



MIGRATING CORROSION INHIBITORS
FROM GREY TO GREEN

NEWSLETTER

National Association of Corrosion Engineers

At this year's NACE Corrosion 2012 Conference in Salt Lake City, Utah, Cortec's Josh Hicks, Technical Services Engineer and Matt Drew Technical Sales Representative presented three papers summarizing Cortec's lab and field research with Cortec's corrosion inhibitors. Josh presented two on the research and development of new products using by-products of different agriculture goods. Matt presented on the newest data that we have received from our oldest MCI® case history, the Randolph Avenue Bridge.

In 1986, MCI® was incorporated in the repair of the concrete overlay of the bridge. The westbound lanes were treated with MCI®-2000 while the eastbound lanes were repaired with the same concrete, but were left as a control. For the past 26 years, Cortec® has been monitoring the progress of our "treated" side versus the control, seeing great results. For more information on the paper and the updated readings taken in July 2011, follow the link below.

<http://www.cortecvci.com/Publications/Papers/Nacereviewed/NACE-C2012-1420.pdf>

Cortec® representatives also attended numerous NACE committee meetings and symposia, including several geared towards Reinforced Concrete. We became more involved in the TG 050 – Inhibitors and Admixtures Committee as Matt Drew was appointed the Vice Chair. TG 050 has partnered with ACI 212 in order to rewrite their chapter on Corrosion Inhibiting Admixtures.



Top Picture: Technical Sales Representative Matt Drew presenting at NACE. **Bottom Picture:** Cortec's trade show booth at NACE 2012.



American Concrete Institute

In March, Matt Drew, Usama Jacir of Cortec® Middle East, and Dr. Mohamad Nagi of the American University of Dubai attended the 2012 Spring Convention in Dallas, Texas. They participated in several meetings, including ACI 222 – Corrosion of Metals in Concrete, ACI 212 – Chemical Admixtures, and ACI 365 – Service Life Prediction. Migrating Corrosion Inhibitors were discussed in all three committee meetings; MCI® Admixtures are now fully incorporated in the ACI 212 and ACI 222 documents. ACI 212 has partnered up with NACE's TG 050 – Inhibitors and Admixtures to edit and rewrite their chapter on Corrosion Inhibiting Admixtures.

World of Concrete Recap

Cortec® was well represented at this year's World of Concrete (WOC) in Las Vegas, Nevada in January. This was one of the biggest WOC shows with outstanding presentations that started great conversations. With over 52,000 professionals registered, activity at the booth was non-stop! Once again, Cortec® was a Bronze Sponsor of the annual International Concrete Repair Institute's Kick-Off Party at Jimmy Buffet's Margaritaville. At the event, Jessi Meyer and Matt Drew along with about 100 engineers, contractors, and manufacturers networked and caught up on the year's events.



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New Case Histories

Madrid Potable Water Reservoir: Canal De Isabel II

In 2005, the need for landscaping on the 3rd potable water reservoir the Canal de Isabel II lead to an increase of weight on the brick columns that have been in place since 1912. This required the need for reinforcement of the 1536 columns. Steel tubes (type S 355 J2) with a diameter of 6.5 in (163.3 mm) were drilled into the columns to provide strength. The Q-2030 mortar, containing MCI-2006, was used to bond the steel to the interior of the brick columns.

The reason for selecting this type of mortar was based on its excellent properties for filling voids with difficult access and for its corrosion resistance in an extreme environment. These columns must support a lot of weight while also being exposed to the presence of sodium hypochlorite in the water and the phenomena of differential aeration at the interface of air and water.

The addition of MCI®-2006 into this mortar increased the corrosion resistance in this extreme environment and also increased the service life of this century old potable water tank. MCI®-2006 was used in this application because of its NSF Standard 61 approval for use with potable water at its recommended dosage rate of 1 lb/yd³ (0.6 kg/m³).



Mohammed Bin Rashid al-Maktoum Academic Medical City

Dubai Properties Group is developing the Mohammed Bin Rashid al-Maktoum Academic Medical City in Dubai Healthcare. This development includes the construction of the University Hospital built over an area of 1,399,308 ft² (130,000 m²).

Construction started in 2007 but as the economic crisis struck Dubai, construction was put on hold.

Recognizing the corrosive environment of the United Arab Emirates where salt laden air is combined with high levels of humidity and temperature, the Consultant, GHD, sought a method of preserving the exposed steel reinforcement while construction work was suspended.

