

# MasterProtect<sup>®</sup> 8000 CI (formerly Protectosil CIT)

Advanced organofunctional silane based corrosion inhibitor

## DESCRIPTION

**MasterProtect 8000 CI** is a single component, ready to use, low viscosity, clear liquid which combines the proven effectiveness of penetrative silane treatments for the control of moisture and Chloride ion ingress with advanced organofunctional corrosion inhibition.

## RECOMMENDED USES

**MasterProtect 8000 CI** is sprayed directly onto the surface of steel reinforced concrete structures and buildings.

It is equally suited to cast in situ, precast, post tensioned, prestressed, GFRC, or other steel reinforced concrete.

It is particularly suited for the protection of:

- Bridge decks, piers columns and beams
- Multi-Storey Car Parks, building facades and balconies
- Marine jetties and structures

**MasterProtect 8000 CI** can be used as part of an overall repair strategy using MasterEmaco Concrete Repair Systems to mitigate corrosion rates within the balance of the structure and significantly reduce the possibility of ring anode induced spalling at a later date.

Equally **MasterProtect 8000 CI** can be used as a cost effective preventative measure before the onset of corrosion induced problems occur.

Contact your local BASF Construction Chemicals technical representative for further information.

## FEATURES AND BENEFITS

- Dramatically reduces chloride induced corrosion of concrete steel reinforcement
- Reduces corrosion in carbonated reinforced concrete
- Works at the molecular level to effectively inhibit macrocell (rebar to rebar) and microcell (on the same rebar) corrosion
- Proven long term effectiveness in laboratory and field trials > 7 years proven performance in aggressive environment subject to deicing salts and vehicular traffic
- Equally effective in high humidity conditions

- Chemically bonds to steel, cement paste and other silaceous material – will not wash or leach out during wetting / drying cycles, ensuring extended active life
- Simple and easy to use
- Does not discolour or change appearance of concrete
- Breathable vapour permeable treatment
- Repels further ingress by chlorides and water

## PROPERTIES

Colour	Clear
Density	0.88g/cm <sup>3</sup>
pH	7 to 8
Flash Point	63°C
Viscosity	0.95 mPa.s

U.S. Federal Highways Administration Test protocol for cracked Beam Concrete

## Test Method:

**MasterProtect 8000 CI** was sprayed at the approved application rate onto standard test specimens where the concrete (W/C ratio 0.47) had been deliberately cracked along the length of the reinforcing steel to simulate real life experiences of transverse bridge deck cracking. Some specimens showed existing corrosion before application while others did not.

The specimens were then subject to the following rigorous conditions:

48 weeks cyclic salt water ponding (15% salt solution)

High Relative Humidities: 70 –80%

Elevated temperatures: 37°C

The results are summarised below

## Corrosion Inhibition

Specimen conditioning	Observed results compared with untreated control specimens
Cracked concrete: NO preexisting corrosion	99% reduction in corrosion
Cracked concrete WITH existing corrosion	92% reduction in corrosion



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## Reduction in Chloride ingress

Control			Protectosil ® CIT treated		
12 weeks	24 weeks	48 weeks	12 weeks	24 weeks	48 weeks
0.703*	0.861	1.020	<0.007	0.010	<0.007
0.321	0.628	0.645	<0.007	<0.007	<0.007
0.032	0.386	0.0386	<0.007	<0.007	<0.007
<0.007	0.040	0.040	<0.007	<0.007	<0.007

\* Chlorides measured according to ASTM 1152

## APPLICATION

### Preparation of Substrate

Concrete surfaces must be dry and cleaned to remove all traces of mould oil, curing compounds, dirt, dust, efflorescence, mould, algae, grease, oil asphalt, paint, lacquers, or other coatings or any other materials that would prevent penetration.

Acceptable cleaning methods include shotblasting, high pressure water blasting, or grinding.

All delaminated, loose or spalled concrete must be removed and repaired with an approved product from the MasterEmaco or other approved Concrete Repair range.

**MasterProtect 8000 CI** can, as an additional protective measure, be applied directly to exposed rebar before repair work commences.

Non-moving shallow shrinkage cracks with no structural significance are simply treated with multiple coats or ponding of **MasterProtect 8000 CI**.

Other cracks or failed joint sealants should be routed clean and treated with **MasterProtect 8000 CI** before being filled with suitable joint sealant from the MasterSeal range or similar approved.

### Application

Apply **MasterProtect 8000 CI** to the entire surface to be protected, including any repaired areas, using low-pressure spray equipment with a suitable fan nozzle.

A total application of 600mL/m<sup>2</sup> is usually required applied in two or three separate applications.

(e.g. Horizontal applications 2 x 300mL while vertical and overhead 3 x 200mL)

Allow a minimum of 15 minutes between coats (or until visibly dry).

## Application Watchpoints

Do not apply at temperatures below 5°C or over 35°C. Allow concrete surfaces to dry for between 24 and 72 hours after heavy rain or cleaning with water before applying **MasterProtect 8000 CI**.

Do not apply if rain is expected within 4 hours.

Do not alter or dilute the material as supplied.

## COVERAGE

600mLm<sup>2</sup> applied in two or three coats

*Horizontal surfaces:* 2 coats @300mL/m<sup>2</sup>

*Vertical or overhead surfaces:* 3 coats @ 200mL/m<sup>2</sup>

## PACKAGING

**MasterProtect 8000 CI** is available in 20 litre drums.

## SHELF LIFE

**MasterProtect 8000 CI** should be stored under normal warehouse conditions between -15°C and 50°C. Keep containers closed when not in use and away from naked flames, heat sources and sparks.

## PRECAUTIONS

For the full health and safety hazard information and how to safely handle and use this product, please make sure that you obtain a copy of the BASF Material Safety Data Sheet (MSDS) from our office or our website.



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ID#MasterProtect8000CI-V1-0414

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**STATEMENT OF RESPONSIBILITY**

The technical information and application advice given in this BASF publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

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**NOTE**

Field service where provided does not constitute supervisory responsibility. Suggestions made by BASF either orally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they, and not BASF, are responsible for carrying out procedures appropriate to a specific application.

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