BridgeDECK®
CONCRETE BRIDGE MAINTENANCE PRODUCTS

TECHNICAL DATA SHEET

CORROSIONBLOK

BridgeDECK® CorrosionBlok is a bio-based, corrosion blocking product for concrete, specifically designed for D.O.T applications or large bridges and other concrete structures that require a very short lane-closure time. BridgeDECK CorrosionBlok 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 reacts with the calcium and water contained in the concrete, to form a calcium silicate gel complex that fills the cracks, pores, and capillaries.

KEY BENEFITS

- 5-Year re-application.
- 100% trafficable once dry, often within an 1-hour.
- 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)

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 CorrosionBlok 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

LIMITATIONS

BridgeDECK CorrosionBlok is designed to protect the concrete and steel within the concrete. This product should not be used for sealing cracks and voids.

PRECAUTIONS

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

SHELF LIFE & STORAGE

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

PERFORMANCE TIMELINE

BridgeDECK CorrosionBlok 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.

APPLICATION

SURFACE CLEANING & PREP

BridgeDECK CorrosionBlok 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 may be required.

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.

NOTE: On some projects it may make more financial sense to utilize shot blasting to prepare the surface for the application of the system products.

CORROSIONBLOK 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 must be removed prior to application to ensure proper penetration of the BridgeDECK CorrosionBlok product.

Alchemco, a division of MBC North America, Inc. | 3532 Mayland Court, Henrico, VA 23233 | 800-610-2895 | www.alchemco.com

2. **NOTE: BridgeDeck CorrosionBlok should only be applied when the ambient temperature is 40°F (+4°C) and rising or 100°F (+38°C) and falling. BridgeDECK CorrosionBlok may be applied to a dry or slightly damp concrete surface.**

3. BridgeDECK CorrosionBlok 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 spraying BridgeDECK CorrosionBlok 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, but do not puddle the product.

5. Apply the product uniformly at a rate of 180-220 square feet per gallon (1 liter per 5 square meters).

PACKAGING

BridgeDECK CorrosionBlok comes in the following sizes:

- 5 gallon pails (18.92 liters)
- 55 gallon drums (208.2 liters)
- 275 gallon totes (1041 liters)

AVAILABLE WARRANTIES

5 YEAR CorrosionBlok

SAMPLE — April 23, 2022

Building owner name
Address, city, state and zip code

Contact Name — 847-123-4567

Certified Contractor Name
Address, city, state and zip code

Building name
Address, city, state and zip code

Description of the area or areas that have had the product applied.

This warranty is effective from: 04/25/2022 through: 04/24/2042

Subject to the terms, conditions, and limitations stated below, **Alchemco®**, a division of MBC North America, Inc. ("Alchemco") warrants to the Building Owner ("Owner") of the described concrete structure, that: Alchemco will replace or repair any **BridgeDeck®** product, that is shown to have a manufacturing defect, for a period of **Five (5) years**, as shown above, commencing with the date the product was delivered. However, in no event shall Alchemco's obligations extend beyond the **Five (5) years**. This warranty shall be in lieu of any warranty, including and all assumed warranties, except warranties issued specifically to a project by Alchemco.

TERMS, CONDITIONS, LIMITATIONS

1. Owner shall provide Alchemco with written notice via letter, fax or email within thirty (30) days of the discovery of any defect in the Alchemco BridgeDeck products. Owner should send written notice of a defect to Alchemco at the address set forth at the bottom of this warranty. ***NOTE: Notifying your contractor or Alchemco Certified Applicator does not constitute notice to Alchemco.*** By so notifying Alchemco, the Owner authorizes Alchemco or its designated representative to investigate the defect. Should the investigation reveal the cause of the defect to be outside the scope of this Warranty, investigation and repair costs for this service shall be paid by the Owner.

2. If, upon inspection, Alchemco determines that the problem has been caused by a defect in the BridgeDeck products, Owner's remedies and Alchemco's liability shall be limited to Alchemco's replacement of the product within the effected area.

3. Alchemco shall have no obligation under this Warranty while any bills for installation, supplies, service, or warranty charges have not been paid in full to the Alchemco Certified Applicator, Alchemco, or the material suppliers.

