

KRYSTAL 2600

4th Generation Water Resisting and Hydrophobic Crystalline Waterproofing Admixtures for Below and Above Grade Concrete

Description

Krystal 2600 is 4th generation water resisting and hydrophobic crystalline waterproofing admixture for designing a water tight concrete in both below and above the grade application. It ensures permanent impermeability of concrete and is used in place of surface applied waterproofing membranes for improved durability and longevity of concrete.

Benefits

- It is a Permeability Reducing Admixture for Hydrostatic Conditions (PRAH), thereby protecting the concrete against negative and positive water pressure
- 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.
- Unlike coatings, Krystal 2600 when added to concrete during mixing becomes an integral part of the concrete for optimum performance
- Self-seals penetrating cracks up to 0.4mm and hairline cracks up to 0.5mm (0.02in.)
- Protects concrete against chemical attack and corrosion of reinforcing steel.
- Reduced concrete shrinkage and cracking.
- Excellent resistance to waterborne chemicals.
- Protection against sewage and industrial wastes.

Area of Use

Krystal 2600 can be applied to all concrete where water penetration should be permanently prevented such as: Foundations, Sewage treatment plants, Tunnels and subway systems, Underground structures, Dams, Pre-cast structures, Swimming pools and reservoirs, Plastering of exterior walls, Bridge decks, columns beams, Roof and podium slabs and any other areas where high hydrostatic pressure is present.

Mixing/Dosage

Krystal 2600 is added at the rate of 0.75–1% based on weight of cement and is dependent, amongst other criteria, on the concrete formula and the reactivity of the cement. The dosage is to identify with a suitability trial.

The following dosage levels are recommended:

W/C Ratio	Dosage Based on Weight of Cement
<0.4	0.75%
>0.4-0.5	0.8%
>0.5-0.55	0.90

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Concrete plants

Krystal 2600 is to be dosed into the aggregate and mixed for a minimum of 30 seconds before adding the water and cement. Subsequently mix for a minimum of 45 seconds until ready for use.

Concrete trucks

Krystal 2600 is dosed directly into the mixing drum of the concrete truck on the building site. The mixing time should be 1 min/m³ of drum contents but be a minimum of 5 minutes.

Technical Details

Appearance	Control Mix	Krystal 2600
Setting Time, Initial, minutes, IS4031	131	139
Setting Time, Final, minutes, IS4031	172	177
3days compressive Strength, MPa, IS4031	38.3	39.0
7days Compressive Strength, MPa, IS4031	49.1	52.5
Permeability to Water, %(v/v) of control mix, IS2645	100	19
Free Chloride Content, %(w/w)	N/A	N/A

Workability, Slump mm

0 minute	210	215	3
120 minutes	140	150	3

Compressive Strength N/mm²

7days	31.1	30.8	2
28days	42.1	42.3	2
365days	47.0	48.6	2
Reduction of Shrinkage		38%	7
Reduction of Chloride ion diffusion%		67	
Alkali-Silica Reaction		No effect, Passes Test	

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Water Permeability Test Results

Co-efficient of Permeability Reduction, %	-	93%
Depth of water penetration	38mm	3mm
Resistance to Hydrostatic Pressure at 16 bar		No leakage

Curing

Follow specified curing procedures as necessary. Krystal 2600 is effective whether water curing or a curing compound used. Standard concrete placing practice in accordance with ACI recommendations or equivalent international codes must be followed to ensure optimum results.

Packaging

20Kg Bag

Shelf Life

Shelf life in unopened original containers is 12 months when stored at 70°F (21°C).

Warranty

The information and recommendations relating to the application of Costar 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 Costar 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. Costar 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.

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