

ECLIPSE® FLOOR 300

Shrinkage reducing admixture

Product Description



Eclipse® Floor 300 is a liquid admixture for concrete that dramatically reduces drying shrinkage and the potential for drying shrinkage-induced cracking and curling. Rather than

functioning as an expansive agent, Eclipse Floor 300 acts by reducing the surface tension of pore water. Eclipse Floor 300 is specifically formulated to be used in non air-entrained and in air-entrained applications slab-on-grade construction. Eclipse Floor 300 is a clear liquid admixture that weighs approximately 7.9 lbs/gal (0.95 kg/L).

Uses

Eclipse Floor 300 may be used in any concrete but provides the most value when used for external slab-on-grade construction where the potential for cracking and curling due to drying shrinkage is prevalent and undesirable. Other potential Eclipse Floor 300 applications in air-entrained concrete mixes subjected to freeze-thaw cycling include bridge decks, parking garages, marine structures and containment structures. Eclipse Floor 300 can be used in ready mix, precast, and prestress, in addition to mortar, grout and wet mix shotcrete.

Performance

Impact on plastic and hardened concrete properties—

Figure 1 illustrates ASTM C157 drying shrinkage reduction up to 90 days (7 day wet cure) for concrete mixtures containing 0.75 gal/yd³ (3.7 L/m³) and 1.5 gal/yd³ (7.4 L/m³) of Eclipse Floor 300. This data represents typical Eclipse Floor 300 test results for a well proportioned concrete mixture. However, it is recommended that pre-job drying shrinkage testing be conducted to determine actual drying shrinkage reduction for a specific mix proportion and set of materials.

In properly designed low shrinkage concrete mixtures for slab on grade construction, the inclusion of Eclipse Floor 300 may enable joint spacings of up to 50 feet (15 meters) or beyond. The use of Eclipse Floor 300 results in an overall higher value flooring system including:

- Lower joint maintenance cost due to minimum joint openings at a given joint spacing or fewer joints at extended joint spacing.
- Flatter surfaces due to curling reduction
- Longer surface life

Product Advantages

- Reduces drying shrinkage up to 80% at 28 days and 50% at 1 year and beyond
- Reduces the potential of cracking due to drying shrinkage in fully and partially restrained concrete
- Reduces curling
- Improves durability, which reduces maintenance and repair costs



Eclipse Floor 300 impacts workability (slump) similarly to an equal volume of water; therefore Eclipse Floor 300 should be used as a replacement for an equal volume of water. Eclipse Floor 300 may have a slight retarding effect on a concrete mix, typically less than one hour. In mixtures containing mid- or high-range water reducers, it is recommended Eclipse Floor 300 be used with near neutral setting polycarboxylate-based admixtures (including the MIRA® and ADVA® product lines). Eclipse Floor 300 may also cause a slight (typically less than 10%) decrease in early and later age compressive strengths. Eclipse Floor 300 is a non-chloride containing, non-corrosive admixture that will not initiate or contribute to the corrosion of reinforcing steel.

Addition Rates

Typical Eclipse Floor 300 dosage rates are 0.5 to 1.5 gal/yd³ (2.5 to 7.5 L/m³). However, dosage rates ranging from 0.2 to 2.0 gal/yd³ (1.0 to 10 L/m³) can be utilized to meet specific drying shrinkage requirements. Dosage rates as low as 0.2 gal/yd³ (1.0 L/m³) have been successfully used in concrete mixes that are just outside drying shrinkage specifications. Although shrinkage reduction as a function of dosage rate is fairly linear, it is recommended that trial mixtures be evaluated for shrinkage reduction in accordance with ASTM C157 prior to construction.

Compatibility with Other Admixtures and Batch Sequencing

Eclipse Floor 300 is fully compatible with the complete line of Grace Admixtures. In mixtures containing mid- or high-range water reducers, it is recommended that Eclipse Floor 300 be used with polycarboxylate based MIRA mid-range water reducers and ADVA high-range water reducers. In general, Eclipse Floor 300 may be added to the concrete batch sequencing at any time, however preferably after the dry materials and most of the water. Different sequencing may be used if local testing shows better performance. Please see Grace Technical Bulletin TB-0110, *Admixture Dispenser Discharge Line Location and*

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This product may be covered by patents or patents pending.
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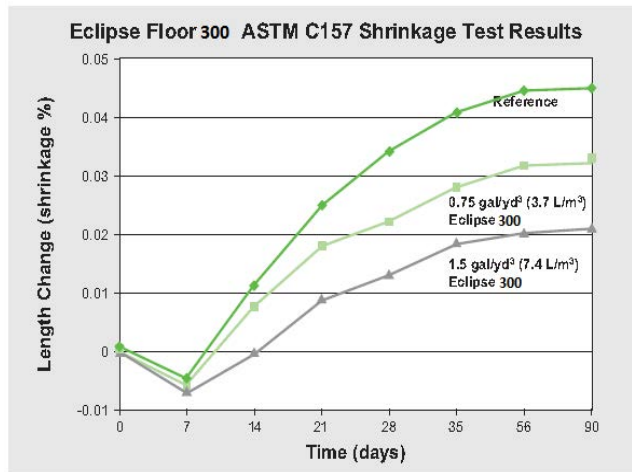


Figure 1

Sequencing for Concrete Batching Operations for further recommendations. Eclipse Floor 300 should not come in contact with any other admixture before or during the batching process, even if diluted in mix water. Pretesting of the concrete mix should be performed before use, and as conditions and materials change in order to assure compatibility, and to optimize dosage rates, addition times in the batch sequencing and concrete performance. Please consult your Grace representative for specific guidance.

Packaging & Handling

Eclipse Floor 300 is currently available in bulk quantities by Grace metered systems, in 277 gal (1,050 L) totes, or in 55 gal (210 L) drums.

Dispensing Equipment

A complete line of automatic dispensing equipment is available through W.R. Grace.

Flammability

Eclipse Floor 300 has a flash point of 216°F (102°C). This is substantially above the upper limit of 140°F (60°C) for classification as a flammable material and above the limit of 300°F (93°C) for classification as a combustible material by DOT requirements. Nonetheless, this product must be treated with care and protected from excessive heat, open flame or sparks. For more information, consult the MSDS.

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