

PRODUCT DATA SHEET

CRYSTAL LOK® CONCRETE TREATMENT

Waterproofs When Applied on Either Side of Concrete Structures

VOC < 0.01 mg/L

Products

CL-5 Five Gallon Pail
CL-55 Fifty five Gallon Drum

Product Description

Crystal Lok® is a water based concrete penetrant sealer, formulated to waterproof, damp proof, seal and keep the natural appearance and profile of Portland cement based concrete, concrete blocks, mortar, gunnite, slabs, floors, subsurface vaults or basements, walls, roofs, pillars, pipe, sculpture, architectural structures, statuary and decorations. Apply to concrete with stone, steel or polyfiber aggregate, free of other chemistry as coatings, sealers, cleaners or contaminants, and as specified in the paragraph "Standards" below.

Crystal Lok® penetrates concrete, crystalizes within pores, voids and hairline cracks to create waterproof concrete to zero permeability, under any pressure with no leakage at least to 75 pounds per square inch in ASTM grades of structural concrete and concrete products, from a single application of 300 square feet per gallon.

[See Test Summaries and Testing Report](#)

Crystal Lok® protects against water seepage, freeze-thaw spalling, efflorescence, absorption of liquids including water, oils, acids, ores, chloride ion - salt - intrusion; attack by alcohols, petroleum fuels, and other sources of damage where the seepage is not caused by cracking or other structural flaws. Crystal Lok® is fast drying, requires no maintenance, allows for routine and extreme maintenance of the surface including sandblasting and blast track abrading after application, if surface treatments require. Crystal Lok® prevents or aids in abatement of dampness odors caused by mildew bacteria in ground water or flood water or fungal growth colonizing concrete surfaces .

[See Chemical Defense List](#)

Basic Use: A single application of Crystal Lok® creates zero permeability in Portland cement based concrete of any shape, and for immersion at least to depths of 175 feet, defends concrete from ground water or other liquids, and from surface penetration of damaging liquids and freeze-thaw surface damage.

Packaging: Five and Fifty five.

Surface Preparation: Remove dirt, grease, oil, old paint, form release agents and other deposits for a residue free surface. Surface may be etched or blast tracked or sand blasted prior to application. Surface must be able to absorb water.

Spreading Rate: 300 (5 sq. meters/ltr) - 200 square feet per gallon. Coverage rate depends on the surface porosity of the concrete. 300 sq. ft = zero permeability on ASTM concrete.

Apply with clean hand pump garden sprayer, airless paint spray equipment, roller, or brush. Airless spray tip orifice .017 - .027 inch with .019 inch optimal. Clean equipment with soap and water after use.

Physical Properties - Technical Data

Description - vehicle: Water based, unpigmented, aqueous sodium silicates, penetrating aids & defoamers.

Appearance: Clear

Odor: No odor

VOC: < 0.01 mg/L

Solubility in water: 100% dispersible

Thinning: Do Not Thin.

Flammability: Not flammable

Flash point: Over 200°F

pH: 11.5 - alkaline

Weight 5 gallon pail (18.93 liters): 49 pounds

Weight 55 gallon drum (208.18 liters): 530 pounds

Shelf life: Indefinite. Store between 38°F and 125°F (3°C and 41°C). Avoid continuous direct sunlight. Avoid freezing.

Dry time - Walk on: when eye-dry. **Recoat:** 15-30 minutes for 2nd coat. To 3 days if third light coat preferred. Cure may bond tools, hoses or equipment to the concrete. Remove equipment from surfaces, floors or roofs for 12 hours.

Recommended top coat time: Varies with topcoat manufacturers specifications for application on alkaline surface: 24 hours to 30 days

Permeability of tested concrete ASTM D5084-90: (zero = watertight):

Positive - pressure on treated face = 0 watertight to 173 feet depth.

Negative - pressure on untreated face = 0 watertight to 138 feet depth.

(Laboratory terminated tests at 400 hours with no failures in any test samples.)

CAUTION: Product is alkaline pH 11.5. Avoid contact with skin and eyes. In case of contact, flush immediately with plenty of water. If irritation continues call a physician. Do Not Store in Aluminum Containers. Store, mix, or apply in steel or plastic containers only. [See MSDS.](#)

Standards

- ACI 301-05 Specifications for Structural Concrete
- SSPC-SP 13/NACE No. 6 Surface Preparation of Concrete
- SSPC Guide 11 Guide for Coating Concrete
- SSPC-TU 4 Field Methods for Retrieval and Analysis of Soluble Salts on Substrates
- ASTM D 4258-83 Standard Practice for Surface Cleaning Concrete for Coating
- ASTM D 4259 Abrading Concrete
- ASTM D 4262 Test Method for pH of Chemically Cleaned or Etched Surface
- ASTM C 805-02 Standard Test Method for Rebound Number of Hardened Concrete
- ASTM D 4285 Standard Test Method for Indicating Oil or Water in Compressed Air
- Other ACT, SSPC or ASTM Standards applicable to specific structure.

