BUILDING TRUST

PRODUCT DATA SHEET

Sikagard®-1814

(formerly MProtect 1814)

NON-TOXIC, SEMI-FLEXIBLE, HIGH BUILD, EPOXY POLYSULFIDE COATING FOR WHOLESOME WATER TANKS

DESCRIPTION

Sikagard®-1814 is a protective semi flexible high build epoxy polysulfide resin coating specifically developed for applications in areas where contact with wholesome water storage tanks or foodstuffs is envisaged.

USES

- Internal protection of concrete or metal tanks containing drinking water, cold warehouse, food freezers, certain chemicals, oils and fuel.
- As an impervious, resilient and chemically resistant floor or wall coating and as a gas and vapor barrier.
- As a protective and decorative coating in laboratories, abattoirs, etc.
- Other usage areas include oil refineries, paper mills, power stations, marine applications, garages, hospitals, hangars and most liquid containment areas.

FEATURES

- Non-toxic
- Safe for use with wholesome water
- Waterproof and protective
- Durable
- Crack bridging-ability
- UV resistant
- Very high chemical resistance
- Easily applied by brush or roller
- Does not support the growth of bacteria
- Protects concrete and steel from contact with aggressive chemicals, oils, mild acids and solvents
- Broad spectrum of chemical resistance

CERTIFICATES AND TEST REPORTS

- WRAS certified, certificate approval no. 2307541, RAL 7035, up to 50°C water temperature.
- Tested according to BS 6920 (conformity test for use in water up to 50°C)

PRODUCT INFORMATION

Composition	Epoxy polysulfide resin
Packaging	15 L units (Part A + Part B) Part A - Pigmented base Part B - Hardener
Shelf life	12 months from production date
Storage conditions	Sikagard®-1814 shall be stored in dry conditions, where it is protected from direct sunlight and at temperatures between +5°C and +25°C.
Appearance and colour	▪ High gloss, heavy bodied, ultra-dense surface. ▪ Hygienic and easily cleaned. ▪ Standard colours: RAL 7035 and RAL 7040. ▪ Other colors available upon request.
Density	~1.5 kg/l (mixed, at 25°C)

TECHNICAL INFORMATION

Shore D Hardness	≥ 65	
Abrasion resistance	≤ 50 mg (Fully cured, CS 10 wheel / 500 g weight / 500 cycles)	(ASTM D4060)
Tensile strength	**Tensile strength:** ≥ 7 MPa **Elongation:** ≥ 15 %	(ASTM D412)
Crack bridging ability	≥ 2 mm	(ASTM C836 / C836-18)
Tensile adhesion strength	≥ 10 N/mm² (or substrate failure)	
Tear strength	≥ 30 kN/m	(ASTM D 624, Angle C)
Water penetration under pressure	Water Permeability at 5 bar: Nil	(DIN 1048, part 5)
Chloride ion permeability	Nil	(ASTM C1202-18)
Chemical resistance	Sikagard®-1814 is resistant to the various typically encountered chemicals: Gasoline, Diesel Fuel, Isopropanol, Sodium Chloride Saturated, Sodium Hydroxide 50 %, Ammonium Hydroxide 50 %, Nitric Acid 20 %, Sulphuric Acid 10 %, Hydrochloric Acid 5 %, Acetic Acid 10 %, Lactic Acid 10 %, Sea and brackish water, etc. Note: Consult your local Sika office for project specific recommendations.	
Behaviour after artificial weathering	Resistant after 500 hours	(ASTM G53-96)

APPLICATION INFORMATION

Consumption	▪ As a guide: ~0.25 L/m²/coat, minimum two coats are recommended. ▪ Dry film thickness: 500 microns. Higher thickness shall be applied with multiple layers application. ▪ The full pack of 15 liters of Sikagard®-1814 will cover 30 m² theoretically at 0.5 mm thickness. Note: These figures are theoretical and do not include for any additional material required due to surface porosity, surface profile, variations in level and wastage, etc..
Dew point	Beware of condensation! The substrate must be at least 3°C above dew point to reduce the risk of condensation or blooming on the coating. Note: Low temperatures and high humidity conditions increase the probability of blooming.
Substrate temperature	+10°C min. / +45°C max.
Substrate moisture content	< 4 % pbw moisture content. Test method: Sika®-Tramex meter, CM - measurement or Oven-dry-method. No rising moisture according to ASTM D 4263 (Polyethylene-sheet).
Pot Life	~40 min at 40°C ~65 min at 25°C
Tack free time	~9 h at 25°C ~6 h at 40°C Times are approximate and will be affected by changes in ambient conditions, particularly temperature and relative humidity.
Waiting time to overcoating	**Minimum:** / **Maximum:** / **Temperature:** ~9 hours / ~24 hours / 25°C ~6 hours / ~16 hours / 40°C Times are approximate and will be affected by changes in ambient conditions, particularly temperature and relative humidity.

