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**Attention: Editor**  
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**PRESS RELEASE**



## **How Do Cortec® MCI® Admixtures Fit into Standards for New Construction?**

A good engineer will be careful to consult best practices when designing a new structure. Over the years, many helpful guidelines have been compiled by industry experts to address a range of concerns including rebar corrosion. By taking advantage of these recommendations, contractors, builders, and engineers can find ways to enhance structural durability in the face of corrosive environments. Among these solutions are [MCI® admixtures](#), an exceptional technology with important ties to industry standards.



### **Standards on Corrosion Inhibiting Admixtures**

The following construction industry standards recognize the use of corrosion inhibiting admixtures and contain a wealth of industry best practices to reference:

## US Guidelines

- [ACI PRC-212.3-16: Report on Chemical Admixtures for Concrete](#) (American Concrete Institute, March 2016)
- [ACI PRC-222-19: Guide to Protection of Metals in Concrete Against Corrosion](#) (American Concrete Institute, 2019)
- [NACE Publication 21428-2018: Corrosion Inhibiting Admixtures for Reinforced Concrete—A State of the Art Report](#) (NACE International, 2018)
- [NRMCA Publication 2PE004-21: Guide to Improving Specifications for Ready Mixed Concrete](#) (National Ready Mixed Concrete Association, 2021)

## Canadian Guidelines

- [CSA S413-21: Parking structures](#) (CSA Group, 2021)

## UK Guidelines

- [BS EN 1504-9:2008: Products and systems for the protection and repair of concrete structures](#) (British Standards Institution, 2008)
- [TR 61: Enhancing reinforced concrete durability: Guidance on selecting measures for minimising the risk of corrosion of reinforcement in concrete](#) (The Concrete Society, 2004)

## Middle East Guidelines

- [CS Guide to the Design of Concrete Structures in the Arabian Peninsula](#) (The Concrete Society, October 2008)



Of special interest are those guidelines that specifically reference amine carboxylate (i.e., MCI<sup>®</sup>) corrosion inhibiting admixtures. These are described in depth in ACI 212.3R-16, which firmly establishes the technology as an accepted industry standard. Even the guidelines that do not specifically name amine carboxylate technology cover MCI<sup>®</sup> admixtures generically under their corrosion inhibitor definitions, further identifying

the use of corrosion inhibiting admixtures as an industry best practice.

## Why Choose MCI® Over CNI Admixtures?

Another admixture prominently featured in these guidelines is calcium nitrite (CNI), raising the question of why to choose MCI® over CNI admixtures. The following points help engineers understand what sets MCI® amine carboxylate admixture technology apart as an excellent alternative to CNI:



- MCI® admixtures are dosed independently of chloride loading, whereas CNI dosage can rapidly increase due to heavy chloride exposure.
- MCI® admixtures do not accelerate set time, making them much easier to work with than CNI, which often causes problems for ready-mixers as a set accelerator. CNI can be a nightmare when poured in the heat of summer, and many contractors have seen a stark and welcome contrast on workability when using a normal set version of MCI®-2005 instead of CNI.
- Many MCI® admixtures are certified to meet ANSI/NSF Standard 61 for use in drinking water system components.
- [MCI®-2005](#) is a USDA Certified Biobased Product. Several other MCI® admixtures also include a portion of biobased content, which can help projects earn credit toward LEED certification.

MCI® vs. Competitor Admixtures			
Feature	MCI®-2005/ MCI®-2005 NS	Competitors	
		Calcium Nitrite	Amine Alcohol
<b>Set Acceleration</b>	No	Typically Yes	No
<b>Meet ASTM C1582</b>	Yes	Yes	No
<b>Dosage Rates</b>	1-1.5 pt/yd <sup>3</sup> (0.6-1 L/m <sup>2</sup> )	1-6 gal/yd <sup>3</sup> [5-30 L/m <sup>3</sup> ]	
<b>Noticeable Impact on Physical Properties</b>	No (except for delayed set time of MCI®-2005)	Yes (may affect fresh or hardened properties, or both)	
<b>Certified to Meet ANSI/NSF Standard 61 for Drinking Water System Components</b>	Yes	No	
<b>Contain Renewable Resources</b>	Yes	No	
<b>Increase Shrinkage</b>	No	Yes	Data not available

## Take the Critical Step

When it comes to new construction, following best practices is a critical step to maximizing the longevity and durability of a building. Many existing guidelines demonstrate that corrosion inhibiting admixtures, including amine carboxylates, have become an industry standard for corrosion protection in a variety of situations. Contact Cortec® to learn more about taking advantage of these guidelines and MCI® admixtures to extend service life: <https://www.cortecmci.com/contact-us/>

*Keywords: Cortec, MCI, MCI admixtures, standards for new construction, engineer best practices, rebar corrosion, construction industry standards, corrosion inhibiting admixtures, calcium nitrite alternative, From Grey to Green*

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