

Method Statement for Application Corporate Construction Sika[®] FerroGard[®]-903+

Scope:

Application Procedure of a Surface Applied Water Based Corrosion inhibitor



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1 Description

Sika® FerroGard®-903+ is a surface applied corrosion inhibiting, aqueous impregnation for concrete. **Sika® FerroGard®-903+** penetrates into the concrete by capillary action and diffusion (liquid and gaseous). It is attracted to the steel reinforcement and forms a protective film on the steel surface.

2 Surface Preparation

The concrete shall be free from dust, loose material, surface contamination, existing renders, laitance, coatings, oil and other materials which reduce or prevent penetration.

If the substrate is to be overcoated, the surface profile should be sufficient to provide the required adhesion.

Delaminated, weak, damaged and deteriorated concrete should be repaired using **Sika® MonoTop®**, **SikaTop®** or **Sika® Icoment®** mortars.

For fair-faced concrete or concrete to be further overcoated by coatings or hydrophobic impregnation, water blast the concrete surface with pressure (up to 18 MPa – 180 bars)

For concrete surface to be further overcoated by cementitious material, roughen the surface using suitable abrasive blast cleaning techniques or high pressure water-blasting (up to 60 MPa – 600 bars).

For optimum penetration the substrate shall be allowed to dry out prior to the application of **Sika® FerroGard®-903+**.

3 Concrete Repairs to Elements

Apply appropriate Sika® Concrete Repair system in accordance with the specification detailed separately. Allow to cure for three days.

4 Preliminary Works

Cover & protect any surrounding metals/building materials (Aluminium, copper & galvanised steel, marble and other similar natural stone, etc), from **Sika® FerroGard®-903+** spilling on them during application.

Measure the total area to be applied and accordingly weigh out **Sika® FerroGard®-903+** based on specified consumption (for normal concrete porosity: ~0.5 kg/m² (~480 ml/m²) – for concrete with very low porosity: ~0.3 kg/m² (~290 ml/m²) – to assess project requirements, consumption and depth of penetration shall be checked using the Sika “Qualitative Analysis” – refer to specific method statement.



5 Application

Sika® FerroGard®-903+ is supplied ready for use and shall not be diluted.

Sika® FerroGard®-903+ shall be applied to saturation by brush, roller, low pressure or airless spray equipment.

After the application of the last coat, as soon as the surface become mat, do a water cleaning (water hose).

The day after application, the treated surfaces shall be cleaned by low pressure water jetting (~ 10 MPa – 100 bars).

5.1 Number of coats

This is dependent on the porosity and moisture content of the substrate and the weather conditions.

- **Vertical surfaces:**
Normally, 2 to 3 coats are necessary to achieve the required consumption. In case of dense concrete, additional coats may be required.
- **Horizontal Surfaces:**
Saturate surface by 1-2 coats, taking care to avoid ponding.

5.2 Waiting time between coats

This is dependent on the porosity of the concrete and the weather conditions, normally 1-6 hours. Allow the surface to dry out between coats to a matt damp appearance.

6 Overcoating (when required)

If the application is carried out as described above, no further treatment is required before over-coating with Sikagard® hydrophobic impregnations, Sikagard® breathable coatings or Sikafloor® products (Refer to appropriate Product Data Sheet for application details)

When **Sika® FerroGard®-903+** is used within a patch repair or before a cementitious overlay, Sika repair or overlay system can then be used. Standard preparation (pre-wetting) shall then be applied.

When using a smoothing coat/pore filler over surface treated with **Sika® FerroGard®-903+**, products such as **SikaTop®-121**, **Sikagard®-720 EpoCem®** or **Sika® MonoTop®-107 Seal**, **SikaTop®-Seal 107**, **Sika® MonoTop®-620**, etc can be used. Cementitious levelling mortars shall only be used if there is a well prepared open textured surface that is completely cleaned (min. 80 bars) of residue.

If other Sika products are to be used, site trials are recommended to confirm preparation and suitability.

If non Sika products are to be used, please contact the manufacturer technical department for confirmation of compatibility with Sika® FerroGard®-903+ or undertake compatibility and adhesion site trials.

7 Notes on Application

Alternatively to the method described above, **Sika® FerroGard®-903+** can be applied **after** patch repair works (but **not** full surface overlay) has been carried out (after hardening of the repair material) – freshly repaired area might not need to be treated with the inhibitor. If this is nevertheless done, lower diffusion is then expected at the zones that were repaired.

Do not apply when rain or frost is expected.

Visible concrete defects (spalling, cracks etc) must be repaired using conventional repair methods (removal of delaminating or loose concrete, treatment of reinforcement, reprofiling etc.)

Do not apply in tidal zones or to substrates saturated with water.

Avoid application in direct sun and/or strong wind and/or rain.

Do not apply to concrete in direct contact with drinking water.

Depending on substrate conditions, the application of **Sika® FerroGard®-903+** may lead to a slight darkening of the surface. Proceed with preliminary testing.

All surface treatments are to be carried out using clean water.

8 On Site Quality Control

Tests to ascertain the application of **Sika® FerroGard®-903+** shall be carried out at random locations on the structure determined by the Supervising Officer.

Take a test specimen of **Sika® FerroGard®-903+** treated concrete by core drill – minimum 45mm (2 in) diameter, best 75 mm (3 in) – by a depth greater than that of the reinforcement steel) or by chisel before the application of overlays, levelling mortars, coatings, impregnations etc

The concrete samples will be tested for the presence of **Sika® FerroGard®-903+** in accordance with the test requirements of the Sika “Qualitative Analysis” – refer to specific Method Statement

All testing will be carried out in the presence of the Supervising Officer.

If **Sika® FerroGard®-903+** is not identified from the test sample, additional tests will be carried out at a frequency determined by the Supervising Officer.

Where testing confirms that satisfactory application of **Sika® FerroGard®-903+** has not been achieved, reapplication of the corrosion inhibitor will be carried out to areas determined by the Supervising Officer, as per the above procedure.

The test area shall be reinstated to its original profile using an appropriate concrete repair product from the Sika Repair System used on the project.



9 Cleaning

Use water to clean tools.

10 Health and Safety Recommendations

Only use in well ventilated areas. Wear goggles and rubber gloves. When applying by spraying, wear a breathing mask as protection against spray rust.

In case materials gets into eyes, wash immediately with clean water. If irritation persists, seek medical assistance. For more information, please refer to the Local Material Safety Data Sheet (available upon request).

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