BASIS OF PRODUCT DATA

- All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
- Internal Reference - Version: MBS_CC-UAE/ Pr_1814_06_23

FURTHER DOCUMENTATION

- The quality of the final coating is dependent on the substrate and the material temperatures.
- The optimal material temperature of +20°C to +25°C is ideal as it will have a longer pot life which helps in increased application time.
- For Wholesome water application, material needs to be applied in temperature-controlled environment (use cooler in case of high temperature and hot air blower for low temperature), maintain min. 30°C for 7 days to ensure full cure property of wholesome water coating.

IMPORTANT CONSIDERATIONS

- Do not apply Sikagard®-1814 on substrates with rising moisture.
- Freshly applied Sikagard®-1814 should be protected from damp, condensation and water for at least 24 hours.
- Apply on falling temperatures. If applied during rising temperatures “pin holing” may occur from rising air.
- For potable water applications, local authorities / regulations need to be followed, especially regulations in terms of cleaning and disinfection procedures of the installed coating.
- When applied in wholesome water tanks, allow min. 14 days prior to use.

ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

For application by airless spray, use a 45:1 or higher ratio pump, minimum 9mm dia. hoses and HD tip 19-23 thou.

SUBSTRATE PREPARATION

All surfaces, concrete or metal shall be cleaned using high pressure water jetting, grit blasting or other methods approved by the engineer to provide adequate mechanical key for excellent bonding as further indicated in the method statement. It is most important to ensure that thorough surface preparation is undertaken prior to application of the Sikagard®-1814 coating.

CONCRETE

- Ensure concrete is free from excessive laitance, grease, oil, curing compound, etc.
- Ensure concrete is sound, cutting back where necessary and making good using suitable SikaEmaco®, Sikadur® or Sikagard® repair systems.
- Ensure all blow holes and surface imperfections are made good prior to application of the Sikagard®-1814 coating.
- On a well-prepared surface Sikagard®-1814 can be applied without the use of primer, in case the concrete is porous, apply a primer coat using SikaEmaco® P 102 and allow it to get tack free prior to applying Sikagard®-1814.
- Ensure concrete is sound and at least 28 days old and the moisture content is less than 4%.
- Contamination by oil, grease, fats etc. must be removed before other forms of preparation begin.
- Remove laitance to expose blow holes, by light grit blasting or any other method as described in the method statement.

STEEL

- All previous surface treatments should be removed taking the surface back to base metal.
- The base metal should be abraded and preferably shot blasted with grit, steel shot or proprietary abrasive.
- Where shot blasting is impractical pre-treatment may be carried out with pneumatic de-scaling guns, tap hammers, rotary wire brushes or by flame scaling.
- Cleaning with solvent or a strong detergent is advisable to ensure surface is free from grease etc.
- Do not allow surface to re-oxidize before application of Sikagard®-1814.

OVERCOATING

- Where areas need to be overcoated due to damage etc. it is important that the areas to be treated are well abraded using a stiff rotary wire brush or coarse sandpaper to give an adequate mechanical key.
- Completely strip off any unsound coating and proceed with overcoating as for new work.

MIXING

- Sikagard®-1814 is supplied in two pre-weighed components, base and reactor.
- No additions or omissions are required. Add reactor contents to the base component and mix thoroughly for using a slow speed drill fitted with a suitable mixing paddle until a uniform streak free color is achieved.

APPLICATION

- Sikagard®-1814 coating can be applied using good quality rollers or short haired brushes or by airless spray.
- It is recommended that Sikagard®-1814 coating be applied in two coats of contrasting colors to ensure complete coverage.
- If the application is delayed more than 16 hours at 40°C or 36 hours at 20°C after the previous coat (the higher the ambient temperature, the shorter the maximum period), then the previous coat must be thoroughly abraded to give an adequate mechanical key and solvent wiped.
- For wholesome water applications, allow for min. 14 days prior to use.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with suitable thinner (Xylene / MEK / Acetone) immediately after use. Hardened and/or cured material can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

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 accordance with Sika's recommendations. 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 user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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