



MIGRATING CORROSION INHIBITORS
FROM GREY TO GREEN

MCI® POWR 100

DESCRIPTION

MCI® POWR 100 is a silane water repellent containing time-proven Migrating Corrosion Inhibitors (MCI®) and an oleophobic additive. MCI® POWR 100 penetrates deep into concrete, providing reinforcing steel with corrosion protection against the deteriorating influence of carbonation, chlorides, and other contaminants. The oleophobic additive prevents staining caused by motor oils, food, and other oily substances.

PACKAGING & STORAGE

MCI® POWR 100 is a two-part product which is sold in 5 gallon and 55 gallon kits. The two components of MCI® POWR 100 are mixed immediately prior to use. Any remaining mixed product should be used within 14 days.

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

Shelf Life: 12 months from date of shipment



HOW IT WORKS

MCI® POWR 100 combines three functionalities in one product. First, the silane component of MCI® POWR 100 provides water repellency by chemically reacting with the cementitious substrate under proper application, decreasing the ingress of aggressive materials. Second, the oleophobic additive modifies the concrete surface to increase resistance to oil and food stains. Third, the MCI® component penetrates deep into the substrate, forming a protective, molecular barrier on embedded reinforcement to reduce the rate of corrosion at the rebar surface.

WHERE TO USE

- Commercial buildings
- Parking garages
- Bridges
- Industrial or any other floors exposed to oils, greases, or water (e.g., automotive service centers and commercial kitchens)

ADVANTAGES

- Resists staining caused by food and oily substances
- Forms a monomolecular corrosion inhibiting layer on embedded metals, inhibiting the electrochemical corrosion reaction between the metal and corrosive materials inside the concrete
- Treated substrates are hydrophobic and resist the intrusion of chlorides and carbonation
- Does not affect the color, gloss, or other visual aesthetics of treated concrete
- Treated surfaces remain fully breathable and maintain their natural moisture-vapor transmission
- Extends the service life of treated structures

MCI® POWR 100

PHYSICAL PROPERTIES

Part A:

Appearance	Clear colorless to light yellow liquid
Density	7.32 – 7.36 lb/gal (0.88 kg/L)
pH	10.7 (1% in water)
Flash Point	120 °F (39 °C)

Part B:

Appearance	Clear colorless to light yellow liquid
Density	7.40 – 7.44 lb/gal (0.889 kg/L)
pH	5.2 (1% in water)
Flash Point	97 °F (36 °C)

STANDARD TEST RESULTS

Test	Property	Result
Rilem 11.4	Water Penetration in Wind-Driven Rain	0.62 oz/ft ² (0.197 L/m ²) per week at 98.1 mph (158 kph)
Depth of Hydrophobic Penetration	Hydrophobic Layer Penetration	0.417 in (10.60 mm) average
Oil Surface Resistance	Mineral Oil Contact Angle on Treated Concrete	110°

APPLICATION

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; 0.23 - 0.33 L/m²). Before applying, it is recommended that preliminary tests be carried out to determine dosing.

Mixing

Carefully pour the entire contents of the Part B container into the Part A container. Blend thoroughly for 3 to 5 minutes with a spiral mixing blade attached to a low speed (400 – 600 rpm) electric drill. Take care not to introduce air into the material when mixing. This will cause the product to foam, which could make handling more difficult.

When not in use, mixed MCI® POWR 100 should be stored in original airtight container in a cool, well-ventilated place. Use mixed product within two weeks.

Surface Prep

Surfaces should be free of standing water, dirt, dust, oils, grease, curing compounds, efflorescence, laitance, and other contaminants. MCI® POWR 100 may be applied to damp surfaces, although dry surfaces are preferred to achieve maximum penetration into the substrate.

Application

Apply using HVLP 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 the first application but not glossy when the second coat (containing the remainder of the recommended coverage rate) is applied. During application, precautions should be taken to protect the surrounding areas from overspray and runoff.

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® POWR 100
- Should not be used on structures under hydrostatic pressure

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