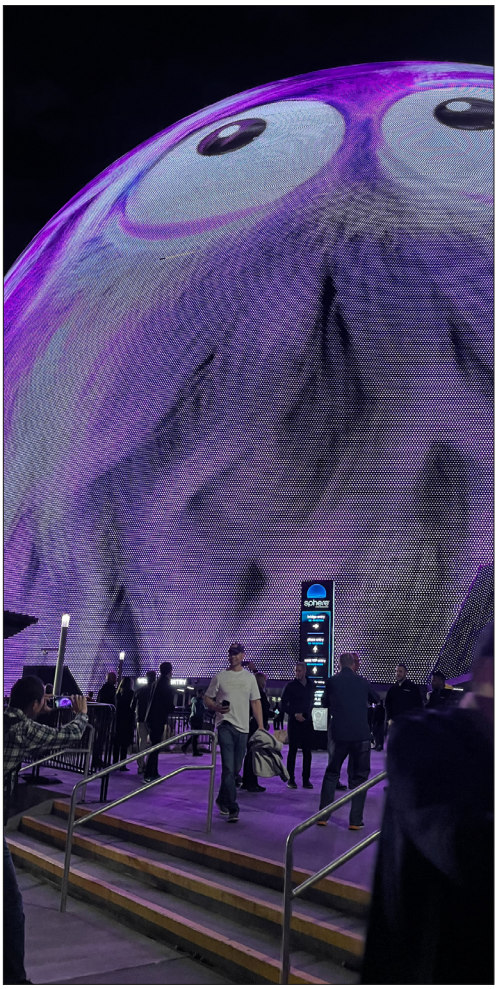
MIGRATING CORROSION INHIBITORS
FROM GREY TO GREEN



Cortec® MCI® Family Attends WOC's 50th Anniversary

It was great to see a number of you in Las Vegas at the 50th anniversary of World of Concrete (WOC)! As usual, the fun started early with socializing at the ICRI Kick-Off Party Monday evening before the January 23rd-25th expo opened. Tuesday was the busiest day of all as we welcomed 20 of you to our annual MCI® distributors/reps meeting and luncheon where we were able to reconnect, share MCI® resource updates, and hear some of your feedback during an impromptu "round table" session. The afternoon wrapped up with most of our group heading out for a special event at "The Sphere," one of Vegas's newest attractions that includes interactive AI robots and a multi-sensory film with technologically impressive visuals and effects. Special thanks to those of you who took time out of your busy schedules to make the annual pilgrimage to WOC. We hope you came away feeling equipped and energized for a successful construction season ahead!

Images counterclockwise from top: 50th anniversary WOC sign, outside view of "The Sphere," Kevin Quan and Colin Gardner at MCI® booth, Ash Hasania and Kevin Quan at booth.

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MCI® News

Renovation in Progress at Camp Nou!

In February, Ivana Liposcak (MCI® Technical Sales Manager, Europe) was busy supervising the application of MCI®-2020 at Camp Nou in Barcelona, Spain. MCI®-2020 is being used to extend the service life of renovation work on both the south and north stands of this world-renowned stadium. As of February 21st, approximately 10,000 m² (107,639 ft²) of concrete had been treated with MCI®-2020. Notably, baseline corrosion measurements have been conducted on the first level of the south stand in collaboration with the Toroja Institute of Madrid to assess the initial condition of the surfaces. These initial reference measurements will be helpful in assessing the benefits of MCI®-2020 when we compare corrosion readings again in one year at the earliest.

Getting Ready for the Middle East Construction Boom at ACI

Cortec's MCI® Technical Sales & Product Manager, Ash Hasania, was honored to join Cortec® Middle East (CME) at the ACI (American Concrete Institute) Middle East Conference-2023, November 28th-29th in Riyadh, Saudi Arabia. CME was a gold sponsor for this well-organized and well-attended event, which sold out weeks in advance. With so many construction opportunities currently on the horizon in the Middle East, it was an exciting time and place to bring MCI® solutions in front of key industry players, including engineers, ready-mix companies, academics, and government representatives. Saudi is in the early stages of a construction boom, fueled by giga projects and the upcoming EXPO 2030 and World Cup 2034 they will be hosting. This expanding demand for construction in a harsh environment will require much more education on topics like those addressed at ACI: concrete building codes, sustainability, innovations, and more. It will also open the door to many more situations where MCI® will be needed to help build lasting, sustainable structures.

