

# MasterProtect® 8500CI

Dual phase corrosion inhibitor treatment for steel reinforced concrete

## PACKAGING

5 gal (20 L) pails and 55 gal (210 L) drums

## YIELD

Most applications require 2 or 3 coats at 175–225 ft<sup>2</sup>/gal (4.30–5.52 m<sup>2</sup>/L) for each coat. The exact amount of MasterProtect 8500CI will depend on the present extent of corrosion, chloride ion level and the service environment of the structure.

## STORAGE

MasterProtect 8500CI containers should be kept closed when not in use and should be stored at temperatures between 0 and 120 °F (-17 and 50 °C).

## SHELF LIFE

18 months in unopened containers stored in a temperature- and humidity-controlled environment.

## VOC CONTENT

<300 g/L, less water and exempt solvents.

## DESCRIPTION

MasterProtect® 8500CI is a clear liquid that, when applied to new or aged concrete, combines the power of a 100% reactive penetrating corrosion inhibitor and a latent-phase corrosion inhibitor to mitigate electrochemical corrosion of reinforcing steel in new or aged concrete.

## PRODUCT HIGHLIGHTS

- 100% reactive ingredients. No diluents or fillers.
- Easy to apply and quick-drying for faster installation time.
- Provides water repellent surface to prevent penetration of moisture and chlorides.
- Reduces corrosion due to the ring anode or “halo” effect.
- Suitable for use in new construction and repair applications.
- Effective in chloride-contaminated and carbonated concrete to significantly slow the rate of corrosion.
- Latent-phase corrosion inhibitor activates if concrete cracks, or if moisture penetrates into the concrete, providing extended protection when it is most needed.
- Vapor-permeable, to prevent moisture entrapment.
- Effective in high humidity environments to mitigate corrosion of reinforcing steel.
- Easy to apply surface treatment that penetrates the concrete to bond with steel and the concrete matrix to inhibit macrocell (mat-to-mat) and microcell (along rebar) corrosion of steel reinforced concrete
- Normally does not require removal prior to subsequent coating applications, thereby reducing downstream labor costs compared with many other corrosion inhibitors.

## APPLICATIONS

- Horizontal, vertical and overhead concrete surfaces after proper preparation
- Steel reinforced concrete, including cast-in-place, precast, pre-stressed and post tensioned
- Building facades and balconies, parking structures, pedestrian walks, bridge decks and supporting elements (beams, columns, etc.), concrete docks and piers
- Marine and other high humidity environments not subject to hydrostatic pressure
- Steel-reinforced concrete exposed to deicing salts

## SUBSTRATES

- Steel-reinforced concrete

**Technical Data**

**Composition**

MasterProtect 8500CI is a proprietary surface-applied liquid containing a reactive, penetrating phase and a secondary latent phase corrosion inhibitor.

**Compliances**

- TSCA (USA): Yes
- DSL/NDSL (Canada): Yes

**Typical Properties**

PROPERTY	VALUE
<b>Color</b>	Clear to light amber
<b>Density</b>	0.88 g/cm <sup>3</sup> (7.34 lbs/gal)
<b>Flash point</b>	>140 °F (>60 °C)
<b>Surface Tension</b>	
MasterProtect 8500CI	23.7 dynes/cm
Deionized Water	72 dynes/cm
<b>VOC</b>	< 300 g/L

