

WATERPROOFING AGENT

BridgeDECK® Waterproofing Agent is a bio-based, waterproofing product, specifically designed for D.O.T. applications or large bridges. BridgeDECK Waterproofing Agent employs a sodium silicate formula, that is enzymatically modified to chemically bond with concrete. With the introduction of water, the formula increases in mass and forms a gel that encapsulates water trying to enter the concrete. This vapor permeable gel fills cracks, pores, and voids in the concrete, creating a long-term barrier to water infiltration. It penetrates into the concrete and it reacts with the calcium and water contained in the concrete, to form a calcium silicate gel complex that fills the cracks, pores, and capillaries.

BridgeDECK Waterproofing Agent has the ability to seal cracks up to **5/64" (2.0 mm) in width** upon initial application. In the matrix, the product remains reactive when in contact with water, to provide autogenous crack sealing properties to future hairline cracks less than **1/64" (0.4 mm) in width**. It is recommended that for cracks greater than 5/64" (2.0 mm) that routing and an application of sealant be applied.



KEY BENEFITS

- 25-year re-application.
- 100% trafficable upon completion.
- Protects against the harmful effects of corrosion by penetrating the surface and forming a protective layer between the surface and steel reinforcing bars.
- NSF 61 approved for water potability.
- Vapor permeable (does not trap moisture within the slab)



TYPICAL APPLICATIONS

- Bridge Structures
- Jersey Walls/Barricades
- Highways



PRECAUTIONS

Protect glass, wood and painted surfaces, terracotta and glass-glazed tiles, marble and travertine from over-spray.



PRODUCT PROPERTIES

- Colorless, clear to slightly opaque, odorless, soapy feel
- Non-toxic & Biodegradable
- Percent non volatile solids 26.55%
- Specific gravity at 77°F (25°C) : 1.2
- Flash point - no true flash - boils at 214°F (101°C)
- Viscosity - 14.3 centipoise or 0.1172 Stokes
- Hazardous chemicals - Sodium Silicate (modified)
- pH 11.51

TESTING

The NSF/ANSI 61 is a set of national standards that relates to water treatment and establishes stringent requirements for all equipment and products that come in contact with either potable (drinking) water or products that support the production of potable water. **BridgeDECK Waterproofing Agent has been UL Certified NSF/ANSI 61.**

TESTING STANDARDS

- ASTM E514 Water penetration
- ASTM C952 Bond Strength
- ASTM C672 Scaling Resistance
- ASHTO T-259 Chloride Ion Penetration
- ASHTO T-260 Chloride Ion Content
- ASTM D1644 Non volatile Content
- NSF 61 Potable Water Certification
- ASTM C1568-08 Wind Uplift Approval
- ASTM C1202 Chloride Ion Resistance
- ASTM C39 Compressive Strength
- TAS 112 Permeability
- ASTM D93 Ignition temp
- ASTM E108 Non combustible Surface
- ASTM C-42 Compressive and Flexure Strength
- ASTM-C-666 Freeze/Thaw
- ASTM D-3960 Zero VOC's
- ASHTO T-38 Moisture Vapor Transmission

PERFORMANCE TIMELINE

BridgeDECK Waterproofing Agent utilizes a bio-based modified sodium silicate gel-forming technology to stop water penetration. Sodium Silicate is often referred to as "liquid glass" and is a silicon-oxygen polymer containing ionic sodium (Na+) components. Sodium silicate is similar to carbon-based plastics since silicon-oxygen-silicon bonds between each monomer are covalent. The polymer-like nature of the sodium silicate matrix as well as the polar character of oxygen and sodium atoms allows for bonding of water molecules within the polymer matrix. The modified sodium silicate penetrates into and bonds with the concrete to create a barrier to water, stopping the water from within the concrete rather than on the surface. The chemical reaction that creates this barrier is catalytic in nature and **may require between 3-5 days to reach full water stopping capabilities.**



APPLICATION

SURFACE CLEANING & PREP

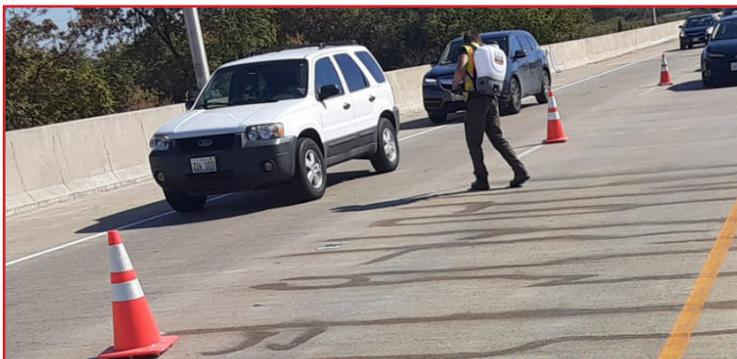
BridgeDECK Waterproofing Agent must be applied to a clean, dry, dust-free concrete surface, at least 14 days after the concrete has been poured in place. In the case of old concrete and where the surface is not clean, then the use of the following products is recommended.

