeded.

Packaging

MasterAir AE 400 admixture is available in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: MasterAir AE 400 admixture

Additional Information

For suggested specification information or for additional product data on MasterAir AE 400 admixture, 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

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.

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