

Eclipse® 4500

Shrinkage Reducing Admixture

DESCRIPTION

ECLIPSE® 4500 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® 4500 acts by reducing the surface tension of pore water. ECLIPSE® is specifically formulated for use in air-entrained concrete exposed to freezing and thawing conditions. ECLIPSE® 4500 is a clear liquid admixture that weighs approximately 7.7 lbs/gal (0.92 kg/L).

ADVANTAGES

- Reduces drying shrinkage up to 80% at 28 days and 50% at 1 year and beyond
- Enables normal performance of air-entraining admixtures
- Reduces the potential of cracking due to drying shrinkage in full or partially restrained concrete
- Reduces curling
- Improves durability, which reduces maintenance and repair costs

CHARACTERISTICS

METHOD OF USE

- ECLIPSE® 4500 may be used in any concrete but provides the most value when used in concrete located in freeze-thaw environments where the potential for cracking due to drying shrinkage is prevalent and undesirable. Typical applications include, but are not limited to bridge decks, parking garages, marine structures and containment structures. ECLIPSE® 4500 can be used in ready mix, precast and prestress concrete; in addition to mortar, grout and wet mix shotcrete.
- **Air management guidelines** Concrete containing ECLIPSE® 4500 typically requires slightly higher AEA dosages to achieve similar plastic air content compared to an identical concrete mixture not containing ECLIPSE® 4500.
 - The following guidelines are recommended for concrete containing ECLIPSE® 4500 and subject to freezing and thawing conditions. These guidelines were developed and validated through extensive laboratory and field testing. Note that minimum plastic concrete air contents represent plastic air at the point of placement.
 - Minimum compressive strength at 28 days of 4,500 psi (31 MPa)
 - Maximum water-cementitious materials ratio of 0.45
 - Minimum fresh concrete air content in accordance with the maximum aggregate size

MAXIMUM COARSE AGG SIZE	MINIMUM PLASTIC AIR CONTENT
3/8 in. (9.5 mm)	7.5%
1/2 in. (12.5 mm)	7%
3/4 in. (19 mm) or greater	6%

The information contained in this technical data sheet is given to the best of our knowledge and the result from extensive testing - which were conducted in order to remain as objective as possible. However, it cannot, in any case, be considered as a warranty involving our liability in case of misuse or any different use of our products, other than those from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users.

Eclipse® 4500

Shrinkage Reducing Admixture

Dosage :

- Typical ECLIPSE® 4500 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 which are just outside drying shrinkage specifications. It is recommended that trial mixtures be evaluated for shrinkage reduction in accordance with ASTM C157 prior to construction.

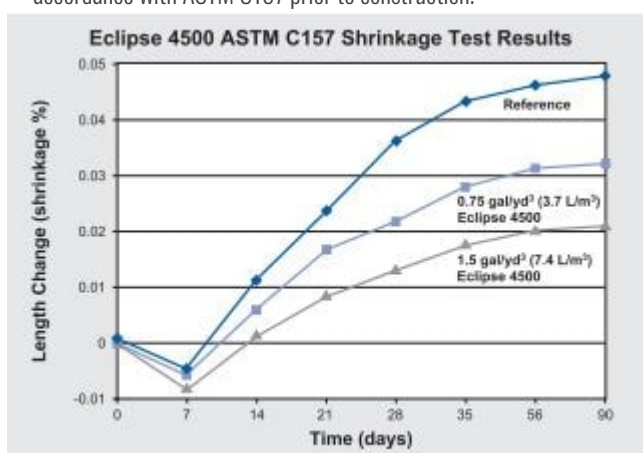


Figure 1

Equipment :

- A complete line of automatic dispensing equipment is available

PRECAUTIONS

- Flammability** - ECLIPSE® 4500 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 200°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 SDS.

SAFETY

Prior to any use, please read carefully the Safety data Sheet.

The information contained in this technical data sheet is given to the best of our knowledge and the result from extensive testing - which were conducted in order to remain as objective as possible. However, it cannot, in any case, be considered as a warranty involving our liability in case of misuse or any different use of our products, other than those from the "Application" paragraph of this technical data sheet. Some application tests should be carried out before using the product to ensure that the methods of use and conditions of application of the product are satisfactory. Our technical assistance is at the disposal of the users.