



Surface Treatment

MIGRATORY CORROSION INHIBITOR (MCI®) PRODUCTS FOR CONCRETE

MCI®-2018
MCI®-2018 UV
MCI®-2018 VO

MCI®-2018 VO Red
MCI®-2018 VO FD
MCI®-2018 FD

MCI®-2018 Blue
MCI®-2018 Red
MCI®-2018 VO Blue



PRODUCT DESCRIPTION

MCI-2018 is a 100% silane concrete sealer containing time-proven Migrating Corrosion Inhibitors (MCI). MCI-2018 penetrates deep into concrete providing corrosion protection to reinforcing steel from existing water and chloride ions, or other contaminants. MCI-2018 also provides water repellency by chemically reacting with the cementitious substrate under proper application, decreasing the ingress of additional aggressive materials.

MCI-2018 V/O is particularly formulated for application on vertical surfaces. MCI-2018 FD and MCI-2018 V/O FD both contain a red fugitive dye to aid in uniform application and job inspection. The color will stay on concrete for about 7 days but fade in about 30 days, depending on sunlight (UV) exposure.

MCI-2018 UV contains a UV dye to confirm applications without affecting the appearance of the surface.

MCI-2018 and MCI 2018 VO are available with a permanent Red or Blue stain.

PRIMARY APPLICATIONS

- Commercial buildings
- Parking garages
- Bridge decks or bridge structures
- Tunnels
- Jetties/Piers and other marine structures
- Off-shore oil platforms
- Any other reinforced concrete structure

ADVANTAGES

- Migrates into even the densest concrete
- Forms a monomolecular corrosion inhibiting layer on the steel, inhibiting the electrochemical corrosion process between metal and chloride, oxygen, and moisture in concrete
- Treated substrates are hydrophobic and retain their original appearance
- Surfaces remain fully breathable and maintain their natural moisture-vapor transmission
- Blocks carbonation and chloride ion intrusion
- Extends the service life of structures
- Easy application by spray, roller, or squeegee
- Non-toxic, contains no nitrites, phosphates, or chromates
- No blushing, peeling, or yellowing
- Complies with Alberta DOT Standards for Type 1b and Type 1c sealers

TYPICAL PROPERTIES

Appearance:	
MCI-2018	Liquid (various colors)
(and modifications)	
pH	9-11 (1% in water)
Density	7.3-7.7 lb/gal (0.87-0.92 kg/l)
VOC	2.2 lb/gal (245 g/l)
Coverage Rate	125-175 ft ² /gal (3-4.3 m ² /l)



MIGRATING CORROSION INHIBITORS
 FROM GREY TO GREEN

COVERAGE RATE

Application rates will vary depending on surface porosity and number of applications. Approximate coverage rate is 125-175 ft²/gal. (3-4.3 m²/l). Before applying it is recommended that preliminary tests be carried out to determine dosing.

PACKAGING AND STORAGE

MCI-2018 should be kept away from moisture. When stored in original, airtight containers in a cool, well ventilated place, MCI-2018 has a shelf life of 12 months from the date of shipment. Stir thoroughly before use.

MCI-2018 is available in 5 gallon (19 liter) pails and 55 gallon (208 liter) drums.

TECHNICAL DATA FROM LABORATORY TESTS

Alberta Transportation Specification B388

MCI-2018 meets Alberta DOT Type 1b and Type 1c sealer requirements for vapor transmission and water-proofing performance.

NCHRP - Series II

Reduction in Chloride Ion Content

Single coat application, at 125 ft²/gal (3 m²/l), showed an 88% reduction in chloride ion content.

NCHRP - Series IV, Southern Exposure

Accelerated Weathering Tests

Single coat application at 125 ft²/gal (3 m²/l), had zero discoloration and reduced chloride ion intrusion by 98% compared to a control.

ASTM C-642

Water Absorption of Concrete

Single coat application, at 125 ft²/gal (3 m²/l), showed a 74% reduction after 50 days compared to the control.

ASTM C-672

Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals

Results show little or no change after more than 50 cycles of freeze-thaw with the use of deicing salts on coated concrete samples.

