

# LEGGARI

# CONCRETE LOCK

## Technical Data Sheet

### PRODUCT DESCRIPTION

Leggari Concrete Lock is a clear, single component, odorless, water-based, penetrating colloidal silicate liquid primer that integrally waterproofs concrete, mortar and other cementitious materials. Based on scientifically superior inorganic mineral waterproofing technology, Concrete Lock penetrates deep into the capillary structure of concrete and mortar to permanently enhance physical properties and the dynamics of waterproofing performance. Exhibiting highly reactive and hydrophilic properties, Concrete Lock quickly migrates through waterways and capillary tracts to chemically convert free water-soluble calcium hydroxide into a dense crystalline network of insoluble calcium silicate hydrate gel within the concrete pore structure.

This conversion process has been found to purge unwanted chlorides and other contaminants from the concrete matrix. As determined by the U.S. Bureau of Reclamation M-82 Standard Protocol to Evaluate the Mitigation of Corrosion Technologies in Concrete Repair, Concrete Lock substantially reduced corrosion at a 95% Confidence Limit.

#### ADVANTAGES

- Deep penetration into concrete substrates 2" – 4".
- Water thin micro-crystalline technology – penetrates fast
- Purges/expels embedded chlorides and blocks re-entry.
- Enhances concrete physical properties – maintains breath-ability
- Significantly reduces migration of efflorescence.
- Application from positive or negative side.
- Significantly reduces moisture vapor emissivity.
- Hydrophilic moisture barrier – resists hydrostatic pressures.
- Permanent and self-healing integral waterproofing.
- Enhanced protection of reinforcing steel to corrosion
- Meets USDA standards for non-incident food contact.
- Will not sustain mold, mildew or fungal growth.
- Non-toxic, low odor and environmentally safe.
- Cures, seals, densifies and hardens new/existing concrete.

#### APPLICATIONS

- Concrete pool shells and water features.
- Water and wastewater treatment structures.
- Water reservoirs and containment pits.
- Concrete slabs, walls and foundations.
- Underground vaults and elevator pits.
- Dams, spillways and tunnels.
- Retaining walls and basements.
- Parking structure slabs, columns and walls.
- Concrete bridge decks and sub-structures.
- Sidewalks, balconies and breezeways.
- Commercial and industrial flooring.
- Masonry and stone structures.

#### PACKAGING AND COLOR

- 1 Gallon can
- 5 Gallon Pail

Color: Clear

#### MIX RATIO

- Single component – ready to use.

#### SHELF LIFE AND STORAGE

Two years from the date of manufacture when unopened and material is stored in a protected environment free from moisture, excessive heat, freezing temperatures, and direct sunlight.

#### COVERAGE RATES

##### **THEORETICAL COVERAGE PER UNIT:**

##### **Fresh concrete:**

First Application.....150-200 sq. ft. per gallon  
Second Application.....150-200 sq. ft. per gallon

##### **Cured Profiled Concrete:**

First Application.....50-250 sq. ft. per gallon  
Second Application.....50-250 sq. ft. per gallon

\*\*A minimum of two applications is required for maximum function/ protection. Consumption rates are dependent on many factors including substrate profile, porosity, and water cement ratio. Above rates of application represent typical values.



## MIXING AND APPLICATION

### Surface Preparation

#### For Fresh Concrete:

Upon removal of concrete form-work or thorough evaporation of all bleed water, concrete surfaces require no specific surface preparation procedures other than rinsing with water at low pressure to remove any form release compounds or other pore blocking substances that may have been applied to concrete surfaces or form-work.

#### For Cured Concrete:

Take a pH reading of the concrete substrate first by mechanically abrading off a layer of cement paste to remove what has likely become carbonated due to exposure from moisture and carbon dioxide. Ideal range of pH below abraded surface should be a minimum of 10 or higher. For anything under a pH of 10, Concrete Conditioner must be used in conjunction with Concrete Lock. All surfaces to be treated must be clean with an open-pore structure to provide access to the capillary network within the concrete matrix. Concrete substrates need to be free from any substances that may inhibit penetration including, but not limited to, grease, oil, sealers, paint, curing compounds, form release agents, adhesives, mildew, algae, fungus, and other foreign matter. If subsequent surface coatings will be applied, a minimum surface profile of CSP-3 or higher is required as per ICRI surface preparation guidelines.

### Mixing

A single component ready to use liquid, Concrete Lock should be thoroughly agitated and shaken well before use. Do not alter or dilute in any way, and use strictly as supplied in original containers. Mechanical mixing is acceptable but not required. Immediately rinse thoroughly with water, and clean up any spillage on surfaces not intended to be treated.

