

MIGRATORY CORROSION INHIBITOR (MCI®) PRODUCTS FOR CONCRETE



MCI®-2008 Via Corr, Patented MCI®-2008 L Via Corr, Patented Migrating Corrosion Inhibitor and Self-Leveling Viscosity Modifier for Concrete



PRODUCT DESCRIPTION

MCI-2008 is a concrete admixture in powder form which combines Cortec's exclusive Migratory Corrosion Inhibition technology with a polycarboxylate based, superplasticizing, viscosity modifier. An effective migratory corrosion inhibitor for metal reinforcement, MCI-2008 also provides self-compacting, self-leveling, and self-placing properties to concrete. This exceptional performance is achieved with special ingredients possessing electrostatic and steric flowability and workability control.

MCI-2008 protects carbon steel, galvanized steel, and other metals embedded in concrete from corrosion induced by carbonation, chloride and atmospheric attack. When incorporated into the concrete mix, MCI-2008 seeks out and forms a corrosion inhibiting protective layer on metals. When used with repair mortars and grouts, MCI-2008 will migrate to undisturbed concrete, providing effective corrosion protection to rebar already in place.

MCI-2008 is also available in liquid form (MCI-2008 L).

WHERE TO USE

MCI-2008 is recommended as an additive for self-leveling concrete used in:

- All reinforced, precast, prestressed, and post-tensioned concrete structures
- Steel-reinforced concrete bridges, highways, roads, and buildings exposed to corrosive environments (carbonation, deicing salts, and atmospheric attack)
- All reinforced marine concrete structures
- Concrete piers, piles, pillars, pipes, and utility poles
- Restoration and repair of all reinforced concrete
- Self-leveling underlayments
- Architectural concrete
- Specialty shaped concrete slabs

ADVANTAGES

MCI-2008 offers engineers, owners, contractors, DOTs, and government agencies a time proven corrosion inhibiting technology that will extend the life of all reinforced concrete structures.

- Reduced construction time
- Reduced manpower for placing and compacting
- Lower equipment cost
- Ability to fill complex forms and members with congested reinforcement
- Elimination of rubbing and patching ordinarily required to fill defects in poorly consolidated surfaces
- Excellent flowability and workability
- Protects against the harmful effects of corrosion
- Significantly improves the concrete's plastic and hardened properties
- Is ideal to produce flowing concrete where rapid placing is required or in very congested zones
- Significantly reduces gas permeability
- Dosage is not affected by chloride concentration
- Reduces the water content while keeping good workability properties
- Does not contain any nitrite-based compounds
- Is organic-based, safe, and environmentally friendly

TYPICAL PROPERTIES

Properties	MCI-2008 Via Corr Powder	MCI-2008 Liquid
Chemical Nature	Blend of salts of carboxylic acids	
Appearance	Yellowish powder	Yellowish to amber liquid
Bulk density, g/100 cm ³	30-50	
pH of 1% aqueous solution @ 20C	7.0 to 9.0	7.0-8.0
Density		9.0-10.0 lb/gal (1.08 - 1.20 kg/l)
Non-volatile (weight)	90-100%	40-55%

Material	Flow, mm				
	5 min	15 min	30 min	45 min	60 min
MCI-2008	200	190	190	185	180
Competitor	157	153	154	148	140
Material	Knife Cut Test (Self-healing properties), Grade				
	7 min	15 min	30 min	45 min	60 min
MCI-2008	1	1	1	1-2	2
Competitor	1	1	2	2	3

Grades:

- 1 – Cut heals completely, invisible
- 2 – Cut heals, but visible
- 3 – Cut heals, but visible edges
- 4 – Cut heals, but well visible edges
- 5 – Cut heals, but visible scar
- 6 – Cut heals, but well visible scar
- 7 – Cut does not heal

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

APPLICATION OF POWDER

Blend thoroughly with the other dry ingredients at a dosage rate of 0.4 % to 0.6 %, by total weight of dry ingredients of 0.3mm sieve size or smaller.

APPLICATION OF LIQUID

Post add with at least 80% of water already in the mixer at a dosage rate of 0.3-0.5% by total weight of cement and other dry ingredients of 0.3mm sieve size or smaller.

To achieve maximum self-compacting, self-leveling and self-placing properties with either product, use more fines in the mix design. For example:

Ingredient	% range by weight
MCI-2008	0.3-0.5
Water	18-23
Coarse aggregate	25-30
Sand	30-35
Fines, including portland cement and quartz sand up to 0.3mm in diameter	16-20

PACKAGING AND STORAGE

MCI®-2008 is available in 50 Lbs (23 Kg) and 100 Lbs (45 Kg) packages. MCI®-2008 L is available in 5 gallon (19 L) and 55 gallon (208 L) drums. The shelf life of the product is 12 months in a sealed drum.

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