

MasterLife® 300D

Crystalline Capillary Waterproofing Admixture

Description

MasterLife 300D admixture is an integral crystalline capillary waterproofing admixture for concrete. It is designed for use in above- and below-grade applications.

MasterLife 300D admixture meets ASTM C 494/C 494M requirements for Type S, Specific Performance, admixtures.

A red-pigmented version of MasterLife 300D admixture is also available.

Applications

Recommended for use in:

- Foundations
- Sewage and water treatment plants
- Tanks
- Underground vaults
- Tunnel and subway systems
- Water reservoirs
- Secondary containment structures
- Below-grade parking structures
- Precast components
- Swimming pools

Features

- Crystalline cementitious material
- Integral addition
- Reduces concrete permeability
- Allows concrete to breathe

Benefits

- Reduces penetration of water and other liquids
- Seals hairline cracks
- Resists positive and negative side hydrostatic pressure
- Protects against sewage and industrial wastes

Performance Characteristics

Setting Time: MasterLife 300D admixture has little to no effect on concrete setting time within the recommended dosage range.

Permeability: MasterLife 300D capillary waterproofing admixture is a portland cement-based crystalline cementitious material that reacts in concrete to form non-soluble crystalline hydration products in the capillary pores of the concrete. These crystalline hydration products effectively reduce the permeability of concrete thus reducing capillary absorption and the penetration of water and other liquids.

Typical Data for MasterLife 300D admixture @ 2% by mass of cement

Performance characteristic	Test method	Performance relative to untreated concrete mixture
Capillary Absorption	ASTM C 1585	43% reduction
Water Penetration	Modified DIN 1048	40% reduction
Moisture Vapor Emission Rate	ASTM F 1869	Same
Electrical Conductance	ASTM C 1202	Same
Compressive Strength	ASTM C 39/C 39M	7% increase

Guidelines for Use

Concrete Quality: Crystalline capillary waterproofing admixtures such as MasterLife 300D admixture, are categorized as Permeability-Reducing Admixtures (PRAs) in ACI 212.3R-16, Report on Chemical Admixtures for Concrete. These admixtures “are intended to be used in, and complement, well-proportioned concrete mixtures, not to compensate for poorly proportioned concrete mixtures. Although recommendations differ from each manufacturer, a w/cm of 0.45 or less is typical for concrete designed to resist water movement.” In accordance with the recommendations provided in ACI 318, ACI 350 and ACI 212.3R, BASF recommends the use of MasterLife 300D admixture in good quality concrete with a maximum water-cementitious materials ratio of 0.45 and a minimum compressive strength of 4000 psi (28 MPa).

Dosage: The dosage range for MasterLife 300D admixture is 2% to 2.5% by mass of cement. For most applications, the recommended optimum dosage of MasterLife 300D admixture is 2% by mass of cement. The dosage of the red-pigmented version of MasterLife 300D admixture is 2.5% by mass of cement. Please contact your local sales representative for additional information regarding the dosage of MasterLife 300D admixture for your application.

Dispensing and Mixing: MasterLife 300D admixture is batched at the concrete production plant in a manner similar to that for cement or other cementitious materials. It may be batched in either a central or truck mixer. Follow the procedures outlined in ASTM C 94/C 94M, Standard Specification for Ready-Mixed Concrete, for general batching and mixing instructions for concrete. Provide at least 5 minutes of mixing after the addition of MasterLife 300D admixture to ensure thorough and uniform distribution of the admixture in the concrete mixture.

Product Notes

Corrosivity – Non-Chloride, Non-Corrosive: MasterLife 300D admixture will neither initiate nor promote corrosion of reinforcing or prestressing steel embedded in concrete or of galvanized steel floor and roof systems. Neither calcium chloride nor other chloride-based ingredients are used in the manufacture of MasterLife 300D admixture.

Compatibility: MasterLife 300D admixture can be used with portland cements approved under ASTM, AASHTO or CRD specifications. It is compatible with most concrete admixtures, including all BASF admixtures. MasterLife 300D admixture is recommended for use with high-range water-reducing admixtures, such as the MasterGlenium® series, for maximum workability while maintaining a low water-to-cementitious materials ratio.

Storage and Handling

MasterLife 300D admixture must be stored in a clean, dry area maintained at a minimum temperature of 45 °F (7 °C). MasterLife 300D admixture has a shelf life of one year when stored under recommended conditions.

Packaging

MasterLife 300D admixture is available in 12 lb (5.5 kg) and 24 lb (11 kg) shreddable bags, and in 12 lb (5.5 kg) water-soluble bags. The red-pigmented version of MasterLife 300D admixture is available in 15 lb (7 kg) and 30 lb (14 kg) shreddable bags.

Related Documents

Safety Data Sheet: MasterLife 300D admixture

Additional Information

For additional information on MasterLife 300D admixture or its use in developing concrete mixtures with special performance characteristics, contact your local sales representative.

The Admixture Systems business of BASF's Construction Chemicals division is the leading provider of solutions that improve placement, pumping, finishing, appearance and performance characteristics of specialty concrete used in the ready-mixed, precast, manufactured concrete products, underground construction and paving markets. For over 100 years we have offered reliable products and innovative technologies, and through the Master Builders Solutions brand, we are connected globally with experts from many fields to provide sustainable solutions for the construction industry.

Limited Warranty Notice

BASF 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. BASF 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 BASF. 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. An extended, limited, project-specific warranty may be available. Please contact your local BASF sales representative for further information. BASF WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on BASF's present knowledge and experience. However, BASF assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. BASF reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified experts.