AASHTO T-259

Resistance of Concrete to Chloride Ion Penetration

Treated samples showed an 82.6% reduction in chloride ion penetration compared to the control. Depths from 0.5-1.0 inches contained negligible amounts of chloride ions.

ASTM E-514

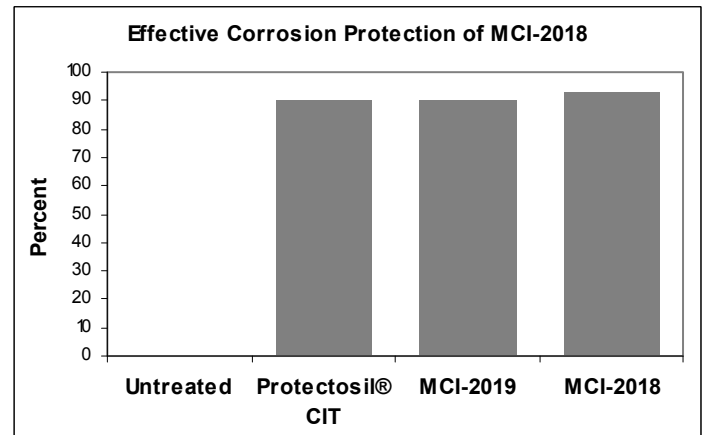
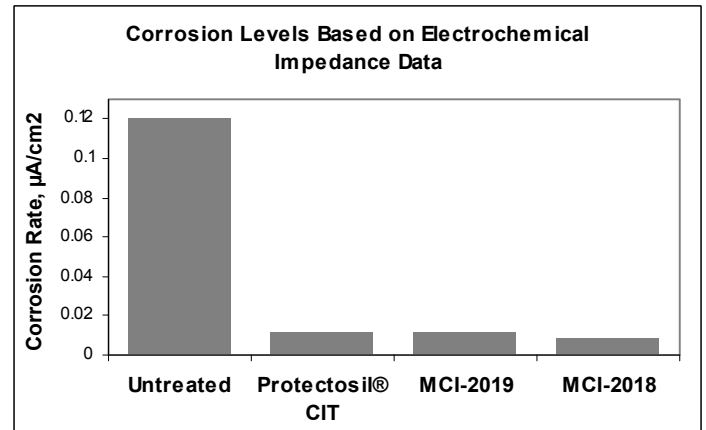
Water Penetration and Leakage Through Masonry

Treated samples had a 95% reduction in leakage rate compared to the control.

Federal Specification SS-W-110C

Water Repellency

Single coat application at 125 ft²/gal (3 m²/l), resulted in a 0.39% water absorption; exceeding the 1.0% specification maximum.



*According to Cortec Corporation Laboratory test report 08-121-1425

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As the graph indicates, MCI-2018 provides >92% protection from corrosion when compared to untreated concrete and outperforms the competitive products.

APPLICATION

Surfaces should be free of standing water, surface dirt, dust, oils, grease, curing compounds, efflorescence, laitance, and other contaminants. MCI-2018 may be applied to damp surfaces, although dry surfaces are preferred to achieve maximum penetration into the substrate.

Application can be performed using 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 is used, application should continue until the substrate is thoroughly saturated. Sprayers should be fitted with solvent hoses and gaskets.

For best results, two applications are recommended, with the second application being 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.

CONSIDERATIONS

- Stir thoroughly before use
- Should be applied to sound, clean concrete that is free of oils, dirt, sealers, coatings, paints, membranes, or asphalt
- Should only be applied when temperatures are between 40-100°F (5-37°C)
- Should not be applied on extremely windy days when evaporation of the solvent would be too rapid
- Fresh concrete should be allowed to cure for 28 days before application
- Allow repair material to fully cure before applying MCI-2018
- If a coating will be used over MCI-2018, a seven day waiting period is recommended before application of that coating. A compatibility test should be performed prior to application
- Allow 24 hours for curing if a membrane will be applied over MCI-2018
- Should not be used on structures under hydrostatic pressure

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

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