



# KRYSTAL 1500

Crystalline Waterproofing Admixture for Concrete

## PRODUCT DESCRIPTION

Krystal 1500 undergoes a reaction with the hydration byproducts of cement, facilitating the formation of crystals within the intricate network of pores and capillaries present in concrete structures. This process serves to create a barrier that proficiently obstructs the flow of water. Its application is tailored for treating both concrete and concrete products, aimed at fortifying them against water infiltration, potential leakage, structural fissures, and the corrosive impact on reinforcing steel.

## ADVANTAGES

- Crystalline action is reactivated by contact with water providing dormant traditional protection.
- Improvement of the resistance to freeze/thaw
- Reduces repair and maintenance costs
- Reduces permeability of the concrete.
- Helps to increase the compressive strength of concrete.
- Protects concrete against chemical attack and corrosion of reinforcing steel.
- Effective against both positive and negative pressure
- Reduced concrete shrinkage and cracking.
- Excellent resistance to waterborne chemicals.
- Protection against sewage and industrial wastes
- Provides total and permanent waterproofing properties
- Allows concrete to breathe.
- Crystalline cementitious materials
- Non-toxic or tainting

## AREA OF USE

- Krystal 1500 can be applied to all concrete where water penetration should be permanently prevented
- It is specifically used for the treatment of concrete and concrete products to protect against water intrusion, leakage, cracking, chemical attack and corrosion of reinforcing steel.
- Krystal 1500 is designed for use in above and below-grade areas such as, Foundations, Water tanks and reservoirs, Swimming pools structure, Underground vaults, Tunnel and subway systems, Below-grade parking structures, Precast component e.t.c.

## MIXING/DOSAGING

- The water content in any concrete mix is directly related to the porosity of the resultant concrete. Hence, the dosage depends on the amount of mixing water (aggregate moisture included) in the batch mix.
- Krystal 1500 is added at the rate of 1.5% based on weight of cement and is dependent, amongst other criteria, on the concrete formula and the reactivity of the cement.

## CURING

Concrete containing Krystal 1500 must be prevented from drying out too rapidly and should be kept damp for 5 – 7 days. Mist spraying with water and covering with polythene is effective when drying out would otherwise take place. Protect from weathering, sun, frost and wind for a similar minimum period.

It is recommended that any of the Costar Cure 10, 20, or 30 be used for curing of concrete to prevent cracks, especially in cases of extreme weather conditions.

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## TECHNICAL PROPERTIES

Packaging	20kg bucket
Appearance	Grey powder
Storage condition	Store in dry conditions in original packaging at temperatures between +5 °C and +30 °C. Protect from direct sunlight and frost
Bulk density	~1.4 g/cm <sup>3</sup> (88 lb/ft <sup>3</sup> )
Specific gravity	~2.8
Chloride ion content	<0.1%
<b>PERFORMANCE PROPERTIES (OVER CONTROL)</b>	
compressive Strength	Increased compressive strength over control by 8% after 7 days and 18% after 6 months. ASTM C39
Permeability	90% reduction
Self-Sealing	Stopped water flow from crack sizes of 0.5 and 0.6mm
Shrinkage & Crack Reduction	80% reduction in shrinkage and cracks ASTM C1140
Chemical Resistance	The lower permeability of Krystal 1500 concrete will reduce the entering of sulfate and chloride ion





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PLASTIC PROPERTIES (OVER CONTROL)	
Slump (ASTM C143)	No significant change
Plastic Density (ASTM C138)	No significant change
Air Content (ASTM C231)	No significant change

### STORAGE AND SHELF LIFE

Protect from freezing, if frozen or crystallized, thaw gradually and stir to homogenous mixture. Shelf life in unopened original containers is 12 months when stored at 70°F (21°C).

### STANDARD COMPLIANCE

ASTM C494 type S Compliant

### HEALTH & SAFETY

- Please ensure that hand gloves and goggles are worn during installation
- Apply in ventilated areas, away from flames
- It is only important that during application and after application, standard safety procedures are done.
- Please consult current MSDS for product.
- *For Professional Use only.*

### ADDITIONAL INFORMATION

Costarchem manufactures a complete range of construction chemical products which include:

- Concrete admixtures
- Waterproofing system
- Flooring system
- Cementitious and epoxy precision grouts
- Damp-proofing products
- Sealants and adhesives
- Repair and refurbishment systems

For more information on any of our products, please contact Costarchem global or regional office.

### LEGAL NOTE

The information and recommendations relating to the application of Costarchem products, are given in good faith based on current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with the stated recommendations in the product datasheets. Whilst Costarchem endeavors to ensure that any advice, recommendation, specification of information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products, whether or not in accordance with any advice, specification, recommendation of information given by it. The user of the product must test the product's suitability for the intended application and purpose. Costarchem reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

