

# Hycrete MC1000+

For technical assistance contact your local Hycrete Representative or call (201) 386-8110

## Migrating Dual-Action Corrosion Inhibitor & Waterproofing Admixture

### PRODUCT DESCRIPTION

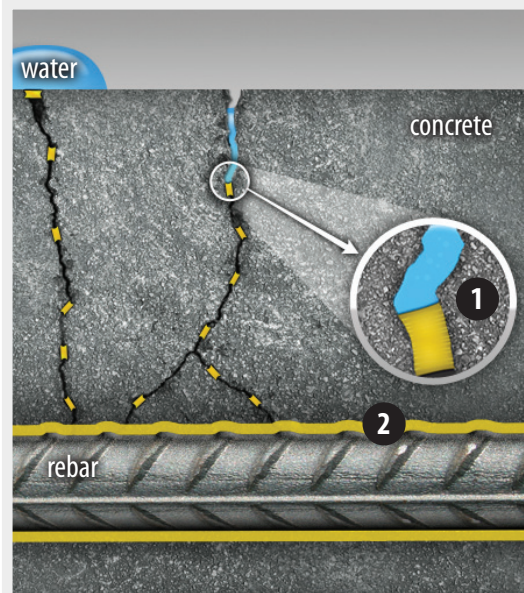
Hycrete MC1000+ is a patented dual-action migrating corrosion-inhibiting and waterproofing concrete admixture that delivers industry leading performance. Hycrete MC1000+ protects concrete and steel in two ways:

- Migrates to form a protective passivating layer on the surface of reinforcement steel that dramatically reduces corrosion initiation and propagation. Protects reinforcement even in cracked concrete.
- Keeps water and corrosive agents out of concrete by reducing absorption to an industry low compared to control concrete.

Hycrete MC1000+ admixture in concrete provides an effective, robust and permanent barrier against water and chloride ingress that does not degrade and never requires reapplication. Concrete treated with Hycrete MC1000+ outperforms all single action inhibitors and High Performance Concrete (HPC) mixes that include silica fume, fly ash, slag and calcium nitrite.

### PRODUCT FEATURES

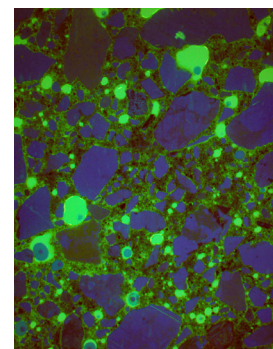
- NSF/ANSI 61 - approved for use in potable water tanks
- Compatible with standard admixture metering equipment
- Cradle to Cradle™ certified by MBDC
- Non-toxic, no VOCs



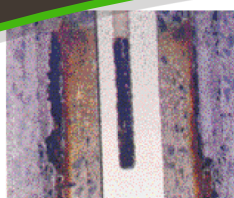
- Hydrophobic pore blocking
- Corrosion-inhibiting surface coating

### USES AND APPLICATIONS

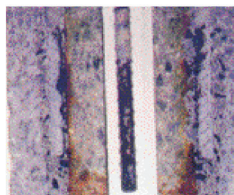
- Bridges and highway infrastructure
- Dams, reservoirs, and water and wastewater systems
- Ports & marine structures
- Pilings
- Tunnels
- Airport runways
- Rail & metro systems
- Power & telecom infrastructure
- Parking structures



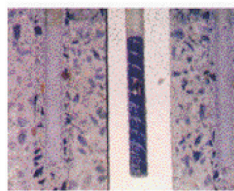
Hycrete migrating corrosion inhibitor in action



Control



Calcium Nitrite



Hycrete MC1000+

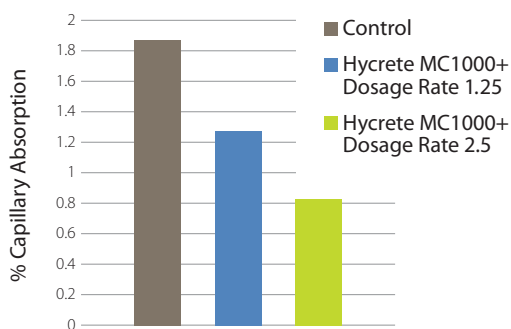
Visual corrosion testing of steel reinforcement in concrete subjected to chloride exposure.

