

Crystal Seal

Crystalline capillary waterproofing for Concrete and Mortar

Innovative products for your success

Description

Crystal Seal is a capillary waterproofing formulation of proprietary blends of moisture active chemical, quartz, sand and cement. The chemical contained in Crystal Seal formulations required the presence of moisture for the chemical reaction to take place and in combination with "free lime", the chemical in Crystal Seal form long chain complexes which crystallize in the capillaries.

Use

- To protect concrete and mortar moisture and water proof
- Improve adhesion between topping coating and concrete or mortar
- Recommended for area such as ;
Water reservoir, water tower, dams, canals, concrete pipes, water treatment plant, sea wall, bridge and decks etc.

Advantages

- Ready to use by only mixing with water
- Can be applied to damp concrete with no standing water.
- Non-toxic and US EPA –certified for use with potable water.
- Cost effective way of waterproofing system.
- The crystallization reaction between Crystal Seal with free lime and calcium hydroxide in cement will form the crystal to fully block the capillary in the concrete and mortar. It gives **permanent** moisture and water proof.
- Can be used both positive and negative side protection.

Estimating

Supply

Crystal Seal : 20 kg./bag.

Coverage

Crystal Seal Concentrate:

Brushing: 1.0 - 1.5 kgs./m²./layer
Trowel: 2.0 – 2.5 kgs./m²./layer

Storage

Crystal Seal has a shelf life of 12 months in unopened Condition and kept in a dry store.

Properties

The values given below are average figures achieved in laboratory test. Actual values obtained on site may show minor variations from those quoted.

- Appearance : Grey Powder
- Density (water added) : 2.02 kg./m³
- Initial Setting Time @ 30 °C : 90 min. (approx.)
- Final Setting Time @ 30 °C : 120 min. (approx.)
- Bonding Strength @ 7days : 1.7 N/mm²

Permeability-pressure applied on positive side (ASTM D 5084-90) : @ 5 bar (51.02m. head of water) = 0 permeability (water tight)

Permeability-pressure applied on negative side (ASTM D 5084-90) : @ 5 bar (40m. head of water) = 0 permeability (water tight)

Hydrostatic Pressure Resistance (USACE CRD C48-73) : @ 3 bar (30m. head of water) = 0 leakage (water tight)

Hardness (% increase after application) (ASTM C 805) : Test <6%
from 46.36 - 49.25
Test <12.83%
from 37.65 - 42.68
Test <32%
from 29.25 - 38.70

Efflorescence Reduction Fresh Concrete (ASTM C 67-75) : No change to treated concrete

Efflorescence Reduction mature (ASTM C 65-75) : No change to treated concrete

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Instruction for use

- Ensure that all concrete and mortar surface are clean and free from dust, laitance, oil, and grease
- Pre-water on the surface until the surface is saturated
- Remove the excess water (the surface must be damp but no standing water)
- Mix Crystal Seal 1 bag, 25 kg. with clean water approximately 7-8 liters. For vertical applications water should be reduced to prevent sagging.
- Mix with low speed (60 rpm) mechanical mixer at least 3 min. until homogenous
- Can be applied by brush roller or trowel
- 2 coats are recommend
- For the coating application the 1st and 2nd coat should be applied right angle to the first.
- The second coat should be applied when the first coat is dry enough, approximately after 3-4 hrs.
- Crystal Seal is a cement based product; it will cure and harden in the same way with concrete. The applied surface must be damp or cover with polyethylene sheet at least 5 days
- For New Concrete: Crystal Seal can be applied immediately after the formwork has been removed.
For Exist Concrete: If there are static crack more than 1 mm. widths, should be repair with Cemkrete SG. If there are moveable cracks which should be repaired with Cemkrete PU injection system before applying Crystal Seal.

Precautions

Health and Safety

Gloves and goggles should be worn. Any splashes to the skin or eyes should be washed off with clean water. In the event of prolonged irritation, seek medical advice. Powder products should be handled to minimize dust formation; use a light mask if excessive dust unavoidable.

Technical support

Cemkrete offers a comprehensive range of high performance, high quality flooring, jointing and repair products for both new and existing floor surfaces. In addition, the company offers a technical support packages to specifiers, end-users and contractors, as well as on-site technical assistance.

Additional Information

Cemkrete manufactures a wide range of those complementary products which include:

- Waterproofing membranes & waterstops
- Joint sealants & filler boards
- Cementitious & epoxy grouts
- Specialized flooring materials
- Fireproof coating and systems
- Concrete admixture
- Repairing material

For further information on any of the above, please consult your local Cemkrete office - as below.

Important Note: Cemkrete warrants its materials free of manufacturing defects and produced as per standard specifications and sold under the terms and conditions of usages, whilst Cemkrete endeavors to ensure that any advice, recommendation, or information, given through its products literatures are reflects of the R&D in-house lab test and practical sites experience and knowledge based feed backs, however, the products are being used under various conditions and applied beyond its control where or how either directly or indirectly at various locations and places at a different stages that of an intended purposes and uses. Therefore, Cemkrete cannot hold warranty or responsible for resultant consequences, such as damages to the property or assets but the product itself.