Hycrete, Inc.
14 Spielman Road
Fairfield, NJ 07004
201.386.8110

DATA SHEET

Hycrete MC1000+

Migrating Dual-Action Corrosion Inhibitor and Waterproofing Admixture

PRODUCT DESCRIPTION

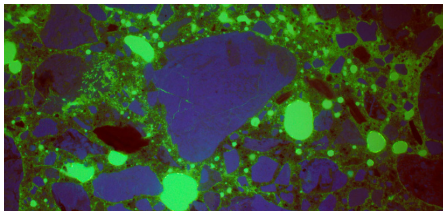
Hycrete MC1000+ is a patented dual-action migrating corrosion-inhibiting and waterproofing concrete admixture that delivers industry leading performance. Hycrete MC1000+ protects concrete and steel in two ways:
a) Migrates to form a protective passivating layer on the surface of reinforcement steel that dramatically reduces corrosion initiation and propagation. Protects reinforcement even in cracked concrete.
b) 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.

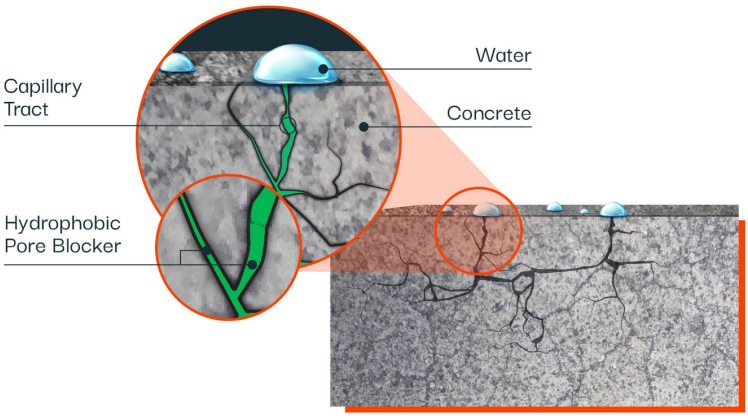
USES AND APPLICATIONS

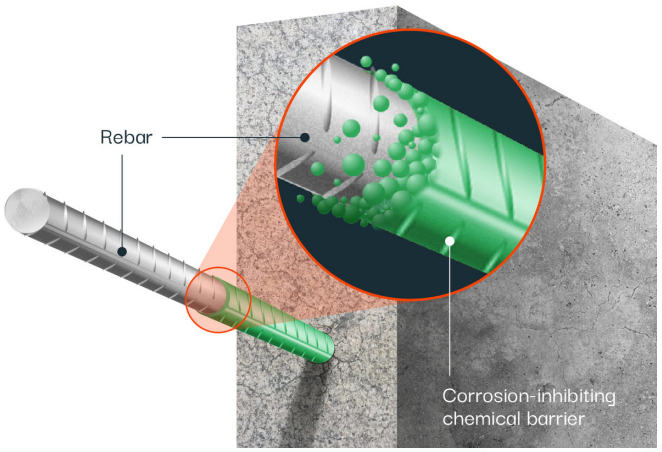
- Bridges and Highway Infrastructure
- Dams, Reservoirs, and Water and Wastewater Systems
- Ports and Marine Structures
- Pilings
- Tunnels
- Airport Runways
- Rail and Metro Systems
- Power and Telecom Infrastructure
- Parking Structures

Hycrete Migrating Corrosion Inhibitor in Action.



Fluorescence Microscopy testing conducted by the Swedish Concrete Research Institute.





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 forms 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.

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.

