## New Product

### MCI®-2018 V/O

Introducing MCI<sup>®</sup>-2018 V/O! This product is a higher viscosity version of MCI<sup>®</sup>-2018 sealer used for vertical and overhead applications. This line of water repellants is 100 percent active silane. MCI<sup>®</sup>-2018 V/O chemically reacts with concrete surfaces to form a strong bond with the substrate. The product creates a hydrophobic layer that repels water and keeps chlorides out without affecting the moisture vapor transmission of the concrete.

The Migratory Corrosion Inhibiting (MCI<sup>®</sup>) molecules contained in MCI<sup>®</sup>-2018 V/O penetrate the pores and are absorbed by the underlying metal reinforcement to protect from corrosion. MCI<sup>®</sup>-2018 V/O has been tested by AMEC Laboratory and is certified to comply with Alberta DOT standards for type 1B and 1C penetrating sealers.

MCI®-2018 V/O can be applied by spray, brush, or roller. The increased viscosity of MCI®-2018 V/O makes it easy to apply to bridge supports, garage pillars, or building walls without wasting product through spillage. MCI®-2018 V/O also dries without affecting the appearance of the surface.

## New Case Histories

### Las Olas Isles Residential Restoration

A seventy year old, multi-million dollar waterfront residence located in Fort Lauderdale, Florida was experiencing severe concrete deterioration from the presence of chlorides (sea salt) and a robust transfer mechanism to deliver chlorides from the ocean to surfaces. The moisture in the air makes the chlorides "sticky" and holds them to the surface. Long periods of moisture allow the formation of the electrolyte and keep the corrosion cell working. Also, very little rain is seen to wash chlorides away from the concrete surfaces. The owners of the property love the residence and wanted it restored and protected.

MCI®-2020 V/O, MCI®-2005 NS, MCI®-2246, VpCI®-422, and VpCI®-415 were all used in the restoration and repair process providing "belt and suspenders" protection from future corrosion.







# ROM GREY TO GREEN NEWSLETTER



### **Iceland Apartment Complex**

A new Icelandic apartment complex was being built close to the ocean, exposing concrete and embedded reinforcement to the harsh coastal environment. The owner wanted a bulletproof corrosion protection solution. The new concrete walls contain MCI®-2005 NS, while the flat concrete roofs contain both MCI®-2005 AL and Xypex Waterproofing Admixture. The addition of the corrosion inhibitor admixtures with the waterproofing admixture will provide the owner with very good corrosion protection for a long period of time.



### **Iceland Residential Concrete Repair and Renovation**

Being built before World War II, the house had not been fully repaired in seventy years and was encountering structural problems. After enduring hundreds of freeze-thaw cycles in its service life, the concrete became extremely deteriorated and began to leak, crack, and spall. In some areas, extreme spalling exposed steel reinforcement that was heavily corroded.

MCI®-2006 NS and MCI Mini Grenades® were added to repair mortars in order to rehabilitate the spalling concrete. MCI Fiber Grenades® were used along with Xypex Waterproofing Admixture in the replacement of the concrete gutters around the entire house. MCI®-2241 was applied to the cured concrete gutters to ensure waterproofing. The concrete repairs covered over 50% of the house. The combination of the corrosion inhibitors, fibers, and waterproofing admixture will provide a long service life for all repairs completed.



### **Godineaux Steel Truss Bridge Restoration**

Inspection of the bridge in Oropouche, Trinidad indicated that one of the beams was corroded to the point of it no longer being able to support the deck slab. Diagonal members on both the eastern and western ends of the bridge were also badly damaged by tall vehicles on separate occasions and needed to be replaced. Further structural assessment also revealed that some of the main beams and trusses were overstressed by as much as 200%. These findings led to the conclusion that a bridge collapse would be imminent if significant repair works were not undertaken.

Cortec<sup>®</sup> Corporation's Migrating Corrosion Inhibitors (MCI<sup>®</sup>) were used to rehabilitate the concrete bridge deck, and High Performance VpCI Coatings were used for the repainting of the entire steel structure. Products used included VpCI<sup>®</sup>-396, VpCI<sup>®</sup>-386 Orange, MCI<sup>®</sup>-2023, MCI<sup>®</sup>-2020, MCI<sup>®</sup>-2039, and MCI<sup>®</sup>-2021.

With the Godineaux Bridge now restored and improved, its needed service should continue far beyond another fifty-three years.



### Windward Oahu Stream Bridge, Kahana Stream Bridge and Punalu'u Stream Bridge

These Hawaiian bridges are located steps away from the Pacific Ocean. Constant trade winds come off the ocean at average speeds of 15 to 25 knots and in winter can reach speeds as high as 35 knots. The atmosphere is highly charged with chlorides and sulfuric dioxide from the volcano located on the big island of Hawaii causing inland rains with a pH of 4.5. The acid rain combined with chlorides makes for a supercharged electrolyte.

