

MIGRATORY CORROSION INHIBITOR™ (MCI) PRODUCTS FOR CONCRETE



MCI® -2039 Patent Pending High Performance Repair Mortar System



PRODUCT DESCRIPTION

MCI® -2039 is a two-component, fiber-reinforced repair mortar system in a cement formulation. It consists of a ready-mix powder and a liquid resin (water dispersion of special non-toxic polymers) containing Migratory Corrosion Inhibitors® (MCI®). After mixing, the mortar can be applied by trowel and normal rendering tools and/or a spray rendering machine.

Once applied and hardened, MCI® -2039 provides a high level of adhesion, durability and impermeability to water and carbonation attack. Part of Cortec's HPRS™ (High Performance Repair System™), MCI® -2039 also has a low modulus of elasticity. It offers excellent corrosion protection to reinforcing metals in the patch area as well as in the surrounding area. This increases the quality and extends the life of the repair and surrounding structure.

FEATURES

- Offers engineers, owners, contractors, DOTs and government agencies a time-proven corrosion inhibiting technology that will extend the life of all reinforced concrete structures
- Provides the answer to difficult repairs or restorations on smooth substrates where good adhesion is difficult to achieve, or where high buildup is required
- No need to wet or dampen repair area
- Thixotropic qualities and accelerated thickening

- capabilities ensure quick application of multiple coats and reduction of labor costs
- High durability against carbonation, chlorides and acid rain
- Migratory Corrosion Inhibitors form a protective layer on metals
- Migrates to adjacent areas to protect surrounding metals around the repair area
- Reduces the halo or ring effect surrounding the repair area
- Eliminates the need for evaporation protection after application, even for very thin layers or in high temperature and low humidity conditions
- High degree of impermeability, while maintaining good vapor transmission properties
- Sets up well in winter, providing an extended repair and restoration season
- Can be applied to structures indirectly subjected to slight vibration or dynamic stress from traffic

TYPICAL USES

MCI® -2039 is recommended for:

- All reinforced, precast, prestressed, post-tensioned or marine concrete structures
- Steel-reinforced concrete bridges, highways and streets exposed to corrosive environments (carbonation, deicing salts and atmospheric attack)
- Parking decks, ramps and garages
- All reinforced marine concrete structures
- Concrete piers, piles, pillars, pipes and utility poles
- Restoration and repair of all reinforced concrete commercial and civil engineered structures

PACKAGING

MCI® -2039 is a two-part kit packaged in a 55 lb (25 kg) bag of powder and a 8.3 lb (3.75 kg) can of MCI® resin.

One kit of powder and resin yields approximately 3.5 gallons (13.4 liters).



COVERAGE

A 55 lb (25 kg) bag of powder and a 8.3 lb (3.75 kg) can of liquid will cover a 12 ft² (1.12 m²) surface at a thickness of 1/2 inch (12.7 mm).

SURFACE PREPARATION

Remove all loose deteriorated concrete, including all dirt, oil, greases and bond-inhibiting materials from surface. Cortec® MCI® -2060 is recommended for cleaning. If the steel or metal members are exposed and rusted, remove loose rust by sandblasting, water blasting or wire brush and apply MCI® -2023 Passivating Grout.

RECOMMENDED SUBSTRATE

Concrete, mortar and masonry products.

MIXING

Add MCI® -2039 powder to liquid, stirring with a power mixer until the required consistency is achieved. The prepackaged proportions of powder and resin give a medium consistency and workability characteristics. Should the mixture need to be particularly thick and cohesive, slightly reduce the quantity of liquid resin. If the mortar needs to be more fluid, liquid may be slightly increased. Prepare only the amount of mixture that can be used within 30-45 minutes. Do not reuse the product or thin with further liquid after the mortar has thickened.

APPLICATION

Apply MCI® -2039 directly to the area requiring repair by trowel and normal rendering tools, including a spray rendering machine and float finish. To improve adhesion

FOR INDUSTRIAL USE ONLY

KEEP OUT OF REACH OF CHILDREN

KEEP CONTAINER TIGHTLY CLOSED

NOT FOR INTERNAL CONSUMPTION

CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION

on surfaces that normally provide poor surface bonding, brush the surface with a fluid version of the mortar using a stiff bristled brush. If the repair area requires greater than 3/8"-2 1/2 inches (10-64 mm), mortar should be installed in several layered applications up to a maximum thickness of 8-12 inches (203-305 mm). In case of thick applications on large surfaces, use wire mesh or netting properly anchored to the structure for additional support. Once applied, MCI® -2039 thickens quickly, even in weather warmer than 32°F (0°C). Finishing the surface in a short time is important.

LIMITATIONS

- Do not let resin freeze
- Keep powder in its original wrapping and ensure that it is always well sealed
- Do not use opened bags of powder that are caking or have lumps present
- Do not apply when surface or ambient temperature is below freezing

TYPICAL PROPERTIES

Appearance	Concrete gray when mixed
Shelf Life	Powder-1 year in sealed package Liquid-1 year in unopened package
Mixing Ratio	Plant-proportioned kit
pH	11.5-12.5
Storage	Keep from freezing
Application time	30-45 minutes after combination of two components (depending on temperature and relative humidity)

	MFLC W-210 Flexural Strength (EN 196)	Compressive Strength
	psi (MPa)	psi (MPa)
28 days	1639 (11.3)	9630 (66.4)

LIMITED WARRANTY

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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@cortecvc.com
Internet <http://www.CortecVpCI.com>

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