

Master X-Seed[®] 55

Strength-Enhancing Admixture

Description

Master X-Seed 55 is a patented, strength-enhancing admixture that improves both early- and late-age strength development in concrete, while supporting sustainable construction. Master X-Seed 55 admixture is based on a unique technology that facilitates improved cement hydration, thus enhancing strength development. Master X-Seed 55 admixture meets ASTM C 494/C 494M requirements for Type S, Specific Performance, admixtures.

The strength-enhancing property of Master X-Seed 55 admixture permits a reduction in the total cementitious materials content of a given concrete mixture while maintaining compressive strength development equivalent to that of reference concrete, with associated benefits in CO₂ emissions reduction.

Applications

Recommended for use in:

- Green Sense[®] Concrete
- Ready-mixed concrete
- Prestressed concrete
- Precast concrete
- Self-consolidating concrete (SCC)
- Geotechnical grouting and ground improvement

Features

- Improves cement hydration
- Increases strength development - both early- (1-day) and late-age (28-day)
- Enhances workability of high-performance concrete mixtures

Benefits

- Provides a strength safety factor and/or expanded performance space
- Reduces in-place concrete costs when utilized in optimized concrete mixtures
- Permits higher replacement levels of supplementary cementitious materials (SCMs)
- Permits earlier stripping and reuse of forms
- Helps reduce CO₂ emissions associated with concrete

Particle Seeding Technology

Master X-Seed 55 admixture is based on a Master Builders Solutions proprietary technology that ensures a stable suspension of synthetically-produced crystalline CSH nanoparticles. These particles act as active seeds in a concrete mixture to facilitate the growth of active crystals between cement particles. The unique technology of Master X-Seed admixture provides an unmatched improvement of the hydration process in a concrete matrix which increases early- and late-age strength development compared to a reference untreated concrete mixture.

Performance Characteristics

Rate of Hardening: Master X-Seed 55 admixture is formulated to provide similar-setting characteristics compared to a reference untreated concrete mixture. The time of setting of concrete is primarily influenced by ambient and concrete temperatures, as well as the chemical and physical compositions of the basic ingredients of the concrete. Therefore, trial mixtures should be made with job materials to determine the dosage required for a given application.

Guidelines for Use

Dosage: Master X-Seed 55 admixture has a recommended dosage range of 4 to 15 fl oz/cwt (260 to 980 mL/100 kg) of cementitious materials. Because of variations in concrete materials, jobsite conditions and/or applications, dosages outside of the recommended range may be required. In such cases, contact your local sales representative.

Mixing: Master X-Seed 55 admixture can be added with the initial batch water or as a delayed addition.

Product Notes:

Corrosivity – Non-Chloride, Non-Corrosive: Master X-Seed 55 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of Master X-Seed 55 admixture.

Compatibility: Master X-Seed 55 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.

Master X-Seed 55 admixture has only been tested with other admixtures manufactured by Master Builders Solutions. Thus, use of Master X-Seed 55 admixture with non-Master Builders Solutions admixtures may produce unpredictable results. Master Builders Solutions denies any warranty expressed or implied with respect to any application using a non-Master Builders Solutions admixture in combination with Master X-Seed 55 admixture.

In architectural precast or concrete applications where color is a key performance metric, a mock-up is strongly recommended in accordance with industry guidelines to pre-qualify the concrete mixture with Master X-Seed 55 admixture.

Storage and Handling:

Storage Temperature: Master X-Seed 55 admixture must be stored at temperatures above 40 °F (5 °C). If Master X-Seed 55 admixture freezes, thaw and reconstitute by mechanical agitation. Do not use pressurized air for agitation.

Shelf Life: Master X-Seed 55 admixture has a minimum shelf life of 12 months. Depending on storage conditions, the shelf life may be greater than stated. If the product is not utilized within 3 months, agitation may be required.

Packaging:

Master X-Seed 55 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

Related Documents

Safety Data Sheets: Master X-Seed 55 admixture

Additional Information

For additional information on Master X-Seed 55 admixture, or its use in developing a concrete mixture 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

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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