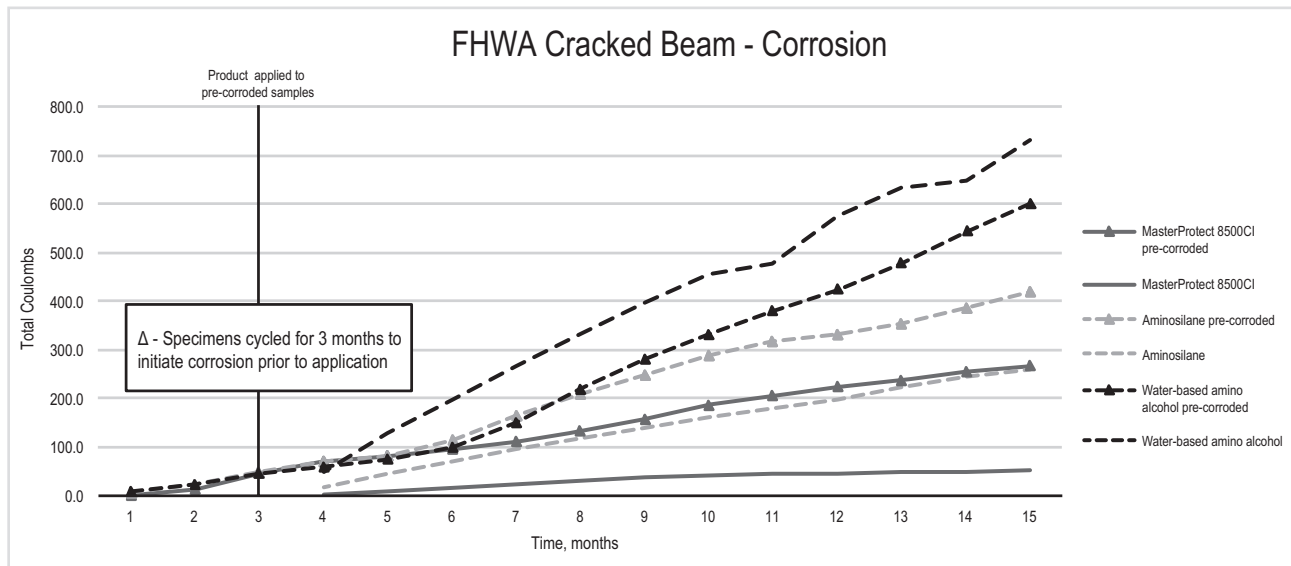
**DUAL-PHASE FUNCTIONALITY**

Only MasterProtect 8500CI couples the primary reactive penetrant with a second, latent-phase corrosion inhibitor. This latent-phase inhibitor activates when the concrete cracks, migrating to the reinforcing steel to provide an extra level of protection when it is most needed. The chart below shows the relative effects on corrosion inhibition of the most popular materials currently in use when compared with MasterProtect 8500CI.

**HOW TO APPLY**

**SURFACE PREPARATION**

1. New concrete must be properly cured. Concrete should obtain 80% of design strength, which typically takes 14–28 days, depending on mix design.
2. Compromised concrete (delaminations, spalls, etc.) must be removed and repaired. Allow a minimum of 72 hours drying time prior to application of MasterProtect 8500CI.
3. Pre-treat shallow, non-structural shrinkage cracks with a coat of MasterProtect 8500CI. Deeper structural or dynamically moving cracks should be routed, treated with MasterProtect 8500CI and sealed with the appropriate Master Builders Solutions approved joint sealant. MasterProtect 8500CI will not inhibit the adhesion of most joint sealants and deck coatings to concrete. Contact your Master Builders Solutions representative for recommendations.
4. Prior to installing repair materials, MasterProtect 8500CI may be applied to properly cleaned reinforcing steel.
5. Clean concrete surface of all sand, surface dust, dirt, efflorescence, mold, laitance, oil, grease, chemical films, curing compounds, membranes, asphalt, coatings, and other contaminants that would inhibit penetration. Water-blast, abrasive blast or shotblast as necessary to achieve the desired surface condition. An ICRI 310.2R CSP 3-5 is preferred for best penetration.



**Test Data**

EVALUATION	PROPERTY	RESULTS
Alberta B388, Type 1b	Moisture Vapor Transmission Performance Waterproofing Performance After Abrasion	>75% >85%
NCHRP Report 244, Series II (Northern Exposure)	Chloride Reduction Water Absorption Reduction	>88% >88%
NCHRP Report 244, Series IV (Southern Exposure)	Chloride Reduction Weathering	>90% No yellowing or discoloration

Typical values obtained under controlled laboratory conditions.

#### APPLICATION

1. Use MasterProtect 8500CI as supplied. Do not alter or dilute the product in any way.
2. During application, precautions should be taken to protect the surrounding area from overspray and run-off.
3. Apply MasterProtect 8500CI to dry concrete. Air and concrete temperatures must be between 40 °F (5 °C) and 100 °F (38 °C). Lower or higher application temperatures require prior written approval from Master Builders Solutions Technical Service.
4. Apply MasterProtect 8500CI to all concrete surfaces, including repairs, in a multiple coat application. Allow a minimum of 15 minutes between coats but do not re-coat before previous application is visibly dry.
5. Most applications require two or three coats applied at a rate of 175-225 ft<sup>2</sup>/gal (4.30-5.52 m<sup>2</sup>/L) each. The exact amount of MasterProtect 8500CI will vary due to concrete porosity, application environment and with the degree of corrosion, chloride content of the concrete and the severity of expected service conditions. Contact your Master Builders Solutions representative to discuss specific project requirements.
6. MasterProtect 8500CI can be applied with low-pressure, non-atomizing spray equipment with a wet fan-type spray nozzle, or by brush or roller. Sprayers should be fitted with solvent-resistant hoses and gaskets. The product can also be poured when pre-treating cracks in horizontal surfaces.

#### FOR BEST PERFORMANCE

- Do not apply if rain is expected within four hours following application, or if high winds or other conditions prevent proper application.
- Depending on weather conditions, allow between 24 and 72 hours for the substrate to dry after rain or cleaning with water.
- The effectiveness of MasterProtect 8500CI depends on existing corrosion rates, condition of the reinforcing steel and service conditions.
- For professional use only; not for sale to or use by the general public

- Make certain the most current versions of product data sheet and SDS are being used; visit [www.master-builders-solutions.com/en-us](http://www.master-builders-solutions.com/en-us) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

#### HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting [www.master-builders-solutions.com/en-us](http://www.master-builders-solutions.com/en-us), e-mailing your request to [mbsbscst@mbcc-group.com](mailto:mbsbscst@mbcc-group.com) or calling 1(800)433-9517. Use only as directed.

**IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.**

#### LIMITED WARRANTY NOTICE

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