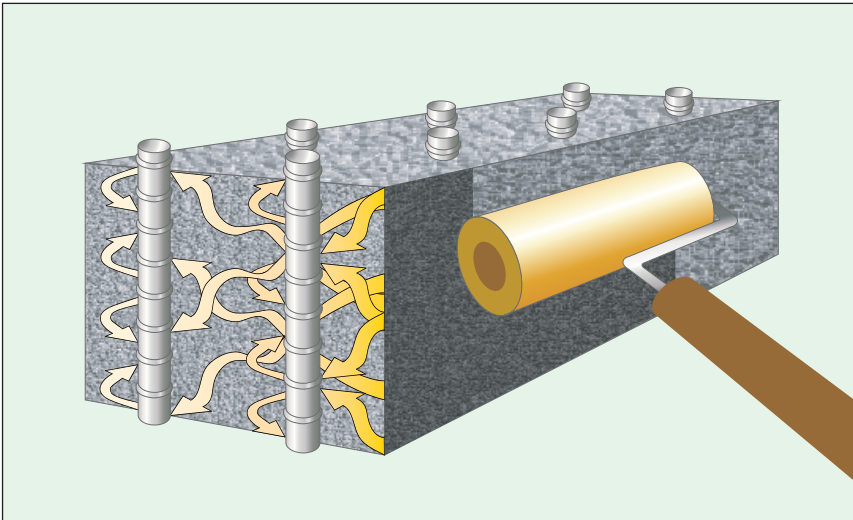


Surface-applied, migrating
corrosion inhibitor

weber.tec guard MCI®

multisguard MCI®



Uses

- All reinforced, precast, prestressed and post-tensioned concrete structures
- Concrete bridges and highways
- Car parks
- Tunnels and other underground structures
- Marine structures
- Concrete-framed buildings

Features and benefits

- ▲ Protects against corrosion by migrating even into dense concrete
- ▲ Migrates to surrounding concrete, reduces effect of anodic corrosion
- ▲ Not a vapour barrier: allows concrete to breathe
- ▲ Reduces existing corrosion, enhances durability of reinforced concrete
- ▲ Compatible with **weber.cem** repair mortars
- ▲ Time-proven technology giving engineers, contractors, and building owners extension of effective service life of structures
- ▲ Safe to use: water-based and non-flammable, organic and environmentally friendly
- ▲ Easy to apply: does not require removal of good quality concrete
- ▲ Applied by roller, brush or spray
- ▲ The bond of **weber.cem fairing coat** or **weber.cote coatings** is not affected
- ▲ Tests show a dramatic reduction of corrosion voltage and current even when the concrete has chloride levels up to 2% chlorides by weight of cement.
- ▲ **weber.tec guard MCI®** applied to fresh **weber.cem** mortars has no effect on the compressive strength

About this product

weber.tec guard MCI® is a clear, surface-applied corrosion inhibitor designed to migrate through reinforced concrete and preserve embedded steel reinforcing bars. It forms a mono-molecular protective layer around the steel within a week of treatment, depending on the permeability and moisture content of the concrete.

weber.tec guard MCI® is normally applied to concrete surfaces after all necessary repairs have been carried out, except surface levelling and protective coating. The inhibition process lessens the need to cut out and repair more concrete than absolutely necessary but, as it depends on capillary absorption, its penetration is more effective in dry concrete. **weber.tec guard MCI®** will, however, penetrate by vapour migration through dense or damp concrete, but at a slower rate.

Technical data

Appearance	Clear amber liquid
Flash point	None (water based)
Specific gravity	1.03 – 1.05
pH	9.0 – 9.5
Viscosity	18 cps at 20°C
Application temperature	Minimum + 5°C; maximum + 40°C
Penetration depth	15 mm in 3 hrs; 20 mm in 24 hrs; 50 mm in 7 days (depending on concrete permeability and moisture content)

weber.cem fairing coat has a good bond to **MCI®**-treated, grit-blasted concrete, but bond is impaired by poor surface preparation

Bond strength to 30N grit blasted concrete	Bond strength to MCI®-treated concrete at 28 days <i>Power washed</i>	<i>Dry surface (un-washed)</i>
1.2 N/mm ² at 28 days	1.1 N/mm ²	0.8 N/mm ²

Not cleaning **MCI®**-treated concrete surface before applying **weber.cote** coatings reduces bond

	Bond strength to 30N concrete, 28 days	Bond strength to MCI®-treated concrete, 28 days <i>Washed</i>	<i>No preparation</i>
weber.cote smooth	0.85 N/mm ²	0.85 N/mm ²	0.60 N/mm ²
weber.cote EC	0.45 N/mm ²	0.42 N/mm ²	0.33 N/mm ²

EU VOC regulations 2008

EU limit for **weber.tec guard MCI (cat A/i)**: 140 g/l (2007)/140 g/l (2010).
weber.tec guard MCI contains <20 g/l VOC.

Preparation

Concrete structures should be inspected and any significant defects such as cracks, spalls, and honeycombing should be noted and marked. These defective areas must be repaired, in accordance with normal concrete repair procedures before treating.

