



KRYSTAL COAT

One Component Crystalline Waterproofing Slurry

PRODUCT DESCRIPTION

Krystal Coat is one-component crystalline waterproofing slurry that is specially designed to permanently waterproof both old and new concrete. It is modified with specially selected aggregates and active chemicals. It lowers the permeability of concrete and is used as a surface applied waterproofing membranes for improved durability and longevity of concrete. It works by penetrating the concrete pore and capillary voids and reacts with the available moisture and free lime to form a non-soluble crystalline structure within the network. When Krystal coat is mixed with water, the slurry formed can be applied by brush or spray and provides a waterproof layer that inhibit the penetration of water to all types of concrete structures.

ADVANTAGES

- Easy application, environmentally friendly and cost effective
- Potable water approved - NSF/ANSI 61 Seals and post seals shrinkage cracks, up to 1/64" (0.4 mm)
- Can be applied to green concrete as soon as forms are stripped
- Protects concrete against fresh water, salt water, waste water & aggressive ground water
- Resists strong hydrostatic pressure
- Applied to positive or negative side water pressure

APPLICATION AREA

- Suitable for all concrete applications for water impermeability
- Exterior (positive side) or interior (negative side) waterproofing of below grade foundations, basements, retaining walls, utility vaults, elevator pits.
- Water tanks, wastewater tanks, water catchment basins, manholes, parking garages, tunnels, slurry walls.

APPLICATION

Surface Preparation

Concrete substrates must be sound and of sufficient compressive strength (minimum 25N/mm²) with a minimum pull off strength of 1.5N/mm². The substrate must be clean and free of all contaminants such as dirt, oil, grease, coatings and surface treatments, etc. if in doubt, apply a test area first.

Weak concrete must be removed and surface defects such as voids must be fully exposed.

Repairs to the substrate, filling of voids and surface leveling must be carried out by using Costar Repair Mortar.

Thoroughly rinse all the surfaces to be waterproofed with clean water. Ensure that the surface is saturated to control surface suction and ensure the growth of the crystalline formation deep within the pores of the substrate.

Mixing

Add the 3 parts of Krystal Coat powder to 1 part of clean water and mix for at least 3 minutes with a mechanical mixer to a creamy slurry consistency. Mix only as much material as can be used within 30-40 minutes. In case false setting occurs, do not add water; re-stir to restore workability.

Application

A trial dry-shake application is highly recommended prior to the actual application.

HORIZONTAL SURFACES & CONSTRUCTION JOINTS

Dry-sprinkle and power-trowel or wooden float application: The specified amount of Krystal Coat is dry distributed, by hand, using a sieve, or similar device, onto the concrete surface when the concrete to be treated starts to set initially. It is then troweled in until coverage is uniform and the specified finish is achieved (smooth or brushed).

Split Slabs / Construction Joints:

Apply Krystal Coat in slurry or dry powder consistency to pre-watered concrete substrate, split slabs or construction joints immediately prior to casting the structural slab or wall.



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Brush or spray application:

Ensure that the Slab surfaces have a rough wood float or broom finish. Apply Krystal Coat in slurry consistency in the specified quantity, in one coat.

VERTICAL SURFACES & CONSTRUCTION JOINTS

Brush application:

Brush on two coats of Krystal Coat in a slurry consistency onto the material evenly and work it well into the surface. Ensure that the second coat is applied while the first coat is still tacky.

Spray Application:

Spray on one or two coats using compressed air-spray equipment in circular movements. Ensure that the second coat is applied while the first coat is still tacky.

Exposed Areas:

The freshly treated surfaces should be protected from rain for a minimum period of 24 hrs.

Start curing as soon as Krystal Coat has hardened sufficiently so as not to be damaged by a fine water spray. Keep damp for a period of 2 - 3 days for standard waterproofing applications, 7 days for potable water tanks.

Protect exposed surfaces against direct sun, wind and frost by covering with plastic sheeting, burlap, or similar. Do not lay plastic sheeting directly on Krystal Coat as air contact is required for proper curing.

Back filling can be carried out 36-72 hours after completion of the Krystal Coat treatment. Protection boards are generally not required. Backfill material shall be moist and not contain rocks or larger aggregate.

Indoor treated areas:

Self curing in cool areas with high humidity. Keep moist for 2 - 3 days in areas with low humidity and 7 days for potable water tanks. Provide air circulation for minimum 24 hrs. following the Krystal Coat treatment in poorly ventilated areas and deep pits.

Decoration, Coating and Tiling

All surfaces treated with Krystal Coat which are to be coated or painted must be left to cure for at least 4 weeks. At the end of the curing period, the surfaces should be saturated with water and neutralized with a 1:8 solution of muriatic acid. Following this, the areas must be thoroughly rinsed with water.

When a plaster or render finish is required on top of Krystal Coat treatments, it is essential to apply a thin rough cast of sand and cement on the final Krystal Coat layer when it has reached initial set. If this is not practical, carefully clean the hardened Krystal Coat surface and apply an appropriate bonding agent prior to rendering.

Do not use for waterproofing applications under thin set tile mortar (i.e. swimming pools, balconies, etc.).

Slabs on or below grade to be covered with vinyl tiles or other nonbreathable products (i.e. epoxy, some carpets, resilient flooring, etc.) must be checked for moisture vapor emission as per ASTM F 1869-98 before installation of tiles, etc.

Limitation

- Take care not to add water beyond recommended dosage.
- Keep freshly applied material from freezing and rain at least during the curing time.
- Do not apply product in direct sun and/or in the presence of strong wind.
- Do not apply Costar Krystal Coat at temperatures below +10 °C
- Avoid any stagnant water presence or condensation / ponding on the surfaces before application
- Do not Mix Costar Krystal Coat with external material such as cement as this may lead to undesirable effect such as cracking under sudden movement

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TECHNICAL PROPERTIES

Packaging	One component 20kg bag
Shelf life	12 months from date of production
Appearance	Greyish, powder
Mixing ratio	3 parts of Krystal Coat powder to 1 part of clean water.
Pot life	Approximately 30 - 40minutes
Recoat time	Allow 2 – 4 hours minimum between coats
Portable Water Certified	NSF/ANSI
Bulk Density	1.9 Kg/L
Setting Time	60-90 minutes at 200C
Application thickness	~1.0–1.5 mm in 2 coats
Reaction to fire	Class A1 (EN 13501-1)
Adhesion to substrate	2.0N/mm2 ASTM D4541
Fresh mortar density	~2.0 kg/L
Ambient air temp	+10 °C min. / +40 °C max.
VOC	0%
Theoretical Coverage	1.5 - 1.7kg / sqm coat for 1mm dry film thickness in 2 coats. Actual Coverage is dependent on the porosity of substrate and technic of application.
Proprietary polymer	High quality Hydrophilic cementitious modified polymer
Storage condition	Store in dry conditions in original packaging at temperatures between +5 °C and +30 °C. Protect from direct sunlight and frost

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STORAGE AND SHELF LIFE

24 months from date of production if stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperature between +20°C and 30°C

STANDARD COMPLIANCE

Conforms to EN 1489-2007, ASTM D-968

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.