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MCI® News

Ash Elected to ICRI Michigan Board

We are pleased to announce that Ash Hasania has been elected to the board of the ICRI Michigan Chapter! As our MCI® Technical Sales & Product Manager, Ash has been heavily involved in attending and presenting at chapter events over the last few years, prompting ICRI Michigan to ask Ash to consider joining the board.

Ash was officially voted into office November 9th at the "ICRI Michigan Chapter's Annual Dinner Meeting." He will start as a board member "at large," helping plan and oversee chapter activities and casting his ballot on issues that come up for voting. He is also expected to be a great liaison between the local chapter and ICRI national through his attendance at events on both levels.

Meet Our Newest MCI® Regional Sales Manager

If you haven't met him yet, we'd like to introduce you to Mike Bosman! Mike started his position as MCI® Regional Sales Manager for the Midwest on October 10th. He fills a huge need for MCI® support in the states of Minnesota, North and South Dakota, Wisconsin, Iowa, Illinois, Nebraska, Missouri, Kansas, and Colorado. We look forward to having him become a dynamic part of our MCI® team!

Although working with concrete is new to Mike, the topic of corrosion is not, as corrosion mitigation was one of the top five priorities he addressed while working with 3M in the defense market for adhesives and coatings. While there, he received his share of exposure to material testing and approval processes, frequently heading up accelerated underwater corrosion testing on a variety of materials. Mike is quickly becoming familiar with the characteristics of concrete so he can become an outstanding liaison between Cortec® and MCI® users.

Join us in welcoming Mike to the team! Reach out to him at mbosman@cortecvci.com.

Cortec® MCI® Featured in EUROCORR Technical Program

Cortec® was well represented among the approximately 1,000 delegates present at EUROCORR 2023, August 27th-31st in Brussels, Belgium. This year's "Annual Congress of the European Federation of Corrosion" focused on "driving corrosion prediction and protection towards a circular economy," an excellent match with Cortec's longtime efforts to pursue sustainability and environmental responsibility in this industry.

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Ivana Radić Boršić (VP Sales, Europe), Ivan Rogan (CorteCros® EVP & General Manager), and Šejla Zukić (Product & Market Development Specialist, Europe) hosted the Cortec® booth, where they welcomed familiar faces, new potential customers, students interested in learning about Cortec® Technology, and faculties from the University of Zagreb who have already studied Cortec® products.

It was an honor to have Professor Marijana Serdar of the Faculty of Civil Engineering at the University of Zagreb present a paper on MCI®-2006 entitled "Development of cement with increased corrosion protection capacity through introduction of powder inhibitor" for the "Corrosion and Scale Inhibition" track of the technical program. In addition to contributing to the technical program, Cortec® had the chance to attend several technical sessions, many of which focused on green solutions in corrosion prevention.

Highlights from Fall ICRI

Thanks to those of you who took time to say "hi" October 16th-18th at the ICRI Fall Convention in St. Pete Beach, Florida! Jessi Meyer (VP of Technical and Product Sales) and Kevin Quan (MCI® Regional Sales Manager) represented Cortec® at the well-attended event. Kevin went to the corrosion committee meeting to get committee initiative progress updates for Ash Hasania (MCI® Technical Sales & Market Manager), who is a committee member but was not able to go. Kevin also spent time with other members of the ICRI Delaware Valley Chapter (who made a good showing at the event with 10 members present), and Jessi enjoyed seeing ICRI colleagues from Minnesota!

Kevin Quan (second row, far right) with ICRI Delaware Valley Chapter. Image credit: ICRI Del Val Chapter.

Jessi Meyer (third from right) with MN ICRI members.

