MCI®-2019
MCI®-2019 FD

PRODUCT DESCRIPTION

MCI-2019 is a 40% silane, solvent-based concrete sealer containing time-proven Migrating Corrosion Inhibitors (MCI®). MCI-2019 is a small molecule product that can easily penetrate into concrete, providing water repellency by chemically reacting with cementitious substrates under proper application. MCI-2019 seals surface pores which prevents intrusion of chloride and carbonation, and protects from the ingress of wind-driven rain. Treated areas retain their original appearance and are fully breathable – retaining their natural moisture-vapor transmission.

MCI-2019 FD is a special version of MCI-2019 containing a red fugitive dye, which fades with time, to confirm application.

HOW IT WORKS

MCI-2019 combines a silane water repellant with Migratory Corrosion Inhibitor action. The silane component penetrates into the surface, chemically bonding with the substrate to provide a high level of water and chloride ion screening. The MCI component has been shown to penetrate to the depth of embedded, metallic reinforcement, forming a protective monomolecular layer on it. This protective layer delays the onset of corrosion, and reduces corrosion rates after initiation, greatly extending the service life of structures.

WHERE TO USE

MCI 2019 and MCI-2019 FD are recommended for use on exterior, above grade concrete, brick masonry, concrete masonry units and some natural stones.

ADVANTAGES

MCI-2019 offers engineers, owners, contractors, DOTs, and government agencies a time proven, corrosion inhibiting technology that will extend the service life of their reinforced concrete structures.

- Protects against ingress of water, chlorides and other aggressive contaminants
- Molecule size allows penetration into the smallest concrete pores
- Not a vapor barrier
- Enhances durability and increases surface abrasion resistance
- Reduces efflorescence
- Effectively delays onset of corrosion in new structures
- Effectively reduces corrosion rates on metals with existing corrosion
- Non-toxic, contains no nitrites, phosphates, or chromates
- No blushing, peeling, or yellowing
- Does not etch, stain, discolor or otherwise harm glass or aluminum
- Helps protect against acid and chemical attack
- Easily applied by spray, brush, or roller

TYPICAL PROPERTIES

MCI-2019	
Appearance	Light yellow liquid
pH	8.7-9.5 (1% in aqueous)
MCI-2019 FD	
Appearance	Red liquid
pH	9.0-10.0 (1% in aqueous)
Density (both versions)	6.9-7.1 lb/gal (0.83-0.85 kg/l)

Shelf life is 12 months from date of shipment when stored in original, airtight containers at or below 25°C (77°F).

COVERAGE

Application rates will vary depending on surface porosity and number of applications. Approximate coverage rate is 125-175 ft^2/gal. (3-4.3 m^2/l). Before applying, it is recommended that preliminary tests be carried out to determine proper application, dosing, etc.

PACKAGING

MCI-2019 and MCI-2019 FD are available in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums and 275 gallon (1040 liter) totes.

MCI® MIGRATING CORROSION INHIBITORS FROM GREY TO GREEN

PERFORMANCE DATA

NCHRP - Series II

Weight Gain During Saltwater Soak

Testing on concrete (2-inch cubes, 21 day immersion in 15% NaCl, 5,000 psi concrete) showed a 75% reduction in weight gain.

ASTM C-156: Water Vapor Transmission

Water vapor transmission of coated samples is excellent. MCI-2019 did not significantly alter water vapor transmission characteristics when coated samples were compared to uncoated samples.

ASTM C-1218: Chloride Ion Intrusion at 0.5-1" Depth

The chloride ion intrusion was determined by ponding 4% NaCl on top of panel for 21 days. The MCI-2019 coated samples showed a 78% decrease in chloride ion penetration.

NCHRP - Series IV

Accelerated Weathering Tests

24 weeks of accelerated weathering testing included salt water exposure, ultraviolet light exposure, and wetting and drying cycles. The test results show that a single coat at 125 ft^2/gal (10 m^2/l) reduced the average chloride ion intrusion into the concrete by 99% when compared to uncoated control specimens. The performance exceeds the 90% limit suggested in the NCHRP report No. 244.

ASTM C-672: Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals

Test results indicate little or no change after 50 cycles of deicer freezing and thawing using air entrained concrete specimens where as the control had moderate to severe scaling.

FOR INDUSTRIAL USE ONLY

KEEP OUT OF REACH OF CHILDREN

KEEP CONTAINER TIGHTLY CLOSED

NOT FOR INTERNAL CONSUMPTION

CONSULT SAFETY DATA SHEET FOR MORE INFORMATION

SURFACE PREPARATION

Surfaces should be clean, dry and free of dirt, oil, grease, efflorescence, mold, salt, laitance, coatings, membranes, and asphalt. Acceptable cleaning methods include shotblasting, sandblasting, or waterblasting.

APPLICATION

Stir thoroughly before use. Apply MCI-2019/MCI-2019 FD by using an airless sprayer, roller, or brush. When a brush or roller is used, repeated applications should be made until the surface remains moist for a few minutes. If an airless sprayer is used, application should continue until the substrate is thoroughly saturated. Sprayers should be fitted with solvent resistant hoses and gaskets.

For best results, two applications are recommended with the second application applied using a wet on wet technique; i.e. the surface is wet from the first application, but not glossy. During application, precautions should be taken to protect the surrounding area from overspray and run-off. MCI-2019 may be applied to damp surfaces, although dry surfaces are preferred to achieve maximum penetration into the substrate.

If a coating will be used over MCI-2019, a 7 day period is recommended before coating. A compatibility test should also be performed.

CONSIDERATIONS

- MCI-2019/MCI-2019 FD should be kept away from heat and open flame.
- MCI-2019/MCI-2019 FDshould not be used on structures under hydrostatic pressure
- Do not apply when temperature is expected to be at or below 5°C (40°F) or on extremely windy days when evaporation of solvent would be too rapid
- MCI 2019 will not penetrate water repellants, coatings, paints, membranes or asphalt
- Fresh concrete should be allowed to cure for 28 days before application; repair work should be completed at least 3 days prior to application of MCI-2019/MCI-2019 FD

LIMITED WARRANTY

All statements, technical information and recommendations contained herein are based on tests Cortec Corporation believes to be reliable, but the accuracy or completeness thereof is not guaranteed.

Cortec Corporation warrants Cortec® products will be free from defects when shipped to customer. Cortec Corporation's obligation under this warranty shall be limited to replacement of product that proves to be defective. To obtain replacement product under this warranty, the customer must notify Cortec Corporation of the claimed defect within six months after shipment of product to customer. All freight charges for replacement products shall be paid by customer.

Cortec Corporation shall have no liability for any injury, loss or damage arising out of the use of or the inability to use the products.

BEFORE USING, USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND USER ASSUMES ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH. No representation or recommendation not contained herein shall have any force or effect unless in a written document signed by an officer of Cortec Corporation.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO CASE SHALL CORTEC CORPORATION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Distributed by:

CORTEC CORPORATION
Environmentally Safe VpCI®/MCI® Technologies

4119 White Bear Parkway, St. Paul, MN 55110 USA
Phone (651) 429-1100, Fax (651) 429-1122
Toll Free (800) 4-CORTEC, E-mail info@cortecvci.com
Internet http://www.cortecvci.com

printed on recycled paper 100% post consumer
Revised 8/20/13