

03 30 00	Cast-in-Place Concrete
03 40 00	Precast Concrete
03 70 00	Mass Concrete

# MasterLife<sup>®</sup> SRA 035

## Shrinkage-Reducing Admixture

### Description

MasterLife SRA 035 shrinkage-reducing admixture was developed specifically to reduce drying shrinkage of concrete and mortar, and the potential for subsequent cracking. MasterLife SRA 035 admixture functions by reducing capillary tension of pore water, a primary cause of drying shrinkage. MasterLife SRA 035 admixture will meet ASTM C 494/C 494M requirements for Type S, Specific Performance, admixtures.

### Applications

Recommended for use in:

- Ready-mixed or precast concrete structures requiring shrinkage reduction and long-term durability
- Wet mix shotcrete
- MB Slab<sup>®</sup>

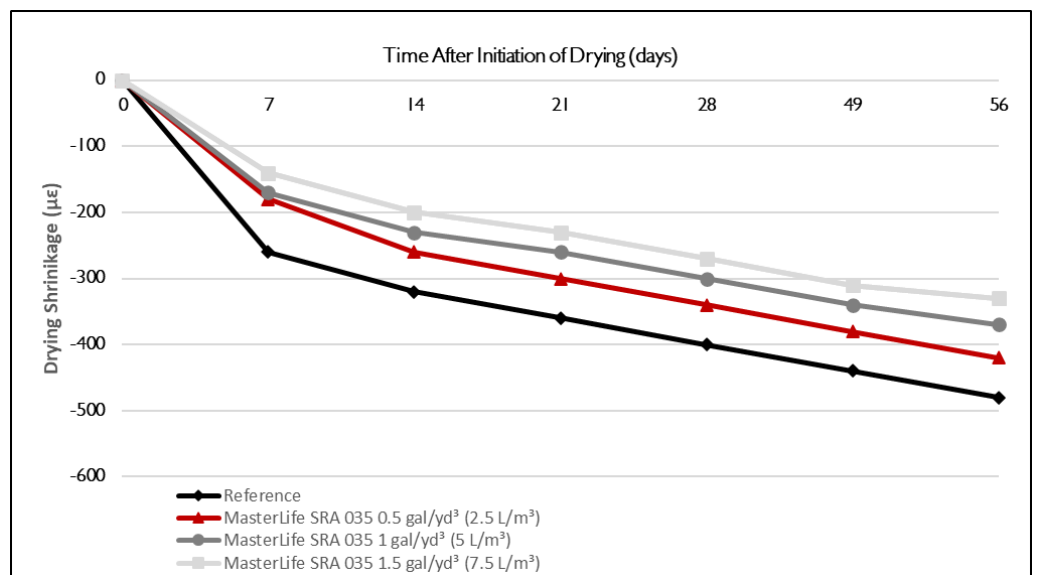
### Features

- Reduces the capillary tension of pore water in cementitious mixtures
- Provides moderate to significant reductions in the drying shrinkage of cementitious mixtures
- Reduces stresses induced from one-dimensional surface drying in concrete slabs, walls and other elements

### Benefits

- Reduces microcracking and drying shrinkage cracking in concrete, mortar and paste
- Minimizes curling in concrete slabs
- Improves aesthetics, watertightness and durability in concrete elements and structures
- Minimizes prestress loss in prestressed concrete applications.

The graphic illustrates an example of the reduction in drying shrinkage, measured by the ASTM C157 test method, using MasterLife SRA 035 admixture at different dosages. The degree of reduction in drying shrinkage for a given concrete mixture will vary based on multiple factors. These factors are described in detail in the Master Builders Solutions Technical Bulletin Shrinkage of Concrete. Testing is required to ensure the drying shrinkage of a concrete mixture will meet specific project specification requirements



## Performance Characteristics

MasterLife SRA 035 admixture does not substantially affect slump. MasterLife SRA 035 admixture may slightly increase bleed time and bleed ratio. MasterLife SRA 035 admixture may also delay time of set by 1-2 hours depending upon dosage and temperature. Compressive strength loss is minimal with MasterLife SRA 035 admixture. For air-entrained concrete applications, truck trial evaluations as detailed in the section titled "Compatibility" must be performed to verify that the specified air content can be achieved consistently. Therefore, contact your local sales representative when concrete treated with MasterLife SRA 035 admixture is being proposed for applications exposed to freezing and thawing environments.

