

MIGRATORY CORROSION INHIBITOR (MCI®) PRODUCTS FOR CONCRETE



MCI®-2038 Finish Repair Mortar System Patent Pending

PRODUCT DESCRIPTION

MCI-2038 is a two component, fiber-reinforced finish repair mortar system. This cement formulation consists of a ready-mixed powder and a liquid resin (a water dispersion of special non-toxic polymers) containing MCI® (Migrating Corrosion Inhibitors). After mixing, the mortar is workable for application by trowel and normal rendering tools. The maximum aggregate size of 1.2 mm allows for a more aesthetic finish. Once applied and hardened, this product provides a high level of adhesion, durability, impermeability, excellent steam permeability and shock resistance. MCI-2038 has a low modulus of elasticity and migrates to reinforcing metals in adjacent areas to provide excellent corrosion protection, thus increasing the quality of the repair and extending the service life of the repair and the structure.

ADVANTAGES

- Offers engineers, owners, contractors, DOTs and government agencies a time proven corrosion inhibiting technology. This highly durable repair mortar will extend the life of all reinforced concrete structures.
- Provides the answer to difficult repairs or restorations, even on smooth substrates where good adhesion is difficult to achieve or where high buildup is required.
- Eliminates the need to wet or dampen the repair area.
- A maximum aggregate size of 1.2 mm allows for a more aesthetically pleasing finish.
- Thixotropic qualities and accelerated thickening capabilities enable quick application, reduction labor costs and make multiple coats possible.
- Provides high durability against carbonation, chlorides and acid rain.
- Seeks out and forms a corrosion inhibiting protective layer on metals.
- Migrates to adjacent areas to protect reinforcing metals around the repair area.

- Eliminates the need for evaporation protection after application, even for very thin layers or in high temperature and low humidity conditions.
- Has a high degree of impermeability and good steam diffusion permeability.

SURFACE PREPARATION

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

WHERE TO USE

MCI-2038 is recommended for:

- Concrete, mortar, and masonry products
- MCI-2038 can be used as a repair mortar for concrete on all horizontal, vertical, and overhead surfaces.
- It is ideal for repair of concrete on bridges, parking facilities, tunnels, dams, piers, marine structures, and industrial plants.
- It repairs concrete above, below, or on the grade.

PACKAGING

55.00 lbs.	(25.00kg)	powder
11.50 lbs.	(5.23 kg)	resin

TYPICAL YIELD

<i>Volume</i>	
0.56 ft ³	(15.9 liters) (4.20 gallon)

<i>Coverage</i>	
$\frac{5}{16}$ inch for 20.80 ft ²	(8.00 mm for 1.92 m ²)

Values for this are subject to our decision on what weights and volumes to use that we are going to do commerce with by selling.



MIXING

Add 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 at normal temperatures. 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 the proportion of resin for the repair mortar liquid may be slightly increased. Prepare only the amount of mixture that can be used within 15 minutes. Do not re-use the product or thin with further liquid after the mortar has thickened.

APPLICATION

Apply MCI-2038 Finish Repair Mortar directly to repair area by trowel and normal rendering tools, including a spray rendering machine and float finish. To improve adhesion on surfaces that normally provide pox surface bonding, brush the surface with a thinner or more fluid version of the mortar using a stiff bristled brush. Apply MCI-2038 in thicknesses of 1/24 inch (1 mm) to 1 inch (25 mm). Multiple layers can be used for greater thicknesses as needed. Once applied MCI-2038 thickens quickly, even in cool weather. Finish the surface as quickly as possible for good results.

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

LIMITATIONS

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

TYPICAL PROPERTIES

SHELF LIFE Powder: 6 months
Liquid: 1 year in unopened package
APPEARANCE Concrete gray when mixed
MIXING RATIO Plant-proportioned kit
(For typical easy-to-work plastic mixture)
STORAGE Keep from freezing

FLEXURAL AND COMPRESSIVE STRENGTH

	Compressive Strength		Flexural Strength		Adhesion*	
	psi	MPa	psi	MPa	psi	MPa
1 day	1479.3	10.2	435.1	3.0	435.1	3.0
3 day	2973.2	20.5	652.6	4.5	652.6	4.5
7 days	3886.9	26.8	797.7	5.5	768.7	5.3
28 days	4467.0	30.8	1145.8	7.9	870.2	6.0

*NOTE: Test carried out on 2.8x2.8x11 inch (7x7x28 cm) beams consisting of a concrete wedge (80.5 lb./in. (450 kg/cm) cured cement for at least 28 days) and surface inclined at 20 degrees on which the rheoplastic mortar was grouted.

SECANT ELASTICITY MODULUS AT 28 DAYS

	Modulus of Elasticity	
	MPa	K psi
Minimum Test Tension	4800	696
Intermediate Test Tension	6100	885
Maximum Test Tension	9900	1436
Average Value	6933	1005

*NOTE: Test carried out for 28 days on 1.6x1.6x6.3 inch (4x4x16cm) beams. Test tension: Indicated the maximum tension level reached. The Elastic Modulus is calculated an average of the basic value (1/10 of test tension) and the test tension itself.

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