The solution was recognized in Cortec's MCI® CorShield® which is a waterborne preservative that provides protection to metals in unsheltered environments. MCI® CorShield® was tested in accordance to ASTM A944-99 at American Engineering Testing, Inc. which concluded that "MCI® CorShield® bond strength of the reinforcing steel bars to the concrete was equal or better than the control." The coating will not need to be removed prior to future concrete embedment.

The exposed steel was treated with an application of MCI® CorShield® in June 2009. The site was inspected two years after treatment and the steel was found to be in the same original condition.



INTERNATIONAL
CONCRETE REPAIR
INSTITUTE

International Concrete Repair Industry – Michigan Chapter

Technical Sales Representative, Matt Drew was invited by the Michigan Chapter of the International Concrete Repair Institute to present on corrosion inhibitors at the December Technical Seminar held in Detroit, Michigan. Matt provided an overview of how corrosion develops in concrete and the various corrosion inhibitor methods that can be used to repair and restore corroded reinforcement within concrete structures. Mixed inhibitors were discussed in depth, as were anodic inhibitors and cathodic protection. The question and answer portion of the presentation attracted many questions about the use of inhibitors in repair patches and also as surface treatments.



MCI® Webinar Schedule: For Signed MCI® Distributors and Reps

Date	Topic	Presenter	Details
5/14/2012	MCI® 6 Month Update	Jessi Meyer/Matt Drew	Sales updates, new CH updates, Looking to the Future!
6/11/2012	Randolph Avenue Bridge - Testing Update	Matt Drew	Matt will go over Cortec's oldest admixture case history and provide updated test results.
7/9/2012	MCI® Specialty Products - Introduction	Jessi Meyer/Matt Drew	Composition, properties, case histories, etc. - MCI®-309, MCI Mini Grenades®, PTC Emitters
8/13/2012	MCI® Surface Treatments/Testing for Dummies	Josh Hicks	ASTM, electrochemistry testing, etc. - MCI®-309, MCI Mini Grenades®, PTC Emitters
9/10/2012	MCI® Specialty Products - Introduction	Matt Drew	Composition, properties, case histories, etc. - VpCI® Rust Removers, VpCI CorrVerter®, MCI® CorShield
10/8/2012	MCI® Specialty Products - Testing for Dummies	Josh Hicks	ASTM, electrochemistry testing, etc. - VpCI® Rust Removers, VpCI CorrVerter®, MCI CorShield®
11/12/2012	MCI® Year End Update	Jessi Meyer/Matt Drew	Sales updates, new CH updates, Looking to the Future!
12/10/2012	MCI® Specialty Products - Introduction	Matt Drew	Composition, properties, case histories, etc. - MCI®-2020 Gel, MCI® Wall Defense, MCI®-2027 (or new product from Rick)
1/14/2013	MCI® Specialty Products - Testing for Dummies	Josh Hicks	ASTM, electrochemistry testing, etc. - MCI®-2020 Gel, MCI® Wall Defense, MCI®-2027 (or new product from Rick).
2/11/2013	MCI® Specialty Products - Introduction	Matt Drew	Composition, properties, case histories, etc. - MCI Creteskin®, MCI®-2061, MCI® CorteCure
3/11/2013	MCI® Specialty Products - Testing for Dummies	Josh Hicks	ASTM, electrochemistry testing, etc. - MCI Creteskin®, MCI®-2061, MCI® CorteCure

* If one of these trainings catches your eye or you would like to see something else, contact any of our Cortec® Sales Representatives to arrange.

Introducing MCI® Intern, Jeff Geier

Jeff has joined the MCI® team effective April 9th, 2012, and will be working with us through August. You can reach Jeff at jgeier@cortecvci.com or by phone at (651) 429-1100 extension 126. Jeff has written an introduction below so you can get to know him a bit better. Please join us in welcoming Jeff to our group!

My name is Jeff Geier. I am from Andover, Minnesota. I grew up Brooklyn Park and later moved further north of the cities. I have four siblings, three brothers and one sister. At a young age, I became fascinated with business. My grandfather, Dr. John Geier, was my biggest inspiration growing up and always told me to keep my head up, stay positive, and most importantly, to never give up. Today, I still use his philosophy. Even though he isn't here with me, I know he would be proud of my continued efforts. On a funny note, I remember him telling me, "Jeff, if anybody ever offers you money...take it."

I golf in my free time with my dad and brothers. Both of my older brothers, Joe and Justin got married last summer. Joe is going to be a dad in a mere two weeks and we are very excited. Joe's son will be my first nephew and I look forward to being a role model.

I currently attend St. Cloud State University studying marketing. I plan to graduate with my bachelor's degree next year and continue my studies part time at the Masters level while working full time. My favorite quotation is "Remember that failure is not the opposite of success; it is part of success."



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