## Guidelines for Use

**Dosage:** Knowledge of the shrinkage characteristics of the concrete mixture proposed for use is required prior to the addition of MasterLife SRA 035 admixture. The dosage of MasterLife SRA 035 admixture will be dependent on the desired drying shrinkage and the reduction in drying shrinkage required. Therefore, it is strongly recommended that drying shrinkage testing be performed to determine the optimum dosage for each application and each set of materials. The typical dosage range of MasterLife SRA 035 admixture is 0.5 to 1.5 gal/yd<sup>3</sup> (2.5 to 7.5 L/m<sup>3</sup>). However, dosages outside of this range may be required depending on the level of shrinkage reduction needed for a given application and because of variations in concrete materials, jobsite conditions and other factors. In such cases, contact your local sales representative for further guidance.

**Dispensing and Mixing:** MasterLife SRA 035 admixture may be added to the concrete mixture during the initial batch sequence or at the jobsite. The mix water content should be reduced to account for the quantity of MasterLife SRA 035 admixture used. If the delayed addition method is used, mixing at high speed for 3-5 minutes after the addition of MasterLife SRA 035 admixture will result in mixture uniformity.

## Product Notes

**Corrosivity:** Non-Chloride, Non-Corrosive: MasterLife SRA 035 admixture will neither initiate nor promote corrosion of reinforcing steel, prestressing steel or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of MasterLife SRA 035 admixture.

**Compatibility - Admixtures:** MasterLife SRA 035 admixture is compatible with most admixtures used in the production of quality concrete, including normal, mid-range and high-range water-reducers, retarders, accelerators and corrosion inhibitors. MasterLife SRA 035 admixture is recommended for use with high-range water-reducing admixtures, such as the MasterGlenium® series, for maximum workability while maintaining a low water-cementitious materials ratio. For air-entrained concrete applications, MasterAir® AE 200 admixture is the preferred air entrainer. The dosage of air entrainer must be

established through truck trial evaluations. The trials should include a simulated haul time of at least 20 minutes to assess air content stability. MasterLife SRA 035 admixture should be added separately to the concrete mixture to ensure desired results.

**Compatibility – Fibers:** MasterLife SRA 035 admixture can be used with synthetic (micro or macro) or steel fibers as part of a system for controlling drying shrinkage cracking. MasterLife SRA 035 admixture is compatible with MasterFiber fibers and other fibers meeting ASTM C1116 or ASTM A820 specifications.

**Compatibility - Cementitious Materials:** MasterLife SRA 035 admixture can be used with portland cements approved under ASTM, AASHTO or CRD specifications and supplementary cementitious materials used in concretes. Trial mixtures with MasterLife SRA 035 admixture are required before project start to ensure compatibility and desired results, especially due to potential variations in material response. Different sources of cementitious materials and variations between material batches may affect setting time, slump, or other performance attributes including compressive strength. Consult your local sales representative for recommended concrete mixture adjustments if necessary.

## Storage and Handling

**Storage Temperature:** MasterLife SRA 035 admixture is a potentially combustible material with a flash point of 198 °F (92 °C). This is substantially above the upper limit of 140 °F (60 °C) for classification as a flammable material, and below the limit of 200 °F (93 °C) where DOT requirements would classify this as a combustible material. Nonetheless, this product must be treated with care and protected from excessive heat, open flame or sparks. For more information refer to the Safety Data Sheet. MasterLife SRA 035 admixture should be stored at ambient temperatures above 35 °F (2 °C), and precautions should be taken to protect the admixture from freezing. If MasterLife SRA 035 admixture freezes, thaw and reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

**Shelf Life:** MasterLife SRA 035 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 MasterLife SRA 035 admixture has been exceeded.

## Packaging

MasterLife SRA 035 admixture is available in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

## Related Documents

Safety Data Sheets: MasterLife SRA 035 admixture

## Additional Information

For additional information on MasterLife SRA 035 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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