4. This warranty shall not be applicable if, upon inspection, Alchemco determines that any of the following has occurred:

(a) The BridgeDeck products have been damaged by natural disaster, including, but not be limited to, lightning, fire, insect infestation, earthquake, tornado, or hurricane. Alchemco shall not be responsible for any changes in appearance or surface imperfections caused by hail incidents;

(b) The BridgeDeck products have been damaged by any intentional or negligent act, accident, misuse, abuse, vandalism, civil disobedience, or the like;

(c) Loss of integrity of the building envelope or structure including, but not limited to, partial or complete loss of decking, wall siding, windows, doors, or other envelope components, or from damage by wind-blown objects;

(d) Deterioration or failure of building components including, but not limited to, substrate, walls, mortar, HVAC units, non-Alchemco brand materials, etc., occurs and causes a leak, or otherwise damages the BridgeDeck products.

6. This Warranty shall be null and void if any of the following shall occur:

(a) Failure by the Owner to use reasonable care in maintaining the protected area, said maintenance to include, but not be limited to, those items listed on Alchemco's Technical Data documents.

7. During the term of this Warranty, Owner shall provide Alchemco with reasonable access to the project and the protected surface during regular business hours.

8. Alchemco's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such provision.

9. Alchemco shall not be responsible for the cleanliness, discoloration, or appearance of the Alchemco BridgeDeck products or the finished surface, which may have been caused by environmental conditions including, but not limited to, dirt, grease, oil, efflorescence, pollutants, or biological agents.

11. If any dispute, claim, or controversy arises from or relates to this warranty, and if the dispute cannot be settled through direct discussions, the parties agree to endeavor first to settle the dispute by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration. The parties further agree that any unresolved controversy or claim arising out of or relating to this warranty shall be settled by arbitration in the Commonwealth of Virginia administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules and judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.

12. This warranty shall be governed by the laws of the Commonwealth of Virginia, without regard to principles of conflicts of laws.

Kenston Russell,
Technical Director & Chief Architect

DATE: 04/25/2022

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

- **BridgeDECK CorrosionBlok 5-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.

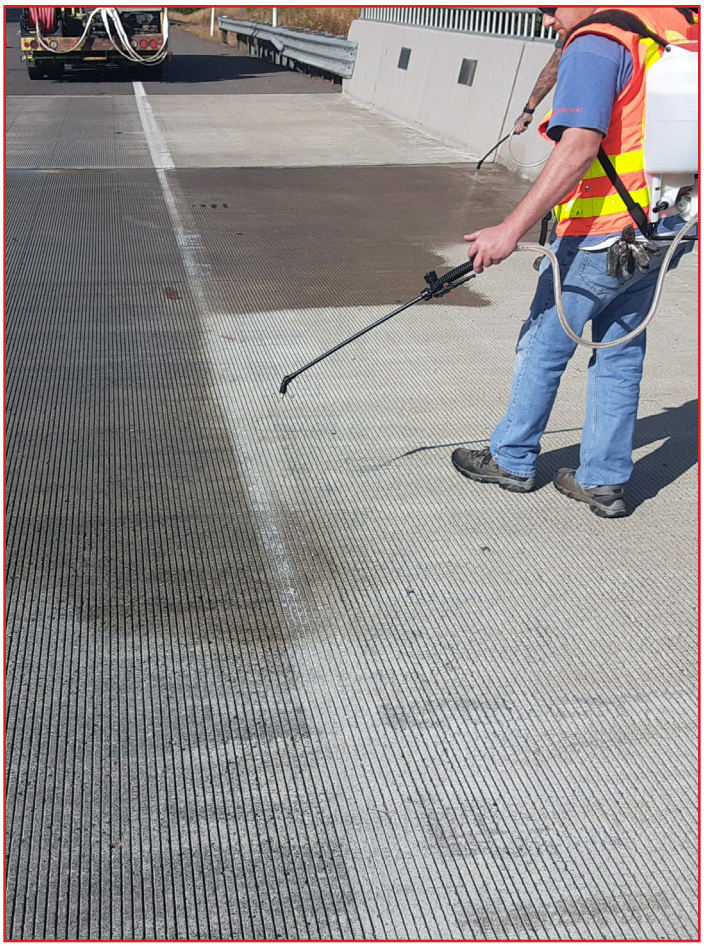
WARNINGS

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).



MADE IN USA

INTERNATIONAL CONCRETE REPAIR INSTITUTE

CLASSIFIED C UL US
WATER QUALITY
DRINKING WATER SYSTEM COMPONENT
NSF/ANSI/CAN 61 MH63325

WARRANTY DISCLAIMER
Because of conditions of use which may be beyond our control, Alchemco shall not be held responsible in any manner for any personal injury or property loss resulting to the buyer or any other person from handling, storage, or use of this material not in accordance with directions. The buyer and/or user assumes all risk and liability resulting from improper handling or usage. There is no warranty expressed or implied of any kind, except as supplied in writing.