

MasterProtect® 8000 CI (Formerly known as Protectosil® CIT)

Advanced Organofunctional Silane Based Corrosion Inhibitor

DESCRIPTION OF PRODUCT

MasterProtect® 8000 CI, is a single part, 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.

FIELDS OF APPLICATION

MasterProtect® 8000 CI is used for corrosion protection of the reinforcement in;

- Concrete pavements in airport runways and tracks
- Marine structures
- Dams
- Bridges
- Car parks
- Tunnels
- RC Structures under chloride attacks

FEATURES AND BENEFITS

- Ready to use
- Does not discolour or change appearance of concrete
- Breathable vapour permeable treatment
- Dramatically reduces chloride induced corrosion of concrete steel reinforcement (90%-99%)
- 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 de-icing 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

PERFORMANCE DATA

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

TECHNICAL DATA

Product Chemistry	Advanced Organo-Functional Silane
Color	Clear
Density	0,88 kg/l
Viscosity	0,95 mPa.s
Flash Point	>60°C
Ph	11
Recoatable after at 20°C	15-30 minutes

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 were 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 existing corrosion	99 % reduction in corrosion
Cracked concrete WITH existing corrosion	92 % reduction in corrosion

REDUCTION IN CHLORIDE INGRESS

Tests according to ASTM 1152 at depths of 12.5 mm, 32 mm, 50 mm and 69 mm

Control			MasterProtect® 8000 CI		
12 weeks	14 weeks	48 weeks	12 weeks	24 weeks	48 weeks
0,703*	0,861	1,020	<0,007	<0,007	<0,007
0,321	0,628	0,645	<0,007	<0,007	<0,007
0,032	0,386	0,386	<0,007	<0,007	<0,007
<0,007	0,040	0,040	<0,007	<0,007	<0,007

*Chlorides measured according ASTM 1152

APPLICATION PROCEDURE

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 of Tools

MasterProtect® 8000 CI (Formerly known as Protectosil® CIT)

Advanced Organofunctional Silane Based Corrosion Inhibitor

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. Concrete and repair mortars must be 28 days old at least. **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 METHOD

Apply **MasterProtect® 8000 CI** to the entire surface to be protected, including any repaired areas, using low pressure spray equipment (HVLP) with a suitable fan nozzle. A total application of 600ml/m² is usually required applied in two or three separate applications. (E.g. Horizontal applications 2x300 ml while vertical and overhead 3x200 ml) Allow a minimum of 15 minutes between coats (or until visibly dry).

COVERAGE

600 ml/m² applied in two or three coats Horizontal surfaces: 2 coats 300 ml/m² Vertical or overhead surfaces: 3 coats 200 ml/m²

WATCH POINTS

- 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 of tools 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.
- Treated concrete or repair mortar must be at least 28 days old.

CLEANING OF TOOLS

After the application all tools should be cleaned with water.

PACKAGING

205 lt drum

STORAGE

Store in original container in cool (+5°C-+25°C) and dry indoor conditions.

SHELF LIFE

12 months under proper storage conditions after production date.

HEALTH AND SAFETY PRECAUTIONS

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixtures should not come into contact with skin and eyes; in case of contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

DISCLAIMER

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd. Şti.** is only responsible for the quality of the product **Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd. Şti.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

CONTACT INFORMATION

Master Builders Solutions Yapı Kimyasalları Sanayi ve Ticaret Ltd. Şti.

Adres: Barbaros Mah. Begonya Sok.

Nidakule Kuzey Ataşehir, C Kapısı

No:3 E/5, 34746 Ataşehir İstanbul / Türkiye

Tel: 0216 217 88 00

Mail: mbs.tr@mbcc-group.com

Web: www.master-builders-solutions.com/tr-tr

® Registered trademark of a MBCC Group member in many countries of the world

MasterProtect® 8000 CI Technical Data Sheet -Revision
Date: 12/2020