

03 30 00	Cast-in-Place Concrete
03 40 00	Precast Concrete
03 70 00	Mass Concrete
31 00 00	Earthwork

MasterLife[®] ASR I 778

Water-Reducing and ASR Inhibiting Admixture

Description

MasterLife ASR I 778 admixture is formulated for use in concrete containing reactive aggregates to inhibit and control Alkali-Silica Reactivity (ASR). MasterLife ASR I 778 admixture meets ASTM C 494/C 494M requirements for Type A Water-Reducing Admixtures.

Applications

Recommended for use in concrete mixtures containing reactive aggregates in the following applications:

- Large structures that are difficult to repair or replace
- Bridges, dams, stadiums, buildings
- Concrete pavements
- Structures with long design service lives

Features

- Ready-to-use liquid admixture
- Capable of mitigating ASR (Alkali-Silica Reaction) in concrete containing highly reactive aggregates
- Effective with cements of varying alkali content

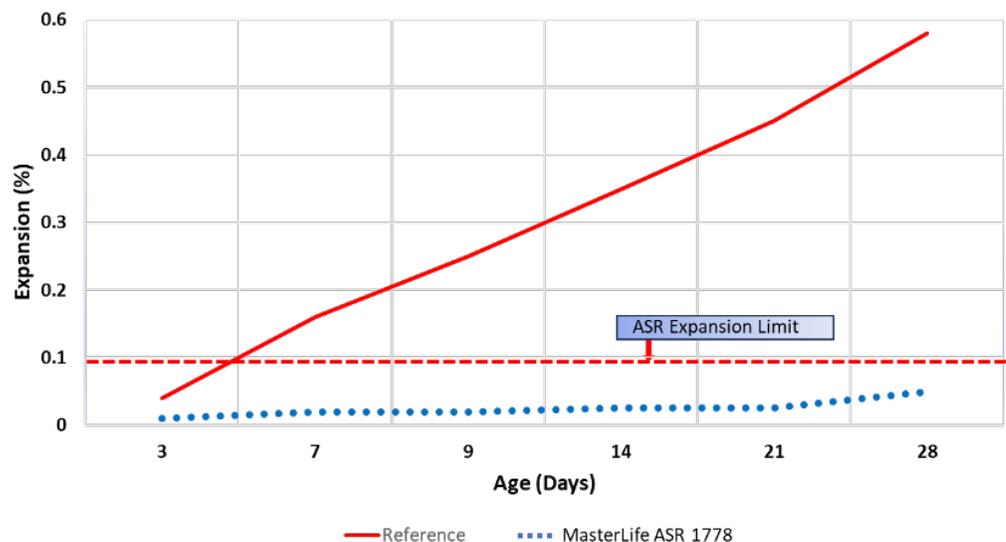
Benefits

- Improves durability of concrete
- Allows the use of locally available aggregates
- Extends service life of concrete structures

Performance Characteristics

Mitigation of Alkali-Silica Reactivity (ASR): MasterLife ASR I 778 admixture has shown to be effective in mitigating ASR in concrete using a modified ASTM C 1567 Accelerated Mortar-Bar Method.

The example data shown in the graphic indicates an expansion of less than 0.10% in mortar treated with MasterLife ASR I 778 admixture that contains highly reactive aggregates.



Guidelines for Use

Dosage

If no aggregate testing is conducted, the minimum recommended dosage of MasterLife ASR 1778 admixture is 130 fl oz/cwt [8,475 mL/100 kg] of cementitious materials. For aggregates with lower reactivity, reduced dosages may be possible, but only after laboratory testing has been performed and the results verified.

The effectiveness of MasterLife ASR 1778 admixture depends directly on having a sufficient amount of the admixture in the concrete to chemically mitigate ASR. If the dosage is below the required threshold, the admixture will not prevent ASR. In such cases, the product provides no protective benefit, and expansion and cracking caused by ASR will still occur. Therefore, partial or insufficient dosages of MasterLife ASR 1778 admixture do not provide partial protection but no protection at all.

Water Content

For every gallon of MasterLife ASR 1778 admixture, the mix water content should be reduced by 1.0 gal (3.8 L) to maintain the designed water-cementitious materials ratio.

Dispensing and Mixing

MasterLife ASR 1778 admixture may be added to the concrete mixture during the initial batch sequence at the production plant. Mixing at high speed for 3–5 minutes after the addition of MasterLife ASR 1778 admixture will result in mixture uniformity.

Product Notes

Corrosivity - Non-Chloride, Non-Corrosive: MasterLife ASR 1778 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 ASR 1778 admixture.

Compatibility - Admixtures: MasterLife ASR 1778 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. For air-entrained concrete applications, MasterLife ASR 1778 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. MasterLife ASR 1778 admixture can also be used with MasterAir® series of air-entraining admixtures. The dosage of air-entraining admixture shall be established through truck trial.

Compatibility - Cementitious Materials: MasterLife ASR 1778 admixture can be used with portland cements approved under ASTM, AASHTO or CRD specifications and supplementary cementitious materials used in concretes. Trial mixes with MasterLife ASR 1778

admixture is 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 ASR 1778 admixture should be stored at ambient temperatures above 40 °F (5 °C), and precautions should be taken to protect the admixture from freezing. If MasterLife ASR 1778 admixture freezes, thaw and reconstitute by mild mechanical agitation. Do not use pressurized air for agitation.

Packaging

MasterLife ASR 1778 admixture is available in 275 gal (1041 L) totes and by bulk delivery.

Shelf Life

MasterLife ASR 1778 admixture has a minimum shelf life of 12 months when stored under recommended conditions. Depending on storage conditions, the shelf life may be greater than stated. Please contact your local sales representative regarding suitability for use if the shelf life of MasterLife ASR 1778 admixture has been exceeded.

Related Documents

Safety Data Sheet: MasterLife ASR 1778 admixture

Additional Information

For additional information on MasterLife ASR 1778 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

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