

CRYST SLURRY[®]

Article-No.: 09300

WATERPROOFING SLURRY FOR NEW & EXISTING CONCRETE BY CRYSTALLIZATION TECHNOLOGY

DESCRIPTION

CRYST SLURRY[®] is a concrete surface applied that becomes an integral part of concrete through a crystallization process, which waterproofs and protects concrete in-depth. CRYST SLURRY[®] designed to penetrate deeply into the substrate and claws by active crystallization into the pores of the substrate to achieve high protection to the concrete against seawater, wastewater, and many other aggressive chemicals. CRYST SLURRY[®] retains the crystallizing reaction over the whole working time. When CRYST SLURRY[®] is applied to either the positive or negative side of the concrete surface, the active material reacts with water and the cement hydration to form nanocrystals. These crystals fill the pores and cracks in the concrete to block any ingress of water (even under pressure). CRYST SLURRY[®] is used on all new or old structurally sound concrete surfaces and the waterproofing properties stay intact, even if the coating is partially removed or small cracks develop after the application CRYST SLURRY[®] is suitable for use in water storage tanks, reservoirs, water treatment plants, etc.

FEATURE AND BENEFITS

- Environmentally friendly
- Applied to old or new concrete.
- Improves durability of concrete.
- Effective against extreme hydrostatic pressure from either positive or negative surface of the concrete.
- Protects against water, chloride, sulfate ingress, and chemical attack.
- Becomes an integral permanent waterproofing.
- Penetrates deeply and seals concrete's capillary tracts and shrinkage cracks.
- No membrane to tear or puncture.
- Protects against concrete carbonation.
- Increases concrete's compressive strength.
- Protects reinforcing steel against corrosion.
- Active crystallization to seal cracks up to 0.5mm wide.
- Allows concrete to breathe.
- Does not require a dry surface.
- Non-toxic – ideal for potable water tanks.

FIELD OF APPLICATION

Used for all types of waterproofing and concrete corrosion protection in:

- Below grade: basements, elevator pits, parking structures, and foundations of high-rise towers
- Water containment: water tanks, Water towers, and storage tanks
- Waste Treatment Facilities: reservoirs, water treatment tanks, sewage, and manholes.
- Tunnels, subway systems, and below-grade concrete pipelines.
- Marine structures, bridges, dams, and highway infrastructure.
- Swimming pools, decks, bathrooms, garages, and exteriors.

MATERIAL PROPERTIES

Form:	powder
Appearance:	light grey
Bulk Density:	approx.1.18 g/cm ³
Application temperature:	+8°C up to +40°C

TECHNICAL DATA

Compressive strength:	28 days	40 N/mm ²
Flexural strength:	28 days	7 N/mm ²
Water permeability:	NON	
Rapid chloride permeability:	< 500 columns	

DIRECTION FOR USE

Surface preparation:

Before applied CRYST SLURRY® the surface must be mineral, light humid, sound, absorbent, and clean. Bonding inhibiting agents such as grease, oil, formwork oil and all loose particles and dust must be removed before the application of CRYST SLURRY®. The damaged area like cracks, holes or cavities have to be chased out, treated with CRYST SLURRY® and filled flush with CRYST MORTAR®. The pores of surface must be open and carefully pre-watered prior to the CRYST SLURRY® application., so that can be penetrate well into the concrete.

Product mixing:

Place a clean water into a clean mixing bucket and mechanically stir drill mixer slowly and mix in as much CRYST SLURRY® until a lump free, homogenous mass with either a slurry or sprayable consistency is achieved. If the mixture starts to set, do not add more water; simply re-stir to restore workability. Only mix as much material as can be used within 30 minutes. Allow to stand for at least 3 minutes then briefly remix.

Mixing ratios:

Brush method: mix 20 Kg CRYST SLURRY® to 5.50 - 6 liters.
Spray method: mix 20 Kg CRYST SLURRY® to 6.5 – 7 liters.

Application:

The application on the surface must be done with a hard brush or spraying device. The coating in principle done by minimum 2 layers, whereby the minimum thickness has to be observed. The first layer must not be completely cured before the second layer is applied or the surface has to be prewetted. Prevent the first coat from drying out.

Dry shake application: The specified amount of CRYST SLURRY® is distributed in powder form through a sieve or a semi-mechanical barrow spreader and troweled into the freshly placed concrete once this has reached initial set.

Application rates:

CRYST COAT® rate at 0.6 - 0.7 kg/m² per slurry coat applied by brush or spray in Vertical surfaces. And for Horizontal surfaces at (0.7 – 0.8 kg/m²) applied in one slurry coat to hardened concrete.

Dry shake application rate: CRYST SLURRY® can be dry sprinkled at (1 - 1.25 kg/m²) and trowel-applied to fresh concrete when it has reached initial set.

NOTES:

- The whole system should be kept damp for a period of five days and must be secured against too fast drying (wind, direct sun, frost, etc.), by covering with polyethylene sheeting, damp burlap or similar.
- Allow at least 48 hours to cure before subjecting to foot traffic.
- Do not apply to dry surfaces.
- Clean all tools immediately with water after use.
- CRYST SLURRY® is not a decorative material.
- CRYST SLURRY® effective waterproofing system for rigid concrete structures
- To fully activate the material may require 2 weeks.
- For more detailed instructions, or information concerning the compatibility of the CRYSTARM® application contact the CRYSTARM® Technical Department or your local CRYSTARM® representative.

RECOMMENDED TOOLS

Brush, roller, gloves, safety glasses, and stirring mixing machine.

PACKAGING

CRYST SLURRY® is available in 20 kg bags or pails.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

STORAGE & SHELF LIFE

Keep CRYSTARM products must be stored dry and at a temperature of no less than 45°F (7°C). one year is the maximum shelf life when stored under proper conditions in original unopened packaging.

SAFETY HANDLING

CRYST COAT® is made of Portland cement and silica sand may irritate your eyes and skin. Take adequate precautions, such as wearing protective gloves and using breathing apparatus if applied in enclosed environments. If contact is made, flush areas with lots of water. For further information please refer to Safety Data Sheet. KEEP OUT OF REACH OF CHILDREN.

CRYSTARM®

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WARRANTY: The Manufacturer warrants that the products manufactured by it conform to the formulation standards contained in all components in their proper proportion and are free from material defects. If any of the products are found to be defective the subsequent liability to The Manufacturer shall be limited only to the replacement of the product proven to be defective and shall not be liable for any other claim or for incidental or any consequential damages that may arise directly or indirectly with the said defective product. The user shall determine the suitability of the product for its intended use and the user assumes all liability in connection therein and the manufacturer shall not be liable save for terms of this warranty.



CRYSTARM®

Drescherstraße 53, D-71277 Rutesheim

EN 1504-2, 1504-3, 1504-7

CRYST SLURRY

for structural and non-structural concrete repair mortar

EN 934-2:T9

Compressive strength	Class R3 (≥25 Mpa)
Chloride ion content	≤0,05%
Adhesive bond:	Class R4 (≥ 2.0 Mpa)
Restrained shrinkage/expansion	NPD
Corrosion behaviour:	Deemed to have no corrosive effect
Carbonation resistance	NPD
Elastic modulus:	NPD
Thermal compatibility	NPD
Reaction to fire:	Class A1
Coefficient of thermal expansion	NPD
Release of dangerous substances	NPD
Water vapour permeability:	Class I < 5 m
Capillary water absorption and water permeability:	≤0,1 kg/m ² x h ^{0,5}
Corrosion protection:	Coated zones free from corrosion
Resistance to Severe Chemical attack:	Class II < 50% reduction in hardness