### Cured Concrete Applications:

When applying Concrete Lock to vertical surfaces use low pressure sprayers (40 psi) with a fan tip nozzle or a minimum 3/8" nap roller and begin applying from the bottom and work up the vertical face with north/south and east/west spray patterns. Saturate the concrete surface thoroughly until refusal and excess material forms a run-down pattern of 6 to 8 inches below the spray contact point. Once the first application has been absorbed immediately apply the second, and apply only as much as the surface will readily absorb. Watch for areas that dry out at a faster rate, and re-apply as necessary. On horizontal substrates, apply a flood coat with enough material to maintain a wet condition for 3 to 5 minutes. If material ponds in shallow depressions use a broom or roller to evenly distribute material to surrounding areas. For maximum function and performance on both

### Application

Depending on the type of application, Concrete Lock can be applied in a variety of methods including brush, roller or spray apparatus.

vertical and horizontal surfaces, a second wet on-wet application within 20 to 40 minutes is required. During hot weather conditions, pre-wet the substrate to saturated surface dry (SSD) state to cool the surface down prior to application. As a final step and approximately 30-40 minutes after the last application of Concrete Lock, apply two light mist-coats of potable water to the entire treated surface 30-40 minutes apart. This helps transport any uncured inorganic potassium minerals near the surface and drive them down into the concrete capillaries. This also leaves the near surface concrete pores open for the uninhibited application of subsequent coatings, stains and sealers.

### For Best Results:

- Always install a minimum 4' x 4' on-site mock up to verify actual coverage rates, and for approval of acceptable color, texture, finish, adhesion, and any other critical requirement acceptable to the owner prior to proceeding with the installation.
- Verify and download current versions of product technical data sheets (PTDS), material safety data sheets (MSDS), and installation guides (IG) at [www.leggari.com](http://www.leggari.com).
- Protect materials from excessive heat and cold, and pre-condition to room temperature as necessary.
- Measure surface and ambient temperatures to ensure the material is only applied when temperatures are 40°F (4.5°C) and rising during placement and cure time.
- When applying Concrete Lock to concrete exhibiting excessive hydrostatic activity, as evidenced by saturated and weeping surfaces, vacuum and dry surfaces and immediately follow up the first application with a second and third application, as required.

- Depending on climatic conditions, density of the treated concrete, and potential for purging of chlorides and other entrapped contaminants, Concrete Lock is required to cure for 1-7 days prior to the application of surface applied materials.
- Prior to applying subsequent surface coatings any contaminants purged from the concrete must be removed by vacuum and cleaning.
- The proper application of this product is the sole responsibility of the end user. Job site visits by Leggari representatives are only for observation and making recommendations, and does not assume any liability for supervision or quality control.

### Limitations:

- Protect Concrete Lock treated surface from rain for a minimum of two hours after final application.
- Protect glass, plant life, aluminum, ceramics, glazed tile, wood vehicles from contact by overspray. Remove with water immediately.
- Can etch glass, avoid contact and rinse glass immediately.
- Do not apply if minimum/maximum ambient and substrate temperatures are 40°F (4.5°C) and above 100°F (37.8°C) 24 hours prior to and following application.
- Concrete surface sealers and polymer-modified mixes will inhibit penetration and function of Concrete Lock.
- Rebound-laden shotcrete and gunite structures will be deficient in cementitious content to form a proper chemical reaction and full waterproofing potential.



## TYPICAL PHYSICAL PROPERTIES @ 75°F (24°C)

Vehicle Type	Water-based solution
Color	Clear
Flash Point	None
Flammability	None
Odor	None
pH	11-12
Weight per gallon	9.2 lbs/4.17 kg
Specific Gravity	1.10
VOC (grams/liter)	0.0
Drying Time	2-3 hours

## DISCLAIMER

PRODUCT FAILURE DUE TO IMPROPER INSTALLATION OR DEVIATION FROM THE RECOMMENDED USES &/OR APPLICATIONS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR/INSTALLER TO COVER THE PRODUCT COST, AND LABOR.

IN THE CASE OF A PRODUCT DEFECT BEING THE REASON, A JOIN WARRANTY WOULD COME INTO EFFECT. IF THIS WERE TO TAKE PLACE, LEGGARI PRODUCTS LLC WOULD REPLACE THE PRODUCTS SOLD (NOT TOOLS AND EQUIPMENT) AND THE CONTRACTOR OR INSTALLER WOULD COVER THE LABOR.

**Prepared by:**  
**Revision Date:**

LEGGARI PRODUCTS LLC  
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