



MCI®-2012 IntegRepel

DESCRIPTION

MCI®-2012 IntegRepel is a concrete waterproofing admixture designed for protection of steel reinforcement in concrete structures. MCI®-2012 IntegRepel contains time proven Migrating Corrosion Inhibitors (MCI) and simultaneously reduces ingress of water and other corrosive elements into concrete, enhancing the corrosion protection properties. It is particularly suited for use in structures exposed to corrosive environments.

PACKAGING & STORAGE

MCI®-2012 IntegRepel is available in 5 gallon (19 liter) pails, 55 gallon (208 liter) drums, and 275 gallon (1040 liter) totes. Store in original, airtight containers between 40 and 120°F (4-50°C).

Shelf life in proper storage conditions is 12 months from the date of shipment.



HOW IT WORKS

MCI®-2012 IntegRepel differentiates itself from other waterproofing admixtures by providing a dual approach for corrosion protection. First, it provides direct protection to embedded reinforcing steel through the addition of Migrating Corrosion Inhibitors (MCI). MCIs are organic compounds that are considered ambiodic (mixed) corrosion inhibitors – meaning they provide protection to both anodic and cathodic areas of a corrosion cell. MCIs form a self-replenishing layer on embedded reinforcement, delaying the onset of corrosion as well as reducing corrosion rates after initiation. Second, MCI®-2012 IntegRepel reduces the ingress of corrosive species with its waterproofing component.

Ordinary concrete absorbs water and dissolved salts through its network of pores. By significantly reducing the absorption of these materials into concrete and by providing protection directly to the steel, MCI®-2012 IntegRepel significantly increases the useful service life of structures.

WHERE TO USE

MCI®-2012 IntegRepel is recommended for:

- All reinforced concrete including precast, prestressed, 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, pilings, substructures, piers, pillars, pipes, and utility poles

ADVANTAGES

- Reduces absorption of water by 55-57% per BS 1881-122
- Reduces ingress of chlorides and other corrosive elements
- Provides a monomolecular, corrosion inhibiting layer on embedded reinforcing steel to effectively delay the onset of corrosion and reduce corrosion rates after initiation
- Reduces efflorescence
- Non-toxic; contains no nitrites, phosphates or chromates

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- Does not require special mix procedures – compatible with standard admixture metering equipment
- Does not affect concrete setting times

PHYSICAL PROPERTIES

Appearance	Milky white liquid
Density	7.9-8.2 lb/gal (947-982kg/m3)
pH	9.6-9.9 (neat)

COVERAGE

Add MCI®-2012 IntegRepel to the concrete mix at a rate of 1.7 quarts/yd3 (2.1 L/m3). The dosage rate is fixed and independent of expected chloride exposure.

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

PERFORMANCE DATA

Water absorption	BS 1881-122	55-57% reduction
Set Time	ASTM C403	Set neutral
Slump (mm)	ASTM C143	Neutral, same as control
% Air Content	ASTM C231	Similar to control
Compressive Strength	ASTM C39	7% decrease at 7 days, 11.6% decrease at 28 days; trial mix designs should be done to reduce strength loss
Corrosion Protection	EIS Measurement	After 12 days of immersion in 3% NaCl, corrosion rate was 78% lower than control

APPLICATION

MCI®-2012 IntegRepel should be added to the concrete mix water at the batch plant prior to loading into a ready-mix drum. MCI®-2012 IntegRepel should not be added directly to the cement. MCI®-2012 IntegRepel can be used with all types of Portland Cements. See MCI®-2012 IntegRepel product specification for more details.

CONSIDERATIONS

DO NOT allow product to freeze.

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