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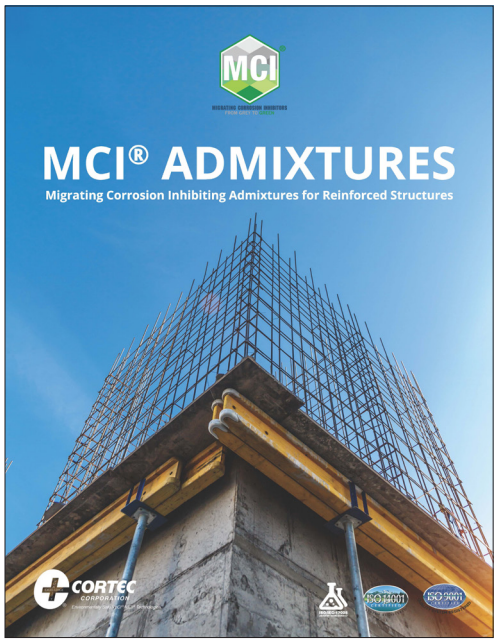
New Resources

Two Updated Brochures!

We recently updated two MCI® brochures, just in time for WOC 2024! These will be great resources to share with specifying engineers, ready mixers, and contractors when explaining MCI® Technology in the upcoming construction season.



MCI® Admixture Brochure

In addition to new graphics that show our latest MCI® admixture dispensing units and highlight the use of MCI® in the Sustainability Pavilion in Dubai, updated text focuses on the "what," "how," and "why" of concrete corrosion and the MCI® approach to mitigation. Thoughtful revisions by Cortec's technical and marketing team seek to simplify and logically present the basics of MCI® admixtures. The brochure closes with an updated product selection guide that showcases the new MCI® Grenade XL for 5 yd³ (3.8 m³) of ready mix. Click here to browse the new brochure.

MCI® Surface Applied Brochure

The new MCI® SACI brochure takes a fresh look at why and how MCI® surface applied corrosion inhibitors (SACIs) can help existing concrete structures fight corrosion. The brochure's new explanation of SACIs goes into greater detail on the differences between various MCI® SACIs and where they can be used. To illustrate the distinction between MCI®-2018 and MCI®-2020, new graphics show how MCI®-2018 both repels water and sends Migrating Corrosion Inhibitors toward the rebar surface, while MCI®-2020 does not repel water but allows a higher concentration of Migrating Corrosion Inhibitors to infiltrate the concrete pores. Another highlight of the brochure is its two case history summaries: one on the Pentagon lightwell walls restoration and the other on the protection of the Pelješac Bridge. Click here to browse the new brochure.

Industry Guides to Corrosion Protection

From time to time, Cortec® will release new guides to corrosion control in specific industries. Recently, that involved a new guide to corrosion in the pulp and paper industry and a guide to corrosion remediation at wind farms. Since these guides include suggestions for structures, they naturally include recommendations on the use of Migrating Corrosion Inhibitors. In the papermaking industry, MCI® admixtures and repair mortars can be used to repair existing concrete at pulp and paper mills, while products such as

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New Resources

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MCI®-2018, MCI®-2019, and MCI®-2020 can be added to sound concrete for ongoing protection. In the wind industry, MCI® SACIs such as MCI®-2020 and MCI®-2018 can also be applied where there are pre-stressed concrete towers or bases/foundations made of reinforced concrete.

Click here to read the pulp and paper guide.

Click here to read the wind farm guide.

MCI®-2018 X Increases Options for MCI® SACI Users

If you've always had trouble deciding between MCI®-2020 (highest concentration of MCI® SACIs on the market) and MCI®-2018 (two-in-one water repellent with a lower concentration of Migrating Corrosion Inhibitors), or if applying MCI®-2018 on top of MCI®-2020 for maximum protection falls outside your project scope and budget, you need worry no longer! Our new MCI®-2018 X is MCI®-2018 minus the Migrating Corrosion Inhibitors. From now on, if you want the high concentration of MCI®-2020 with only a water repellent on top, you can order MCI®-2018 X along with MCI®-2020 and be done with your search for a supplementary product. Click here to learn more about this new tool to add to your concrete maintenance and repair kit.

Preserving Capital Spares: Strategy for Concrete-Coated Pipelines

Occasionally, a completely new use for MCI® will come across your radar. That's what happened to one member of our MCI® team who was pleasantly surprised when his colleagues recently shared about the use of MCI® SACIs on concrete-coated subsea pipeline segments. It is a great example of the importance of knowledge-sharing and staying creative with the chemistries available.

