

MCI®-2018 X

DESCRIPTION

MCI®-2018 X is a 100% silane penetrating water repellent. It provides great protection for concrete against water ingress and other contaminants. MCI®-2018 X lines the pores of the concrete matrix with a hydrophobic layer and boosts the durability and service life of concrete structures. MCI®-2018 X can be conveniently applied on top of a penetrating surface applied corrosion inhibitor (SACI) for a full system of protection against moisture and corrosion.

PACKAGING & STORAGE

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

To ensure best product performance, store in original packaging, indoors, and out of direct sunlight at 40-100 °F (4-38 °C).

Shelf life: 2 years



HOW IT WORKS

MCI®-2018 X provides water repellency by chemically reacting with the cementitious substrate under proper application, decreasing the ingress of aggressive materials. If applied after a penetrating SACI, MCI®-2018 X prolongs the protection period of the corrosion inhibitor.

WHERE TO USE

- Commercial buildings
- Parking garages
- Bridge decks or bridge structures
- Tunnels
- Jetties/piers and other marine structures
- Offshore oil platforms (non-submerged applications)
- Any other reinforced concrete structure

ADVANTAGES

- Lines the substrate pores with a hydrophobic layer while maintaining the original appearance
- Allows surfaces to 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
- Contains no nitrites, phosphates, or chromates
- No blushing, peeling, or yellowing

PHYSICAL PROPERTIES

Appearance	Clear, colorless liquid
Density	7.3-7.7 lb/gal (0.87-0.92 kg/L)
VOC	<3.1 lb/gal (350 g/L)

PERFORMANCE DATA

Performance Criteria	Test Method	Results
Concrete Sealer Testing	Alberta Transportation Specification B388	Meets Type 1C at 205 ft ² /gal (5 m ² /L) coverage rate.
Reduction in Chloride Ion Content	NCHRP Series II	Single coat application of 125 ft ² /gal (3.06 m ² /L) showed 88% reduction in chloride ion content.
Accelerated Weathering Tests	NCHRP Series IV, Southern Exposure	Single coat application of 125 ft ² /gal (3.06 m ² /L) had zero discoloration and reduced chloride intrusion by 98%.
Resistance to Chloride Ion Penetration	AASHTO T259	Treated samples showed 82.6% reduction in chloride ion penetration compared to control. Depths from 0.5-1 inch (1.25-2.54 cm) contained negligible amounts of chloride ions.
Water Absorption of Concrete	ASTM C642	Single coat application of 125 ft ² /gal (3.06 m ² /L) showed a 74% reduction after 50 days compared to control.
Water Repellency	Federal Specification SS-W-110C	Single coat application of 125 ft ² /gal (3.06 m ² /L) resulted in 0.39% water absorption, exceeding the 1.0% maximum allowed in spec.
Scaling Resistance of Concrete Exposed to Deicing Chemicals	ASTM C672	Results show little to no change after more than 50 cycles of freeze-thaw with the use of deicing salts on treated concrete samples.

COVERAGE

Application rates will vary depending on surface porosity and number of applications. Recommended total coverage rate is 125-175 ft²/gal (3-4.3 m²/L). Cortec® recommends performing a concrete absorption test before application to determine dosing.

SURFACE PREPARATION

Surfaces should be free of standing water, dirt, dust, oils, grease, curing compounds, efflorescence, laitance, and other contaminants. Prepare concrete substrate to obtain a surface profile of approximately 4-13 mils (0.10-0.33 mm) (CSP 1-3 as per ICRI guidelines). Cleaning may be done by steam cleaning, water blasting or sandblasting. Note: For additional corrosion protection, MCI®-2020 can be applied prior to applying MCI®-2018 X.

APPLICATION

MCI®-2018 X may be applied to damp surfaces; however, dry surfaces are preferred to achieve maximum penetration into the substrate.

Application can be performed using airless sprayer, roller, or brush. Sprayers should be fitted with solvent hoses and gaskets. For best results, we recommend a two-coat, wet-on-wet application technique (i.e., the surface is damp from first application but not glossy when the second coat is applied). During application, precautions should be taken to protect the surrounding areas from overspray and runoff.

CONSIDERATIONS

- Mix 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 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 X
- If a coating will be used over MCI®-2018 X, a seven-day waiting period is recommended before application of that coating; a compatibility test should be performed prior to application
- Should not be used on structures under hydrostatic pressure

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