

PRODUCT DATA SHEET

Sikagard[®]-180

(formerly MProtect 180)

Epoxy-Based Two-Part Protective Coating

DESCRIPTION

Sikagard[®]-180 is an odourless, non-toxic, two component, epoxy resin based coating material developed especially to protect concrete.

USES

- Concrete tanks intended for contact with Potable Water.
- Walls: as gas and vapor barrier coating resistant to chemical materials
- Power stations, sugar factories, hangars, and liquid storage areas in drinking water depots
- Petroleum refineries, paper factories, beverage industry*
- Dairy farms, Grain Silos, Food & Meat processing plants*
- Medicine, paint, paper, battery, and fertilizer industry*
- Printing houses, kitchens, and laundries of hotels*

* Used only walls

CHARACTERISTICS / ADVANTAGES

- Provides a glossy surface finish
- Forms a surface structure that prevents the formation of microorganisms
- Easy to clean and creates hygienic environments
- Exhibits high mechanical strength
- Demonstrates superior chemical resistance compared to standard epoxy coatings
- Applies easily using brush, roller, or spraying methods
- Ensures water impermeability
- Solvent free

APPROVALS / STANDARDS

Tested & Approved from CFTRI (Central Food Technological Research Institute, Mysore for the intended use for contact with potable water. FS AQCL/ATFS 05/CSC 158/2004-05 Dated 17.08.2004

PRODUCT INFORMATION

Chemical base	Epoxy resin
Packaging	5 kg set consisting of two parts: <ul style="list-style-type: none">▪ Part A: 4.37 kg▪ Part B: 0.63 kg
Shelf life	12 months after the production date under appropriate storing conditions.
Storage conditions	Sikagard [®] -180 must be stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight and freezing.
Colour	RAL 7035 & RAL 9003
Density	Mixed = 1.55 kg/liter at 25 °C
Solid content by volume	100%

TECHNICAL INFORMATION

Abrasion resistance	< 20 mg (CS17 wheel, 1000 cycles)	(ASTM D 4060)
Tensile adhesion strength	>1.5 MPa (concrete failure)	(ASTM D 4541)
Chemical resistance	Sikagard®-180 is resistant to intermittent spillages of the following typically encountered chemicals:	
	Formaldehyde	40% solution
	Hydrochloric Acid	5% solution
	Lactic Acid	50% solution
	Sulphuric Acid	50% solution
	Nitric Acid	10% solution
	Sodium Hydroxide	50% solution
	Diesel oil; Wine; Sea and brackish water; Aviation hydraulic fuels (Skydrol); Vegetable oils	
Dry film thickness	400-500 microns (in two coats)	

APPLICATION INFORMATION

Mixing ratio	Part A : Part B = 100 : 14.4 (by weight)	
Consumption	Sikagard®-180 is recommended to be applied in two layers. The coverage is approximately 0.20~0.40 kg/m ² for each layer. Sikagard®-180 each 5 kg pack yields 3.2 L on mixing and is sufficient to coat approximately 8 m ² in 2 coats of 200 microns each, on a fair faced concrete surface. Actual coverage depends on surface profile, loss and wastage.	
Ambient air temperature	+15 °C Minimum +35 °C Maximum	
Relative air humidity	< 80 %	
Dew point	Apply Sikagard®-180 at least 3 °C above the dew point	
Substrate temperature	+15 °C Minimum +35 °C Maximum	
Substrate moisture content	< 4 %	
Pot life	60 Minutes at 25°C 30 Minutes at 40°C	
Curing time	Touch Dry: 4 hours (at +30°C) Initial curing: 12 hours (at +30°C) Recoatable Final curing: 7 days (at +30°C)	

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTS

Temperature Considerations:

Wait for the appropriate ambient and substrate temperature if it is less than 15°C or more than 35°C. Also, applications should not be made in very hot, rainy, or windy weather. Pre-conditioned materials at 20~25°C will reduce the possibilities of flash/slow setting and other defects.

Epoxy Resin Systems:

The working and reaction time of epoxy resin-based systems depend on environmental conditions such as ground temperature and relative humidity. Low temperatures slow down the chemical reaction, prolonging working and coating times. Conversely, high temperatures accelerate the reaction. Ensure that environment and ground temperatures do not fall below the minimum allowed value for proper curing.

Exterior Surface Applications:

When applying to exterior surfaces, protect them from sun, wind, frost, or rain during the initial 24 hours.

UV Resistance:

Note that the Sikagard®-180 has limited UV resistance.

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

SUBSTRATE PREPARATION

- The substrate must be sound and of sufficient compressive strength with a minimum pull-off strength of 1.5 N/mm².
- The substrate must be clean, dry, and free of all contaminants such as dirt, oil, grease, coatings, and surface treatments, etc.
- Concrete substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and achieve an open-textured surface.
- Weak concrete must be removed, and surface defects such as blowholes and voids must be fully exposed.
- Repairs to the substrate, filling of blowholes/voids, and surface leveling must be carried out using appropriate products from the Sikafloor®, Sikadur®, and Sikagard® range of materials.
- All dust, loose, and friable material must be completely removed from all surfaces before application of the product, preferably by brush or vacuum.

MIXING

Sikagard®-180 has two parts in pails, produced according to the right mixing ratio. Material temperature should be between 15°C to 25°C before mixing. Part B should be added into Part A without any remaining material in the pail. It should be mixed using a proper mixer (~300rpm) for polymer mixing. Mix the parts for at least 3 to 5 minutes to have a homogenous mixture. After waiting for 3 to 5 minutes, the mixture is then mixed again for approximately 30 seconds and becomes ready to use.

APPLICATION

Sikagard®-180 can be applied using either a roller or a spray machine. It is recommended to apply the second layer before the first one is fully cured. If the interval between layers exceeds 24 hours, the surface must be roughened.

For re-coating due to damage or other reasons, prepare the surface by roughening it with a wire brush or emery paper to ensure adequate mechanical adhesion. Remove any damaged coating entirely, and apply the new coating as if it were the initial application."

CLEANING OF TOOLS

Clean all tools with Thinner C 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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