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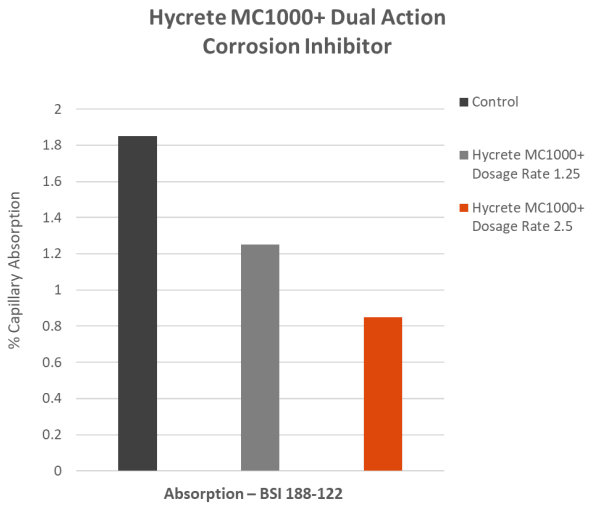
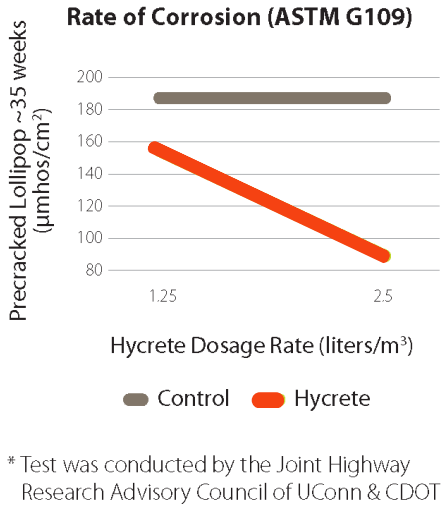
PRODUCT PERFORMANCE*

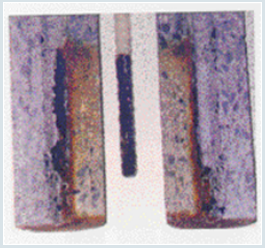
Water absorption	BSI 1881-122	Less than 1% absorption, up to seven times reduction compared to control.
Capillary absorption	ASTM C1585	Up to 60% reduction at 7 days.
Corrosion protection	ATSM G109 ASTM C1556	Demonstrated protection against reinforcement bar corrosion and chloride penetration over the 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 or greater and pipes 84“ 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 Endure CP (formerly X1000) dosage, or other factors.

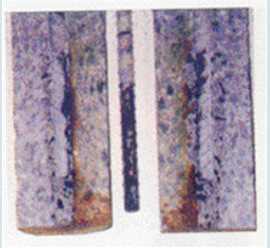




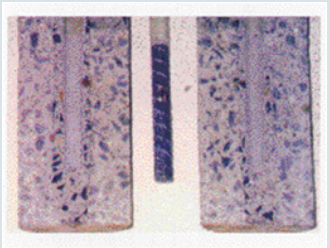
* Test was conducted by the Joint Highway Research Advisory Council of UConn & CDOT



Control



Calcium Nitrate



Hycrete

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

Source: University of Connecticut

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GENERAL PROPERTIES AND CHARACTERISTICTS

Physical characteristics: Form: Liquid Specific gravity: 1.05 Chloride content: Nil pH: 8.5	**Compatibility:** • Most concrete admixtures • Most Portland cements or replacements including fly ash and GGBS (slag) • Shotcrete mixes and application • Most surface-applied sealants and external membrane protection systems
Recommended dosage: 1.0 to 4.0 liters per cubic meter of concrete	
Packaging: 5 gallon (18.92 liter) pails; 55 gallon (208.19 liter) drums; 275 gallon (1,040.99 liter) totes; bulk tanker delivery	
Storage and handling: 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. Product should be thoroughly remixed prior to use.	

Notes

- For air-entrained concrete mixes speak to your local Hycrete Rep for proper mix design.
- User should perform trial mixes prior to placement and make necessary adjustments to the mix design as needed.
- 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 Safety Data Sheet – Hycrete M1000+
- For air-entrained concrete mixes speak to your local Hycrete Rep for proper mix design.
- Hycrete Testing Summary

Made in USA

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