



MIGRATING CORROSION INHIBITORS
FROM GREY TO GREEN

MCI[®]-2000

03 30 00	Cast in Place Concrete
03 40 00	Precast Concrete
03 70 00	Mass Concrete

DESCRIPTION

MCI[®]-2000 is a normal set, water-based, corrosion inhibiting admixture for protection of metallic reinforcement in concrete structures.

When incorporated into concrete, MCI[®]-2000 forms a protective, monomolecular layer on embedded metals that inhibits corrosion. In new construction, this is quantified by an increase in critical chloride threshold and delayed onset of corrosion, with lower rates once initiated compared to untreated structures. When used with repair mortars and grouts, MCI[®]-2000 not only protects rebar within the patch; it is also able to migrate into undisturbed concrete adjacent to the repair to protect reinforcement already in place.

PACKAGING & STORAGE

Available in 5 gallon (19 L) pails, 55 gallon (208 L) drums, and 275 gallon (1040 L) totes.

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

Shelf life: 2 Years



HOW IT WORKS

MCI[®]-2000 is an organic corrosion inhibitor. It is considered ambiodic (mixed), meaning it protects both anodic and cathodic areas within a corrosion cell. MCI[®]-2000 contains amine alcohol based corrosion inhibitors, which form a protective layer on embedded reinforcement, delaying the onset of corrosion as well as reducing existing corrosion rates.

MCI[®]-2000 is effective at enhancing the durability and extending the service life of concrete structures exposed to corrosive environments (carbonation, chlorides, and atmospheric attack).

WHERE TO USE

- Reinforced concrete including precast, pre-stressed, and post-tensioned structures
- Corrosive environments including exposure to deicing salts, saline groundwater, airborne chlorides, and carbonation
- Marine and coastal structures, highways and bridges, parking decks, balconies, pools, concrete tanks, pilings, substructures, piers, pillars, pipes, and utility poles

ADVANTAGES

- Lower toxicity and environmental impact than traditional corrosion inhibiting admixtures such as calcium nitrite
- Low dosage rate with minimal effect on concrete properties (e.g. workability, strength development, air entrainment, etc.)
- Single dosage rate which is independent of expected exposure to chlorides
- Ability to migrate through porous substrates (concrete, masonry, limestone, etc.) by capillary action, vapor diffusion, and ionic attraction
- Field and lab tested worldwide

MCI®-2000

PHYSICAL PROPERTIES

Appearance	Clear Yellow-Green to Green Liquid
Density	7.4-7.7 lb/gal (0.89-0.93 kg/L)
Flash Point	>104 °F (>40 °C)
pH	10-11 (neat)

DOSAGE

1 pint/cubic yard (0.6 liters/cubic meter)

APPLICATION

MCI®-2000 is best added with the mix water into ready-mix concrete at the plant. Alternatively, it can be dosed into the ready-mix truck using portable dosing equipment. Concrete should be mixed thoroughly before placement.

CONSIDERATIONS

Concrete properties are always best determined in a trial using the actual mix components. Cortec® recommends a trial batch anytime you are using MCI®-2000 with new mix components.

Contact Cortec® Technical Service for further guidance if necessary.

STANDARD TEST RESULTS

Setting Time			
	Control	MCI®-2000	Relative Control
Initial Set (Minutes)	202	218	+16
Final Set (Minutes)	283	300	+17
Compressive Strength			
3 Day (pSi)	2450	2250	92%
7 Day (pSi)	3560	3290	92%
28 Day (pSi)	4280	4130	97%
6 Month (pSi)	5100	5210	102%
1 Year (pSi)	5640	5920	105%
Flexural Strength			
3 Day (pSi)	580	570	98%
7 Day (pSi)	660	630	95%
28 Day (pSi)	790	750	95%
Shrinkage			
Length Change (%)	-0.031	-0.029	+0.002
Durability			
Freeze/Thaw Durability	100% Durability (relative to control)		

AET C494 Testing

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