Post tension cables required immediate lay-up protection due to the close proximity of the cables to the ocean and the lag between cable laying and pour time. A mixture of MCI<sup>®</sup>-309 and air was injected just after the post tension cables were laid. Additional protection to the cables is provided with MCI<sup>®</sup>-309 when the post tension chambers are injected with grout. MCI<sup>®</sup>-309 is readily absorbed by the grout and then continues to be absorbed into the cables' metal substrate providing decades of corrosion control in one of the world's harshest environments.

MCI®-2005 NS is used in all HIDOT projects and typically, many projects are located many miles away from batch plants and delivery of concrete is over two-lane country roads. Concrete delivery time is a major factor in the selection of MCI®-2005 NS as other admixtures, such as retarders are not required saving the state's and tax payers' money. The added benefit of corrosion control comes to all segments where MCI®-2005 NS is used. These bridges are subject to the influence of high wave activity in winter months, high volume water flow from the mountains that are located a short distance inland from these bridges, and now benefit from decades of corrosion protection on the steel reinforced concrete.



### **Rebar Recap**

Cortec<sup>®</sup> will continue to host bi-weekly webinars to discuss various topics. The schedule for the remaining webinars can be found below. Invitations to join the webinars will be sent prior to the meeting date and will contain all information needed to participate in the meetings. All webinars will be recorded and saved to the Rep Section on the CortecMCI website.

If you have any questions or concerns, please contact Matt Drew at mdrew@cortecvci.com. As always, if there is a specific topic you would like to learn more about, please let us know and we will be happy to use those topics in future webinars...

Date	Торіс	Presenter	Details
10/17/2011	MCI <sup>®</sup> Admixtures/WHY MCI <sup>®</sup> ?	Jessi Meyer/Matt Drew	Compare MCI <sup>®</sup> to all technologies discussed in 7-25-2011 session
11/7/2011	MCI® Admixtures/Practical Aspects	Firas Misleh	Mix design guide use, pumping and dispensing
11/21/2011	MCI <sup>®</sup> Action plan	Jessi Meyer	Group discussion led by Jessi
12/5/2011	MCI <sup>®</sup> Surface Treatments/Introduction	Jessi Meyer/Matt Drew	Composition, properties, case histories, etc.
12/19/2011	MCI <sup>®</sup> Surface Treatments/Testing for Dummies	Jessi Meyer/Josh Hicks	ASTM G109, G180, electrochemistry testing, etc.
1/9/2012	MCI <sup>®</sup> YEAR END UPDATE	Jessi Meyer	Recap of Cortec's fiscal year, product updates, etc.
1/23/2012	MCI <sup>®</sup> Surface Treatments/WHY MCI <sup>®</sup> ?	Jessi Meyer/Matt Drew	Compare MCI <sup>®</sup> to competitors, alternatives, etc.
2/6/2012	MCI® Surface Treatments/Practical® Aspects	Jessi Meyer/Matt Drew	Specifications, field use, etc.
2/20/2012	MCI <sup>®</sup> Action plan	Jessi Meyer	Group discussion led by Jessi
3/5/2012	MCI <sup>®</sup> Specialty Products/Introduction	Jessi Meyer/Matt Drew	Composition, properties, case histories, etc.
3/19/2012	MCI <sup>®</sup> Specialty Products/Testing for Dummies	Jessi Meyer/Josh Hicks	ASTM, electrochemistry testing, etc.
4/2/2012	MCI <sup>®</sup> Specialty Products/ WHY MCI <sup>®</sup> ?	Jessi Meyer/Matt Drew	Compare MCI® to competitors, alternatives, etc.
4/16/2012	MCI <sup>®</sup> Specialty Products/Practical Aspects	Jessi Meyer/Matt Drew	Mix design guide use, pumping and dispensing
4/30/2012	MCI <sup>®</sup> Action plan	Jessi Meyer	Group discussion led by Jessi

### MCI® Webinar Schedule

### **2011 World Sales Meeting**

Thank you to everyone who attended Cortec's 22nd World Sales Meeting held September 22 - 23; it was a huge success! At Cortec<sup>®</sup>, we feel so honored to have so many attendees, both familiar and new, who were able to attend. We broke our record with attendees from fifty-two countries!

### Upcoming Tradeshows ICRI Fall Convention Cincinnati, OH / October 12-14, 2011

## ACI Fall Convention



### World of Concrete 2012

Las Vegas, NV / January 24-27, 2012





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