

03 30 00	Cast in Place Concrete
03 40 00	Precast Concrete
03 70 00	Mass Concrete

MCI®-2006 NS TF

DESCRIPTION

MCI®-2006 NS TF is a normal-set, powder-based, organic corrosion inhibiting admixture for protection of metallic reinforcement in concrete structures.

When incorporated into concrete, cementitious grouts, or repair mortars, MCI®-2006 NS TF forms a protective monomolecular layer on embedded metals that inhibits corrosion. In new construction, this is quantified by an increase in critical chloride threshold and subsequent reduction in corrosion rates when corrosion does initiate. When used with repair mortars and grouts, MCI®-2006 NS TF not only protects rebar within the patch; it is able to migrate into undisturbed concrete adjacent to the repair to protect reinforcement already in place.

PACKAGING & STORAGE

Available in 6.95 lb (3.2 kg), 69.5 lb (31.6 kg), and 139 lb (63.1 kg) drums.

To ensure best product performance, store in original packaging, indoors, and out of direct sunlight at 40-100 °F (4-38 °C).

Shelf life: 2 years



HOW IT WORKS

MCI®-2006 NS TF is an organic corrosion inhibitor. It is considered ambiodic (mixed), meaning it protects both anodic and cathodic areas within a corrosion cell. MCI®-2006 NS TF contains a blend of amine salts of carboxylic acids that form a protective layer on embedded reinforcement, delaying the onset of corrosion as well as reducing existing corrosion rates.

MCI®-2006 NS TF is effective at enhancing the durability and extending the service life of concrete structures exposed to corrosive environments (carbonation, chlorides, and atmospheric attack).

WHERE TO USE

- Reinforced concrete including precast, pre-stressed, and post-tensioned structures
- Corrosive environments including exposure to deicing salts, saline groundwater, airborne chlorides, and carbonation
- Marine and coastal structures, highways and bridges, parking decks, balconies, pools, concrete tanks, pilings, substructures, piers, pillars, pipes, and utility poles

ADVANTAGES

- Biobased (18%)
- Certified to meet ANSI/NSF Standard 61 for use on structures holding potable water
- Earns credit towards LEED certification
- Powder formula for ease of addition into pre-mixed grouts, repair mortars, or other cementitious-based products
- Compatible with mortars used with galvanic anodes or impressed current CP systems
- Lower toxicity and environmental impact than traditional corrosion inhibiting admixtures such as calcium nitrite
- Low dosage rate with minimal effect on concrete properties (i.e., workability, strength development, air entrainment, etc.)

MCI®-2006 NS TF

- Single dosage rate which is independent of expected exposure to chlorides
- Ability to migrate through porous substrates (concrete, masonry, limestone, etc.) by capillary action, vapor diffusion, and ionic attraction
- Field and lab tested worldwide

PHYSICAL PROPERTIES

Appearance	Off-white powder
Non-Volatile Content	98-100%
pH	11.5-13 (1% in water)

DOSAGE

Add MCI®-2006 NS TF to concrete mix or repair mortars at 1.39 lb/yd³ (0.82 kg/m³). Dosage is fixed and independent of chloride levels.

ASTM C494 PHYSICAL PROPERTY RESULTS

Set Time			
	Control	MCI®-2006 NS TF	Relative to Control
Initial Set (Minutes)	239	257	+18
Final Set (Minutes)	318	329	+11
Compressive Strength			
3 Day (psi)	4340	4780	110%
7 Day (psi)	5050	5630	111%
28 Day (psi)	6190	6710	108%
6 Month (psi)	7130	7970	112%
1 Year (psi)	7380	8150	110%
Flexural Strength			
3 Day (psi)	750	780	104%
7 Day (psi)	775	835	108%
28 Day (psi)	805	835	104%
Shrinkage			
Length Change (%)	-0.020	-0.026	-0.006
Freeze/Thaw			
Relative Durability Factor			96%

APPLICATION

In ready-mix applications, MCI®-2006 NS TF is best added with the mix water into ready-mix concrete at the plant. Alternatively, it can be dosed into the ready-mix truck using portable dosing equipment. Concrete should be mixed thoroughly before placement.

In other cementitious product applications, MCI®-2006 NS TF can be pre-blended into the mortar, grout, etc., so that it is evenly dispersed throughout the mix. Alternatively, it can be added into the mix water prior to mixing with the material.

STANDARD TEST RESULTS

Slump	ASTM C143	Neutral
Air Content	ASTM C231	Neutral
Density	ASTM C138	Neutral
Set Time	ASTM C403	Neutral
Flexural Strength	ASTM C78	Neutral
Compressive Strength	ASTM C39	Neutral
Workability	N/A	No adverse effects when used with pozzolans or other high performance concrete admixtures

CONSIDERATIONS

Concrete properties are always best determined in a trial using the actual mix components. Cortec® recommends a trial batch anytime you are using MCI®-2006 NS TF with new mix components.

Consult with Cortec's Technical Service department for further guidance if necessary.

4119 White Bear Parkway, St. Paul, MN 55110
Phone (651) 429-1100
Toll Free (800) 4-CORTEC
productinfo@cortecvci.com
www.cortecvci.com
www.cortecmci.com



LIMITED WARRANTY

All statements, technical information and recommendations contained herein are based on tests Cortec® Corporation believes to be reliable, but the accuracy or completeness thereof is not guaranteed.

Cortec® Corporation warrants Cortec® products will be free from defects when shipped to customer. Cortec® Corporation's obligation under this warranty shall be limited to replacement of product that proves to be defective. To obtain replacement product under this warranty, the customer must notify Cortec® Corporation of the claimed defect within six months after shipment of product to customer. All freight charges for replacement products shall be paid by customer.

Cortec® Corporation shall have no liability for any injury, loss or damage arising out of the use of or the inability to use the products.

BEFORE USING, USER SHALL DETERMINE THE SUITABILITY OF THE PRODUCT FOR ITS INTENDED USE, AND USER ASSUMES ALL RISK AND LIABILITY WHATSOEVER IN CONNECTION THEREWITH. No representation or recommendation not contained herein shall have any force or effect unless in a written document signed by an officer of Cortec® Corporation.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. IN NO CASE SHALL CORTEC® CORPORATION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.