

MCI® EcoRainbow® Architectural Coating

DESCRIPTION

MCI® EcoRainbow® Architectural Coating is a unique, water-based primer/topcoat designed to provide protection in harsh, outdoor applications. Its special combination of additives provides a composite polymer barrier that significantly prolongs the service life of reinforced concrete, protecting both concrete and reinforcement from corrosive electrolytes and aggressive environments.

PACKAGING & STORAGE

MCI® EcoRainbow® Architectural Coating is available in 5 gallon (19 L) pails, 55 gallon (208 L) metal drums, liquid totes, and bulk.

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

Shelf life: 1 year



HOW IT WORKS

MCI® EcoRainbow® Architectural Coating is a water-based, acrylic coating that utilizes a complex mixture of organic corrosion inhibitors and various additives to offer superior adhesion to masonry and concrete while also offering corrosion protection when applied directly to metal. MCI® EcoRainbow® Architectural Coating possesses good water vapor permeability and increased resistance to ultraviolet light for good performance and appearance year-round.

WHERE TO USE

- All reinforced, precast, prestressed, post-tensioned, or marine concrete structures
- Concrete piers, piles, pillars, pipes, and utility poles
- Restoration and repair of all reinforced concrete commercial and civil engineered structures
- Exposed metal surfaces
- Exposed vertical concrete surfaces such as building facades and decorative walls

ADVANTAGES

- Water-based and non-flammable
- Acts as a sealer, preventing penetration of water, chloride ingress, and carbonation of the concrete
- Improves the appearance of buildings and structural elements
- Has excellent adhesion to concrete, masonry, and metals, and even provides a source of corrosion inhibitors when applied directly to reinforcement and other metal surfaces
- Forms a tough, non-flammable, protective barrier that is thermally stable at continuous temperatures of -40 to 300 °F (-40 to 149 °C) once cured
- Resistant to ultraviolet light for optimal outdoor performance without cracking or chipping upon prolonged exposure to sunlight
- Allows for surface inspection after application (clear version)
- Available in colored versions to match surrounding surface or color of substrate
- Certified under EN 1504-2 (2+ system) for surface protection of concrete

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PHYSICAL PROPERTIES

Volume Solids	33-42% (clear version)	Recommended DFT	1.5-3.0 mils (37.5-75 µm)
Gloss (ASTM D532)	80+	Recommended WFT	4.5-9.1 mils (115-230 µm)
VOCs (ASTM D3960)	0.4 lbs/gal (48 g/L)	Dry to Touch	30 min
Viscosity	50-60 s+ Zahn #3	Dry to Handle	1 hr
Spreading Rate	529 ft ² /gal @ 1.0 mils DFT (13 m ² /L @ 25 µm)	Recoat Time	Dry to touch
Weight per Gallon	8.58 lbs/gal (1.03 kg/L)	Force Dry	15-20 min @ 150 °F (65 °C)
Flash Point	>200 °F (93 °C)	Full Cure	3-7 days

SURFACE PREPARATION

Concrete/Masonry: Surface should be dry, sound, clean, and free of all dirt, oil, grease, efflorescence, sealers, coatings, membranes, and asphalt. Cleaning may be done by steam cleaning, waterblasting, or sandblasting.

Note: For additional corrosion protection of embedded reinforcement, MCI®-2020 can be applied prior to coating. See product data sheet application instructions.

Metals: For structural steel, the following minimum surface preparation standards are recommended:

NACE #3
SSPC – SP6

A wash primer such as VpCI®-373 applied at 0.5-1.0 mils (12.5-25.0 microns) is recommended before applying MCI® EcoRainbow® Architectural Coating to aluminum, galvanized, or plated substrates. Consult Cortec® Technical Service and/or test the system adhesion prior to full scale application.

APPLICATION

Do not alter or dilute the material. Do not use on wet or damp substrates. Power agitate to a uniform consistency using a “squirrel cage” type mixer, handheld drill, or other equivalent method.

HVLP/Conventional Spray Equipment	Airless/Air-Assisted Airless Spray Equipment
Tip*: 0.02"-0.11" (0.5-2.8 mm)	Tip*: 0.015"-0.035" (0.38-0.89 mm)
Air Pressure: 45-55 psi; Fluid Pressure: 10 psi	Pressure: 1800–2500 psi
Fluid hose should be ¾" (0.95 cm) I.D., maximum length of 50 feet (15.2 m). (A ¼" [0.64 cm] I.D. whip end section may be used pressures may vary.)	Hose should be ¾" (0.95 cm) I.D. minimum. (A ¼" [0.64 cm] I.D. whip end section may be used for ease of application.)
Pot should always have dual regulation and be kept at same elevation as spray gun.	A maximum length of 100 feet (30.5 m) is suggested.

* *Dependent upon pressures and viscosity*

STANDARD TEST RESULTS

Concrete Testing (5-6 mil [125-150 microns] WFT)			
Test Method	Property	Results	
ASTM D7234 UNE-EN 1542	Pull-Off Adhesion Strength to Concrete	100% Substrate Failure 4.0 MPa	
UNE-EN ISO 7783 Water Vapor Transmission Properties	Water-Vapor Flow Rate	0.00369 g/h	
	Water-Vapor Transmission Rate	9.3 g/m ² -day	
	Diffusion-Equivalent Air Layer Thickness	2.2 m	
	Water-Vapor Resistance Factor (μ)	6488	
UNE-EN 1062-3	Liquid Water Permeability	0.005 kg/m ² -h ^{0.5}	
UNE-EN 1062-6 Carbon Dioxide Permeability	Carbon Dioxide Permeability	4.8 g/m ² -day	
	Diffusion-Equivalent Air Layer Thickness	51 m	
	Diffusion Resistance Number (μ)	150446	
Metal Testing (5-6 mils [125-150 microns] WFT)			
Test Method	Property	SAE 1010 Carbon Steel	Aluminum
ASTM B117	Salt Spray	168 Hours	1000 Hours
ASTM D1748	Humidity	1000 Hours	1000 Hours
ASTM G154	UV Weathering	1000 Hours	1000 Hours

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CONSIDERATIONS

- The substrate and ambient temperature should be between 45 and 110 °F (7 and 43 °C)
- Do not apply if the temperature is expected to fall below freezing within 12 hours
- Dew point should be more than 5 °F (2 °C) below air temp for proper application
- For new concrete, apply MCI® EcoRainbow® Architectural Coating after the concrete has cured for a minimum of 14 days; for optimum results, allow concrete to cure 28 days or longer
- Not suitable for traffic bearing substrates/surfaces



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