



Lease Life
to Man-Made
Structures

SUPERSHIELD

DPC ADMIXPLUS

Self-healing Liquid Crystalline Waterproofing Admixtures
for Concrete



PRODUCT DESCRIPTION

SUPERSHIELD DPC ADMIXPLUS is a liquid crystalline chemical admixture for waterproofing, protecting, and improving the durability of concrete. The proprietary blend of chemicals in SUPERSHIELD DPC ADMIXPLUS reacts with the moisture and by-products of cement hydration to form a highly resistant crystalline formation that becomes an integral part of the concrete and acts as an impermeable barrier. Thus, the concrete becomes permanently sealed against penetration of water and other chemicals from any direction. This crystalline structure occurs where moisture is present, so if cracks form due to settling or shrinkage, the incoming water triggers the crystallization process and additional crystals begin to grow. SUPERSHIELD DPC ADMIXPLUS is specifically formulated to meet all modern concrete practices that incorporate additives and other supplementary cementitious materials. For most concrete mix designs, adding SUPERSHIELD DPC ADMIXPLUS will have minimal or no effect on setting time.

RECOMMENDED USES

- Basements
- Concrete Water Tanks
- Tunnels and Subway Systems
- Roof Slab
- Sewage and Water Treatment Plants
- Reservoirs
- Sunken Portion
- Foundations & Elevator pits
- Ground Parking Structures
- Bridges and Dams

FEATURES AND BENEFITS

- Unique ability to become a truly integral part of the concrete matrix
- Permanent and eco-friendly with self-healing capabilities
- Unique crystallization process reactivates at any later stage in the presence of moisture and water
- Can heal hairline cracks up to 0.5 mm
- Easily dosed and no mixing required
- No risk of dust and clumping while mixing
- Enhances concrete durability and reduces concrete permeability
- Can be directly added to the RMC truck at the job site
- Does not have an adverse effect on mixed designs
- Non toxic and approved for potable water
- Allows concrete to breathe
- Enhances shrinkage resistance
- Can be dosed automatically at the batching plant
- Cost-effective and time-saving than most other methods
- Construction friendly, enhances construction scheduling flexibility



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TECHNICAL DATA

General Characteristics		
PROPERTY	VALUE	
Color and Appearance	Colourless Liquid	
Density	1.1 g/cm³	
pH Value	10 - 12	
Performance Characteristics		
TEST NAME	TEST METHOD	PERFORMANCE
Depth of Water penetration	EN 12390 - 8	> 40% decrease in Permeability compared to control mix
Resistance to Chloride Ion	ASTM C1202	More than 44% reduction in Chloride Ion penetration compared to control mix
Compressive Strength	EN 12390-3	At 28 days: test mix ≥ 85% of control mix
Capillary Absorption	EN 480-5	Tested for 28 days after 90 days curing: test mix ≤ 60% by mass of control mix
Air Content	EN 12350-7	Test mix ≤ 2% by volume above control mix
Chloride Ion Content	EN 480-10	≤ 0.10% by mass
Alkali Content	EN 480-12	≤ 10.3% by mass
Potable Water Test	D.Lgs. 31/2001	Complies with the parameters
Corrosion Behaviour	Contains only substances according to EN934-1 Annex A1	



APPLICATION GUIDELINES

Preparation And Mixing

Dosage: SUPERSHIELD DPC ADMIXPLUS is recommended at a dosage of 1% of cement by weight.

Under certain conditions, the dosage rate may be between 1% to 2%, depending on the type of concrete required.

SUPERSHIELD DPC ADMIXPLUS can be added to concrete during the batching process at the concrete batching plant or at the construction site by the ready-mix truck after it arrives at the site.

Note:

At the batching plant, SUPERSHIELD DPC ADMIXPLUS can be dosed automatically by integrating a dosing pump with the existing PLC controller. For more information on integrating an automatic dosing system, contact SUPERSHIELD representatives.

Application

SUPERSHIELD DPC ADMIXPLUS can be added to the mixing water or directly into the concrete mixer after 50% to 70% of the mixing water has been added. The addition of SUPERSHIELD DPC ADMIXPLUS to dry aggregate or cement is not recommended. To achieve optimum performance, a minimum wet mixing time of 2 minutes, which depends on the mixing conditions and the mixer's performance, is recommended. The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Fresh concrete must be cured properly, and curing must be applied as per the relevant standard. Excessive water addition or overdosing may cause bleeding or segregation. Clean all tools and application equipment with water immediately after use. Hardened or Cured material can only be mechanically removed.

LIMITATIONS

When incorporating SUPERSHIELD DPC ADMIXPLUS, the temperature of the concrete mix should be above

40°F (4°C). If frozen and/or if precipitation has occurred, SUPERSHIELD DPC ADMIXPLUS may be used after thawing slowly at room temperature and after intensive mixing.

HEALTH AND SAFETY

SUPERSHIELD DPC ADMIXPLUS contains chemicals that may cause skin irritation. For personal precaution, protective gloves and goggles are recommended to be worn during the handling of this product. If the product gets in contact with the eyes, flush immediately with clean water and seek medical assistance if symptoms persist.

STORAGE

When stored in a dry place in unopened, undamaged original packaging, the shelf life is 12 months. Protect from direct sunlight and frost.

PACKAGING

Available in 25-Litre cans, 200-Litre drums, and 1000-Litre bulk containers.

WARRANTY

Supershield warrants that the products manufactured by it shall be free from material defects and comply with the specifications given in their respective technical data sheets. Should any of the products be proven defective, the liability of Supershield shall be limited to the replacement of the product, and Supershield shall in no case be liable otherwise or for incidental or consequential damages. No other warranties, express or implied, shall apply, including any warranty of merchantability or fitness for a particular purpose. The user shall determine the suitability of the product for his intended use and assume all risks and liabilities in connection therewith. Supershield reserves the right to change the properties of its products without notice.