

03 30 00	<b>Cast-in-Place Concrete</b>
03 40 00	<b>Precast Concrete</b>
03 70 00	<b>Mass Concrete</b>

# MasterSet<sup>®</sup> R 100

## Set Retarding Admixture

### Description

MasterSet R 100 ready-to-use liquid admixture is used for producing more uniform and predictable quality concrete. Placing and finishing requirements are facilitated because this admixture retards setting time. MasterSet R 100 admixture meets ASTM C 494/C 494M requirements for Type B, retarding, and Type D, water-reducing and retarding, admixtures.

### Applications

Recommended for use in:

- Prestressed concrete
- Precast concrete
- Reinforced concrete
- Shotcrete
- Lightweight concrete
- Pumped concrete
- 4x4<sup>™</sup> Concrete
- Pervious concrete
- Self-consolidating concrete

### Features

- Reduced water content required for a given workability
- Retarded setting characteristics
- Controlled retardation – depending on the addition rate
- Full-form deflection can take place (before concrete sets) in extended pours for bridge decks, cantilevers, nonshored structural elements, etc.

### Benefits

- Improved workability
- Reduced segregation
- Superior finishing characteristics for flatwork and cast surfaces
- Flexibility in scheduling of placing and finishing operations
- Offsets effects of early stiffening during extended delays between mixing and placing
- Helps eliminate cold joints
- Peak temperature and/or rate of temperature rise in mass concrete lowered thereby reducing thermal cracking
- Increased compressive and flexural strengths

## Performance Characteristics

**Rate of Hardening:** The temperature of the concrete mixture and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete stiffens more rapidly, which may cause problems with placing and finishing. MasterSet R 100 admixture retards the set of concrete. Within the normal dosage range, it will generally extend the setting time of concrete containing normal portland cement approximately 1.5 to 8 hours compared to that of a plain concrete mixture, depending on job materials and temperatures. Trial mixtures should be made with materials approximating job conditions to determine the dosage required.

**Compressive Strength:** Concrete produced with MasterSet R 100 admixture will have rapid strength development after initial set occurs. If retardation is within the normal ASTM C 494/C 494M Types B and D specifications, MasterSet R 100 admixture will develop higher early (24-hour) and ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions.

When MasterSet R 100 admixture is used in heat-cured concrete, the length of the preheating period should be increased until initial set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

## Guidelines for Use

**Dosage:** MasterSet R 100 admixture is recommended for use at a dosage of  $3 \pm 1$  fl oz/cwt ( $195 \pm 65$  mL/100 kg) of cementitious materials for most concrete mixtures using typical concrete ingredients. Because of variations in job conditions and concrete materials, dosage rates other than the recommended amounts may be required. In such cases, contact your local sales representative.

MasterSet R 100 admixture may be used at less than the recommended dosage for the purpose of retardation only.

## Product Notes

**Corrosivity – Non-Chloride, Non-Corrosive:** MasterSet R 100 admixture will neither initiate nor promote corrosion of reinforcing steel in concrete. This admixture does not contain intentionally-added calcium chloride or other chloride-based ingredients.

**Compatibility:** MasterSet R 100 admixture may be used in combination with any Master Builders Solutions admixtures. When used in conjunction with other admixtures, each admixture must be dispensed separately into the mixture.

## Storage and Handling

**Storage Temperature:** MasterSet R 100 admixture should be stored above freezing temperatures. If this product 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:** MasterSet R 100 admixture has a minimum shelf life of 18 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 MasterSet R 100 admixture has been exceeded.

## Packaging

MasterSet R 100 admixture is supplied in 55 gal (208 L) drums, 275 gal (1040 L) totes and by bulk delivery.

## Related Documents

Safety Data Sheets: MasterSet R 100 admixture

## Additional Information

For additional information on MasterSet R 100 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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