To understand this particular application, it helps to know that subsea oil and gas pipelines are frequently constructed by joining concrete-coated segments together. During construction, concrete-coated pipe may sit for six months to several years before installation. Subsea pipe spares are often stored near the coast due to material handling difficulties. An incredibly long storage period and an aggressive environment combine to pose a frequently overlooked risk for long-term integrity. Extreme temperature swings and sporadic inspection intervals can exacerbate the problem. To complicate matters, the concrete coating makes it difficult to access and treat the OD (outer diameter) of the steel pipe.

Migrating Corrosion Inhibitors such as MCI®-2020 can be applied to sound concrete on the pipe OD (outer diameter) with the goal of allowing corrosion protection to migrate to the steel surface within the concrete jacket. A water repellent can be added to hinder the entrance of additional moisture and chlorides while trapping the MCI® inside. Furthermore, MCI® CorShield® can be applied to uncoated steel at the ends of the pipe segments. Additional technologies exist to protect the ID (inner diameter) of the pipes. Learn more about this important but often forgotten application here.

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Case Histories

Case History #820: Ridgely Condo Garage Plaza Repairs

The plaza deck of an underground parking garage at a 28-story Maryland condo was showing signs of deterioration from chloride-induced corrosion. MCI®-2020 was specified for treatment on the plaza slabs to be followed by a traffic-bearing waterproof membrane on top. This combination was expected to significantly reduce corrosion and thus extend structural service life. The contractor planned to look for additional areas that needed remediation and MCI®-2020 on lower levels in phase two of the project. Log in to our Case History library to read more details.

Case History #822: Renovation of Medieval City Walls

The ancient medieval long fortress and royal castle of Ilok are made of brick and broken stone. Over centuries of exposure to the environment, mortar has eroded, and brickwork and stonework have deteriorated. Stone foundations needed a new concrete foundation added for support. Because of the concrete's contact with the soil, the project added MCI®-2005 admixture to protect the black steel reinforcement in the new foundation. MCI®-2018 was applied to brick walls as a water repellent to protect materials from the effects of outdoor weather. Both products were simple additions to improve the longevity of the restoration project without changing the structure's appearance. Log in to our Case History library to read more details.

Case History #824: Meeting European Exposure Class for Concrete Pontoons

A marina in the Adriatic Sea ordered all-concrete pontoons, which represent some of the latest in floating dock technology since 2012. In spite of corrosion precautions such as the use of galvanized steel reinforcement, the pontoons were required to include corrosion inhibitors because of their XF3 exposure classification according to the European EN 206-1 standard. MCI®-2005 was specified, added, and tested to meet necessary concrete property and quality requirements. It proved to be a simple way to bring the precast structures, which the manufacturer rated for a 50-year service life, up to their European exposure class requirements. Log in to our Case History library to read more details.

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Case Histories

Case History #826: Alpine Road Support Wall

SS52 is an Alpine road in Italy built right next to the Piave River. A large drainage channel entering the river at a 90° angle creates a serious erosion risk at the base of the road, prompting reinforcement of the ground below, with additional provisions for corrosion protection against deicing salts. MCI®-2005 was added to concrete poured into forms to create a retaining wall at the base of the road. It was also used in reinforced concrete placed on the bank above as an extra precaution against deicing salts used in this area during the winter. Strengthening this part of the road was an important step in maintaining an Alpine thoroughfare, and the durability of these support structures through corrosion protection was crucial. Log in to our Case History library to read more details.

Upcoming Events

AMPP Annual Conference 2024
March 3rd–7th, 2024
Ernest N. Morial Convention Center
New Orleans, LA
Booth #1311
www.ampp.org

NFMT 2024
March 12th–14th, 2024
Baltimore Convention Center
Baltimore, MD
Booth #1357
www.nfmt.com

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Keywords: Cortec, MCI, WOC, Camp Nou renovation, Saudi construction boom, concrete admixtures, concrete SACI, concrete repair, concrete coated pipelines, concrete pontoons