

Construction Forum

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Hot Weather Concrete Applications

Summertime brings lazy afternoons at the beach, tanned toes in sandals, and watermelon seed spitting contests. For concrete engineers, the season also brings questions about working with concrete during the hot summer months. Engineers will be happy to know that Cortec's MCI (Migrating Corrosion Inhibitors) admixtures do not effect the allowable temperatures of concrete. MCI 2005 and MCI 2006 (not including the NS versions) can extend the workability time of concrete, and the setting temperature limits remain the same. For more information on hot weather concreting, please reference section 5.13 of ACI 318-02, "Building Code Requirements for Structural Concrete".



MCI 2020 will prevent corrosion at the Pentagon

MCI 2020 V/O Used on the Pentagon!

The start of warm weather also signals the start of home improvement season for individual homeowners' as well as Uncle Sam (USA). Rehabilitation of the Pentagon's exterior walls has recently begun, and Cortec's MCI 2020 V/O has been chosen to help prevent corrosion. The job started in April 2003 and will continue for the next 8-10 years. It involves over 200,000 square feet of hand patching and

repairs, with over 1,000,000 total square feet of concrete wall surface that will be protected with a coating system. The Pentagon required that the coating system would: have a minimum 20 year design life, stop water absorption, reduce or stop corrosion and cause little or no change to the appearance of the walls.

Cortec's MCI 2020 V/O fit the bill and became one of the components in the Pentagon's new coating system. A silane and potassium silicate coating will be applied over the MCI 2020 V/O corrosion inhibitor to complete the coating system. As a side note: The corrosion on the structure is caused by carbonation, not chloride. Thus calcium nitrite was not even considered as an option for corrosion protection.

MCI Mini Grenade Case History

Cortec's newest MCI case history features MCI Mini Grenades used on the recent repair of PT strands in a Mobile, Alabama bridge deck. The mini grenades were added to Dywidag's DYNAGROUT for repair of voids found in the cable strands on the bridge. The product mixed well and did not have any adverse effects on the grout nor its application. Testing will soon determine the rate of corrosion reduction. See the enclosed case history for more details.

New Testing Shows Cortec's MCI Admixture to be TWICE as effective as Competitor Products

We've always known that Cortec MCI Admixtures were superior to that of our competitors, and now we have a new test report that proves it. The report on Cracked Beam Testing from American Engineering and Testing shows MCI 2005 NS to be superior to competitor products, DCI and Rheocrete 222+. At this point, MCI 2005 NS is approximately twice as effective as DCI and Rheocrete 222+ in preventing corrosion. The test is a modified ASTM:G109 test using 6% salt solution for ponding and week long test cycles (instead of 3.5% salt solution and two week cycles). The study has gone through 14 cycles to date, and an update from June 2003 is included with your newsletter. Check it out!



*Pictures from left to right:
Establishing electronic connections to the rebar.*

GpC-777 coating applied to the underside of a balcony

Seaside beach resort

New Product Highlights

GpC-777: Cortec's new Galvanic Protection Coating (pictured above) saves time and money. GpC-777 is a three component moisture curing zinc rich [ethyl] silicate coating that uses metallic zinc to provide cathodic protection to embedded steel reinforcement. Through this product, Cortec has eliminated the need for expensive external power sources for corrosion protection. Additionally GpC-777 costs less and is easier to apply than its competitor products (cathodic protection and 3M's® Zinc Hydrogel Anode). Expensive surface preparation is unnecessary with GpC-777. Power washing is sufficient in most cases. See the enclosed product data sheet and case history on this exciting new coating!

New High Performance Coating System (HPCS)

Cortec's new MCI 2026 HPCS (pictured below) is like a coat of armor for concrete floors. MCI 2026 primer and floor coating make up the armor of the HPCS system. Together they help concrete floors battle heavy traffic, chemical spillage, and/or elevated temperatures. Yet the highly chemical resistant MCI 2026 HPCS is still environmentally friendly and USDA certified for use in meat and poultry plants. MCI 2026 Floor Coating is a 100% solids, Novolac epoxy. See enclosed data sheets, chemical resistance charts, and case history for more information.



Preparation of a hospital mechanical room floor walkway for application of MCI 2026 Primer and Floor Coating



The finished walkway

Visit our website for more information on Migratory Corrosion Inhibitors™ **CortecMCI.com**



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