ACR Emulsifying Cleaner - Use this product to remove grease and oil that has penetrated into the concrete. This is a solvent-based product that will break down the oil and grease and allow it rise to the surface. Once used, clean with ACR Concrete Cleaner and rinse with clean water.

ACR Concrete Masonry Cleaner - Use this product to remove dirt and environmental debris. This product is sprayed on the surface and in most cases will require some agitation. Once the dirt and debris has been removed rinse with water.

SHELF LIFE & STORAGE

BridgeDECK Waterproofing Agent has no known limit to shelf life. Keep container sealed and avoid prolonged exposure to direct sunlight. Always agitate drum or container before use.



ACR Concrete Etch - This product should be used when the surface of the concrete does not allow the proper penetration of the water based products. It is an environmentally safe and human safe substitute for muriatic acid. Apply by spraying over the entire surface of the concrete. Once the product is no longer reacting with the concrete, it may either be; 1) allowed to dry in place and once dry remove loose material with a broom or vacuum; 2) remove by rinsing with water.

ACR Paint Remover - Use this product to remove paint from the surface of the concrete. This is an environmentally safe product and will remove paint quickly and effectively. Once used, clean with ACR Concrete Cleaner and rinse with clean water.

Check the Alchemco website (www.alchemco.com) for technical data sheets on each of these products or for help on which cleaning product will provide the best result.

WATERPROOFING AGENT APPLICATION

- 1. Important** - If the system is to be applied to newly poured concrete, then the application must not begin for at least 14 days after the pour is completed. If the system is being applied to older existing concrete then the application can begin once the surface is clean and all cracks have been properly cleaned & prepared. Any existing coatings or sealers should be removed prior to application to ensure proper penetration of the BridgeDECK Waterproofing Agent.
- 2. NOTE: BridgeDeck Waterproofing Agent should only be applied when the ambient temperature is 40°F (+4°C) and rising or 100°F (+38°C) and falling.**
3. BridgeDECK Waterproofing Agent should be applied using a low pressure pump style sprayer. Sprayer may be a canister style, back pack sprayer or a tank fed spraying system.



4. Begin by flooding all cracks. This includes cracks less than 5/64" (2.0 mm) and also cracks that have been routed or ground. The purpose of this spraying is to ensure that all cracks have a sufficient amount of waterproofing material within them. In this situation more is always better.
5. Next start spraying BridgeDECK Waterproofing Agent in a uniform pattern over the surface of the concrete. Make sure to slightly overlap spraying to ensure proper coverage. Product should be applied so that the concrete becomes wet without puddling the product.
6. Apply the product uniformly at a rate of 180-200 square feet per gallon (1 liter per 5 square meters).



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7. Once all surfaces have been sprayed, allow the product to dry. Once the product has dried to touch (if you touch the surface and no wet product comes off on your hand). In direct sunlight this process may take as little as 1 hour, in some cases longer. In case the product does not completely dry to the touch within 5 hours, begin the washing application.
8. Once the product has completely dried to the touch or no later than the 5 hour point, begin washing the surface. Washing is to remove any excess material sitting on the surface. Washing should be done with clean, clear water. Washing should continue until there is no "white foaming" occurring, which is evidence of the presence of the material.
9. Once the washing is complete, the application is complete and may be put back into service



10. PACKAGING

BridgeDECK Waterproofing Agent comes in the following sizes:

- 5 gallon pails (18.92 liters)
- 55 gallon drums (208.2 liters)



AVAILABLE WARRANTIES

A **Limited Liability Material Only Warranty** is available at no additional cost, **if the project is registered with Alchemco.**

- **BridgeDECK Waterproofing Agent 25-Year.**

For additional information about the Alchemco system specifications or available warranties, either contact your local Alchemco distributor or Alchemco's Technical Department at technical@alchemco.com or call 800-610-2895.

LIMITATIONS

BridgeDECK Waterproofing Agent is not suitable for sealing cracks in excess of **5/64" (2.0 mm) in width**, expansion joints or control joints. All cracks greater than 5/64" (2.0 mm) in width and control joints should be sealed with an appropriate sealant.



WARNINGS



DANGER! TOXIC IF SWALLOWED

This product contains Sodium Silicate and may be harmful if swallowed. Wash hands, face and any exposed skin thoroughly after handling. Keep container tightly closed. Do not eat, drink or smoke when using this product.

IF SWALLOWED: Immediately call a POISON CONTROL CENTER, doctor/physician. Rinse mouth.

See Safety Data Sheet for further details regarding safe use of this product. Safety Data Sheets for any Alchemco product may be obtained by contacting Alchemco, 3532 Mayland Court, Henrico, VA 23233. 800-610-2895 or emailing technical@alchemco.com or calling
CHEMTREC 800-424-9300 (US)
703-741-5970 (International).



WARRANTY DISCLAIMER

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