Source: University of Connecticut

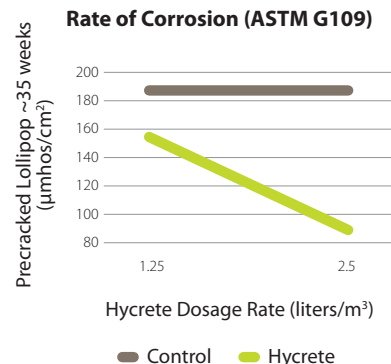
### \* KEY BENEFITS

- Dual-action high performance – Migrating corrosion inhibitor and waterproofer. Provides both anodic and cathodic protection.
- Hycrete MC1000+ significantly improves the durability of concrete
- Industry leading performance level of up to 7 times reduction in water absorption
- Migrates to form protective coating around steel reinforcement
- Enhanced healing of cracks up to 0.4mm
- Increases electrical resistivity of concrete
- Liquid form means more consistent performance and verifiable dosage
- Neutral concrete set time performance
- Easy to use, no workability issues

### Hycrete MC1000+ Dual Action Corrosion Inhibitor



Absorption – BSI 188-122



\* Test was conducted by the Joint Highway Research Advisory Council of UConn & CDOT

## PRODUCT PERFORMANCE\*

Water absorption	BSI 1881-122	Less than 1% absorption; up to seven times reduction compared to control
Capillary absorption	ASTM C1585	Up to 60% reduction at 7 days
Corrosion protection	ATSM G109, ASTM C1556	Demonstrated protection against reinforcement bar corrosion and chloride penetration over the control (see Hycrete Testing Summary)
Permeability/hydrostatic pressure	DIN 1048 BS EN 12390-8	Passes DIN 1048; up to 70% reduction in permeability
Crack healing	ASTM C597	Hycrete heals faster and more completely compared to untreated concrete
Set time	ASTM C403	Set neutral
Drying shrinkage	ASTM C157	Neutral
Slump	ASTM C143	Neutral
Workability	N/A	Excellent
Effect on concrete color	N/A	None
Compressive strength	ASTM C39	Water/cement ratios may need to be lowered to account for possible, minor strength decreases associated with some materials. Perform trial mixes.
Potable water	NSF/ANSI 61	Approved for use in potable water tanks 50,000 gallons (189,271 liters) or greater and pipes 84" (214 cm) in diameter and greater
Adhesion	ASTM C1583, ASTM C1072, ASTM D3359	Neutral; no adverse effect on bond with concrete

\*All benefits and results are based on actual test results. Results may vary according to concrete mix designs, Hycrete MC1000+ dosage, or other factors.

## GENERAL PROPERTIES AND CHARACTERISTICS

Physical characteristics:	Compatibility:
<b>Form</b> Liquid	■ Most concrete admixtures
<b>Specific gravity</b> 1.05	■ Most Portland cements or replacements including fly ash and GGBS (slag)
<b>Chloride content</b> Nil	■ Shotcrete mixes and application
<b>pH:</b> 8.5	■ Most surface-applied sealants and external membrane protection systems
<b>Recommended dosage:</b> 1.0 - 4.0 liters per cubic meter of concrete	
<b>Packaging:</b> 5 gallon (18.92 liter) pails; 55 gallon (208.19 liter) drums; 275 gallon (1,040.99 liter) totes; bulk tanker delivery	
<b>Storage and handling:</b> Store above 32°F (0°C) and below 120 °F (48 °C). Slight flocculation can occur over time due to pH reductions. Such flocculation does not affect product performance	

## NOTES

- For air-entrained concrete mixes see Hycrete MC1002+ data sheet. Hycrete MC1002+ is specifically designed for air-entrained mixes.
- User should perform trial mixes prior to placement and make necessary adjustments to the mix design as needed.
- For air-entrained mixes or if considering dosages other than recommended dosage contact Technical Services before use.

## SAFETY

Hycrete MC1000+ is a water-based material and should not be swallowed or come into contact with skin or eyes. Wear suitable protective gloves and goggles. If material comes in contact with the skin, wash immediately with soap and water. In case of contact with eyes, rinse immediately with sufficient water and seek medical support. If swallowed, seek immediate medical attention. For further information please consult the Material Safety Data Sheet.

## RELATED DOCUMENTS

- Hycrete Mixing Instructions
- Hycrete Material Safety Data Sheet – Hycrete MC1000+
- For air-entrained concrete mixes see Hycrete Data Sheet - Hycrete MC1002+
- Hycrete Testing Summary



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Hycrete warrants that its products are free from manufacturing defects and, when applied in accordance with the current specification and application instructions, will perform as so stated in its product literature. Waterproofing performance of the Hycrete MC1000+ is warranted for 25 years. Hycrete will provide sufficient material to waterproof areas shown to be defective due to Hycrete admixture material deficiencies.

Disclaimer: The information and recommendations relating to the application and end-use of Hycrete Products are based on data that Hycrete, Inc. considers to be true and accurate and is to be used for the users' consideration, examination, and confirmation, but Hycrete, Inc. does not warrant the results acquired. Materials, compositions, and site environments are varied and no warranty can be implied from this information or from any written recommendations, or from any other offered guidance. All orders are accepted subject to Hycrete, Inc.'s terms of sale and delivery. Copies of the most recent version of the Product Data Sheet should always be referenced and are available upon request. See warranty sheet for warranty details (available upon request). Protected under one or more of the following U.S. patents: 7,261,923; 7,381,252; 7,407,535; 7,498,090; 7,513,948 and 7,670,415. Additional patents pending and/or issued in the U.S. and internationally.

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