



Sika® FerroGard® 903

Corrosion Inhibiting Impregnation

Technical Data Sheet

DESCRIPTION

Sika FerroGard 903 is a corrosion inhibiting organic and inorganic complex designed for impregnation of reinforced concrete. **Sika FerroGard 903** penetrates the concrete and forms a thick monomolecular chemical protective film on the steel reinforcement surface.

The protection of **Sika FerroGard 903** delays the start of corrosion and reduces the corrosion rate. This increased corrosion protection significantly increases the service and maintenance life cycle of structures by 15 years when used as part of a complete Sika Concrete Repair System.

USES

As a preventative measure, providing corrosion protection of reinforcement in all types of concrete structure above and below ground.

During repair and maintenance, as treatment of (as yet) undamaged reinforced concrete where steel is corroding or in danger of corroding due to the effects of carbonation or chloride attack.

Sika FerroGard 903 is particularly suitable for extending the service life of aesthetically sensitive surfaces such as board finishes and exposed aggregate.

ADVANTAGES

- * Complies with the requirements of BRE Digest 444.
- * Long term protection and durability.
- * Renewable.
- * Protects both anodic and cathodic zones of the steel.
- * Highly cost effective.
- * Water based.
- * No effect on water vapour diffusion or other concrete properties.
- * Economical extension of the service life of all types of reinforced concrete structures.
- * Can be applied to the surface of existing repairs and the surrounding areas to prevent the setting up of incipient anodes.
- * Can be applied where other repair/prevention options are not viable.
- * Penetrates through the structure to protect remote areas of reinforcement.
- * Can be used as part of a simple yet effective concrete repair system.
- * Effective in concentrations up to 1.0-2.0% chloride ion by weight of cement at the depth of reinforcement at 0.5 kg/m². This accounts for the vast majority of repairable structures. Increased consumption can be considered for higher chloride concentrations. Contact Sika Ltd for more information.
- * Can be brush or low pressure spray applied or ponded onto the external surface of a structure and allowed to penetrate to the steel interface without the need to break out the concrete.

Technical Data (typical)

Colour: Transparent Liquid

Density (20°C): 1.13kg/l

Viscosity (20°C): 25m Pa s

pH-value: 11

Application Temperature: Minimum +5°C
Maximum +40°C

SikaGard FerroGard Penetration

Rate: Up to 20mm/day

Depth: >80mm

Test Reports: Numerous independent tests from around the world. Performance summary given in Mott MacDonald report No. 26063/001.

All above values are approximate.



SURFACE PREPARATION

All concrete or mortar substrates must be sound, clean and free from oils, grease, efflorescence or surface contaminants and old coatings. All loose materials must be mechanically removed. For large areas high pressure water blasting is recommended. Best results for application of **Sika FerroGard 903** will be obtained on clean, dry, absorbent substrates.

APPLICATION

Sika FerroGard 903 is supplied ready for use and must not be diluted. The produce must be applied to saturation at a minimum consumption rate of 0.1kg/m²/coat by brush, roller or low pressure hand-spray equipment. Normally 3 - 5 coats are required to meet the recommended consumption rate. Surfaces must be allowed to dry between coats (typically 2- 6 hours).

If areas treated with **Sika FerroGard 903** are to be overcoated, the following procedure has to be observed:

- * Allow to dry for at least 1 day.
- * Wash down thoroughly with high pressure waterjet.
- * Allow to dry.
- * Prepare surfaces (see separate data sheets)

Only **Sika MonoTop**, **SikaTop**, **SikaCem** and **Icoment** repair mortars and levelling compounds can be used. Surface preparation is vital to the successful performance of the mortar systems.

Where **Sika FerroGard 903** application before repair is preferred, such as large volume repairs and/or chloride patch repair sites for incipient anode protection.

SikaTop Armatec 110 EpoCem must be used as a bonding bridge before repair mortars.

Note: When using a levelling mortar over **Sika FerroGard 903**, only **SikaGard 720 EpoCem** is normally recommended. Cementitious levelling mortars should only be used if there is a well prepared open textured porous surface that is completely cleaned of residue.

This may require additional preparation.

Overcoating can now proceed with one of the following systems including primers depending on site requirements.

- * **SikaGard 700S Aquastop** or **SikaGard 702W Aquaphobe**.
- * **SikaGard ElastoColor** or **SikaGard 680S Cosmetic**.
- * **SikaGard 545W Elastofil** and/or **SikaGard 550W Elastic**.

Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

SIKA LIMITED

Watchmead, Welwyn Garden City, Hertfordshire, AL7 1BQ

Tel: 01707 394444 Email: sika@uk.sika.com

Fax: 01707 329129 www.sika.com

IMPORTANT CONSIDERATIONS

- * **Sika FerroGard 903** may not be applied if frost or rain is expected. Necessary drying time is approximately 2 - 6 hours.
- * Following application of **Sika FerroGard 903**, visible concrete defects (spalling, cracks) may be repaired using conventional repair methods (removal of damaged concrete, treatment of reinforcement, levelling, reprofiling etc).
- * Depending on substrate condition, the application of **Sika FerroGard 903** may lead to a slight darkening of the surface. Testing is recommended if the surface is to be left uncoated. Protect or mask all other surfaces such as metals, paintwork, brick, stone etc.
- * Do not allow to pollute water or ground.
- * **Sika FerroGard 903** is an alkaline in nature and suitable measures should be taken to avoid contact with the skin (see Health and Safety information for further details).

CLEANING

Use water to clean implements

PACKAGING

25kg containers

MATERIAL CONSUMPTION

Total consumption 0.5kg/m² minimum in three to five coats depending on permeability.

SHELF LIFE

Minimum of 18 months in unopened original sealed containers stored in dry warehouse conditions (+5°C - +25°C).