Application Guide

Application Conditions: Apply at 35°F and rising and below 110°F (6°-39°C). Mix well. Agitate while applying. Crystal Lok® may be applied to dry or damp concrete, but not onto puddles or flowing water. Wet down hot concrete to cool to allow absorption before evaporating, and to break surface tension. May be applied to any age concrete. New concrete apply after forms are removed and surface can be walked on - wait 28 days for full cure.

Protect any glass, brass or aluminum surfaces as permanent etching will occur on contact. Not suitable for clay brick or other clay based products as it is not designed for them. Do not apply onto painted surface as it will soften paint.

Application Method: Brush, roll or spray undiluted Crystal Lok®. May use garden type sprayer as pressure is not critical. For large areas spray or roller is recommended. Spray in a fan pattern with overlap. Apply at rates of 300 - 200 square feet per gallon, total. May apply this amount in several lighter passes. Second pass after 15-30 minutes. A third pass may be applied up to 3 days following the second. For floors, roofs, may apply to a total of 150 square feet per gallon as the total of three applications if preferred.

Apply with clean hand pump garden sprayer, airless paint spray equipment, roller, or brush. Airless spray tip orifice .017 - .027 inch with .019 inch optimal. Clean equipment with soap and water after use.

Avoid ponding or puddles if a residue free surface is preferred. Puddles will result in white crystalline formations tightly adherent to the surface that requires grinding to remove - the same structure Crystal Lok® creates within the concrete. Remove puddles by sweeping, air blast or hose surface with water. Water rinse after absorption does not interfere with effectiveness.

After applying Crystal Lok® normal concrete maintenance or surface abrasion may be undertaken without altering the permeability.

Topcoat: Apply topcoats to manufacturers specifications. May be top coated with high alkaline tolerant coating. For coatings requiring neutral pH substrate rinse with mineral salts remover, water, or acid etch, to manufacturers specification to obtain recommended pH or surface characteristics.

LIMITATIONS:

- Do Not store, mix or apply in Aluminum containers.
- Requires structural Portland cement concrete, mortar.
- Not suitable for clay brick or other clay based products.
- Do not puddle or allow Crystal Lok® to dry on the surface** if residue-free surface is required. Remove unabsorbed excess immediately by spreading with air, wiping up with cloth or sponge mop, squeegee or rinse off. Excessive Crystal Lok® from puddles leaves hard white CSH crystalline deposits requiring blasting, grinding or acid etch to remove. Same crystallization as inside the concrete. May rinse with water as soon as product is absorbed into concrete.
- Will permanently etch glass, aluminum, porcelain, enamel, plastic on contact. Protect from exposure to spray or run-off.
- Do not apply over painted surfaces. Softens paint on contact.
- If concrete will not absorb water, it will not absorb Crystal Lok® Test absorption by sprinkling water on surfaces.
- Will not penetrate if concrete has had prior treatment with similar materials. Test sample area for suitability.
- Do not apply below 38° F and above 110° F. Use water to break surface tension on hot surfaces.
- Not compatible with Class C fly ash formulation as that is considered to be self cementitious and pozzalanic. Class F fly ash & silica fume are usually OK. Test first.
- CRYSTAL LOK LLC. does not warrant application of topcoats over Crystal Lok® - treated surface.

WARRANTY, LIMITATION OF REMEDIES AND LIABILITY:

MANUFACTURER WARRANTS THAT THE MATERIAL IS MADE OF THE CONSTITUENT PARTS DESCRIBED. THE MANUFACTURERS LIABILITY IS LIMITED TO THE REPLACEMENT OR REFUND OF PURCHASE PRICE UPON RETURN OF UNUSED PORTION WITH PROOF OF PURCHASE. THERE ARE NO GUARANTEES, EITHER EXPRESSED OR IMPLIED WHICH EXTEND BEYOND THE DESCRIPTION IN THIS PARAGRAPH. USER/APPLICATOR IS SOLELY RESPONSIBLE FOR DETERMINING WHETHER CRYSTAL LOK® IS FIT FOR A PARTICULAR PURPOSE AND IS SUITABLE FOR USERS APPLICATION AND FOR RESULTS OBTAINED.....

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Rev: September 25, 2007