BUILDING TRUST

PRODUCT DATA SHEET

Sikagard®-1816

(formerly MProtect 1816)

NON-TOXIC, FLEXIBLE, HIGH BUILD POLYSULFIDE COATING FOR POTABLE WATER TANKS

DESCRIPTION

Sikagard®-1816 is a protective, flexible, high build epoxy polysulfide resin coating, specifically developed for applications in areas where contact with potable water storage tanks or foodstuffs is envisaged.

USES

- For the internal protection of concrete or metal tanks containing drinking water, cold warehouse, food freezers, certain chemicals, oil and fuel. As an impervious, resilient and chemically resistant floor or wall coating and as a gas and vapour 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.
- Sikagard®-1816 protects concrete and steel from contact with chemicals, oils, mild acids, solvents and has a broad spectrum of chemical resistance.

FEATURES

- Non-toxic
- Safe for use with potable water
- Waterproof and protective
- Durable
- Crack bridging ability
- UV resistant
- Excellent chemical resistance
- Easily applied by brush or roller
- Flexible
- Breathable coating

CERTIFICATES AND TEST REPORTS

- Tested and approved under the name MasterProtect® 1816, according to BS 6920 Part 1 and Part 3 (High Temperature Usage)

PRODUCT INFORMATION

Composition	Epoxy polysulfide resin
Packaging	10 L unit (Part A + Part B) Part A - Pigmented base Part B - Hardener
Shelf life	6 months from production date
Storage conditions	Sikagard®-1816 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. ▪ Standard colors are window grey and black.
Density	~1.23 kg/l (mixed, at 25°C)
Solid content by volume	~100 %

TECHNICAL INFORMATION

Shore D Hardness	~47			(ASTM D2240)
Tensile strength	+25°C 7 days curing	**Tensile strength:** ≥ 6.5 MPa	**Elongation:** ~64 %	(ASTM D412)
Tensile adhesion strength	**Substrate:** Concrete Steel		**Adhesion:** Concrete failure Excellent	
Water penetration under pressure	Water Permeability at 5 bar: Nil			(DIN 1048, part 5)
Chloride ion permeability	Chloride permeability: Nil Rapid Chloride Permeability (RCP): Nil			(AASHTO T-277) (ASTM C1202)
Chemical resistance	Sikagard®-1816 is resistant to the various typically encountered chemicals: Formaldehyde, Ammonium Hydroxide, Hydrochloric Acid, Phosphoric Acid, Sodium Chloride Saturated, Vegetable Oil, Sodium Hydroxide, Deionised Water, Diesel Oil, Gasoline, De-icing Salt, Chlorine water – 50ppm, etc. Note: Consult your local Sika office for project specific recommendations.			

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 10 liters of Sikagard®-1816 will cover 20 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..
Material temperature	Optimal: +20°C min. / +25°C max.
Substrate temperature	+14°C min. / +30°C max.
Pot Life	≥ 90 min (at 25°C)
Curing time	~7 days (at 25°C) Times are approximate and will be affected by changes in ambient conditions, particularly temperature and relative humidity.
Tack free time	~7 hours (at 25°C) Times are approximate and will be affected by changes in ambient conditions, particularly temperature and relative humidity.
Waiting time to overcoating	~9 hours (at 25°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_1816_09_10/v3/01_17

IMPORTANT CONSIDERATIONS

- Do not apply Sikagard®-1816 on substrates with rising moisture.
- Freshly applied Sikagard®-1816 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 needs to be followed, especially regulations in terms of cleaning and disinfection procedures of the installed coating.
- When applied in potable water tanks, allow min. 14 days for curing prior to use.
- 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 potable 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.

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®-1816 coating.

- Surfaces must be clean and dry.
- Use suitable methods to remove dirt, dust, oil, and all other forms of contamination that could interface with the adhesion of the coating.

CONCRETE

- Concrete must be cured for min. 28 days. Mechanically surface profile the substrate to CSP3 as described by the International Concrete Repair Institute.
- Voids and pinholes must be repaired with suitable products from Sikadur®, SikaEmaco® or Sikagard® range.

STEEL

- Prepare to SSPC-SP6.
- Surface profile 50 – 75 microns.
- Do not allow surface to re-oxidise before application of Sikagard®-1816.

OVERCOATING

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

MIXING

- Sikagard®-1816 is supplied in two preweighed components, base and reactor.
- No additions or omissions are required.
- Add reactor contents to the base component and mix thoroughly for at least 3 minutes, using a slow speed drill fitted with a suitable mixing paddle, until a uniform streak free colour is achieved.

APPLICATION

- Sikagard®-1816 coating can be applied using good quality rollers or short haired brushes or by airless spray.
- Sikagard®-1816 should be applied in two coats of contrasting colours to ensure complete coverage free of any holidays
- 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.

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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