The concrete must be preferably dry, sound, and free of any loose material, dust or other contaminants such as grime, lichens, mould oil, grease, curing agents etc. Any coatings must be removed as the inhibiting solution will not penetrate sealers, coatings, paints or bituminous coatings. Surface temperatures should be above 5°C and below 40°C.

Concrete substrates must be prepared by grit blasting if a levelling mortar is to be applied later. Otherwise power washing is suitable. Power-washed surfaces must be allowed to dry. Oil and grease must be removed by steam cleaning together with suitable detergent. Any contaminated concrete must be removed.

The impregnating solution is alkaline so all susceptible surfaces such as glass windows etc. must be adequately protected.

Application

weber.tec guard MCI is applied by spray, roller or brush onto the prepared concrete surface at a rate of 0.25 litres/m². The permeability of the concrete will determine the number of coats needed to achieve this coverage, normally 1 to 2. Apply the next coat as soon as the surface has visibly dried out.

For chloride-contaminated concrete containing up to 2% Cl⁻ by weight of cement, the application rate should be increased to 0.5 litres/m² for maximum effectiveness. Treated surfaces must be allowed to dry for at least 24 hours, during which protection from rain must be provided.

If levelling mortars are not to be applied it is recommended that a **weber.cote** coating or **weber.tec acrylic sealer** be applied to lock in the inhibitor. **weber.tec acrylic sealer** may be applied directly onto the MCI-treated surface as soon as the surface has dried.

When applying a protective **weber.cote** coating to the concrete, pressure washing is needed to remove any traces of inhibitor from the surface. The substrate must be allowed to dry before coating.

Application of levelling mortars

When applying **weber.cem fairing coat** to a concrete surface treated with **weber.tec guard MCI**, the following conditions apply:

- 1 The surface should already have been grit-blasted.
- 2 **weber.cem fairing coat** may be applied 'wet-on wet' provided that there is no loss of time between the application of the final coat of inhibitor and the application of **weber.cem fairing coat**. The surface must be damp but not glossy following application of the inhibitor. Avoid wetting with water or rain. This procedure depends on acceptable ambient conditions (e.g. in full sun, the surface will dry too quickly) and on the ability of the contractor team to follow up immediately with **weber.cem fairing coat**.
- 3 If there is a delay between the application of the final coat of inhibitor and the application of **weber.cem fairing coat**, then the surface should be power-washed to remove any traces of surface-dried inhibitor, which is evidenced as a white powdery deposit. If left in place, this can affect bond of the levelling mortar or coatings.

Application of weber.cem brushcoat

When applying **weber.cem brushcoat** to a concrete surface treated with **weber.tec guard MCI**, the following conditions apply:

- 1 It is not recommended to apply **weber.cem brushcoat** 'wet-on wet'.
- 2 There should be a delay of about 1 – 2 hours, dependent on ambient conditions, between completing the inhibitor application and subsequent application of **weber.cem brushcoat**. The surface should be dry to the touch with no obvious surface moisture. If there is a longer delay between the application of the second coat of inhibitor and the application of **weber.cem brushcoat**, and there is evidence of white bloom on the surface, then it should be power-washed. If left in place, this can affect bond of the levelling coating.

Summary of application procedure

- 1 Clean the concrete surface by grit-blasting or high-pressure power-washing as appropriate.
- 2 Inspect and mark out defective areas.
- 3 Cut out defects and repair
- 4 Seal and inject any cracks
- 5 Apply inhibitor
- 6 Seal inhibitor with **weber.tec acrylic sealer**, or
- 7 Apply **weber.cem fairing coat** wet-on-wet or if overcoating is required:
- 8 Power wash the surface
- 9 Apply **weber.cem fairing coat**, or
- 10 Apply **weber.cote** protective coatings

Packaging

weber.tec guard MCI® is supplied in 20 litre plastic containers.

Coverage

Normally 0.25 litres/m², dependent on the condition of the concrete.

Storage and shelf life

Store in a cool dry place. Shelf life of unopened containers in correct storage conditions is at least 12 months.

Protect from frost.

Health and safety

Contains tertiary alkanol amine.

Operatives should use respiratory equipment during spraying or in areas where there is insufficient ventilation. Do not apply with atomising spray apparatus.

Wear suitable protective clothing, gloves and eye/face protection. After contact with the skin, remove with a dry cloth and cleanse with proprietary cleansing creams. In case of contact with the eyes, rinse immediately with plenty of clean water and seek medical advice.

Keep out of the reach of children.

For further information, please request the Material Safety Data Sheet for this product.

Technical services

Weber's Customer Services Department has a team of experienced advisors available to provide on-site advice both at the specification stage and during application. Detailed specifications can be provided for specific projects or more general works. Site visits and on-site demonstrations can be arranged on request.

Technical helpline
Tel: (01525) 722110
Fax: (01525) 718988

Sales enquiries

Weber products are distributed throughout the UK through selected stockists and distributors. For UK sales enquiries and overseas projects, contact **Weber's** Sales office.

Sales office
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