

PRODUCT DATA SHEET

Sikagard®-100 CR

(formerly MProtect 100CR)

SPRAYABLE CHEMICAL-RESISTANT EPOXY COATING

PRODUCT DESCRIPTION

Sikagard®-100 CR is a 100% solids, sprayable, high-build chemical-resistant epoxy coating. It is used to provide resistance to hydrogen sulfide attack in the water and sewage treatment industries. Sikagard®-100 CR eliminates the need for prefabricated or cast-in-place manhole liners.

USES

- Vertical and overhead surfaces
- Nontraffic-bearing horizontal surfaces
- Interior and exterior below-grade
- Applications requiring resistance to hydrogen sulfide
- Rehabilitating manholes
- Lining large diameter pipes
- Lift stations and pumping stations

Substrates

- Concrete
- Masonry

CHARACTERISTICS / ADVANTAGES

- High-build material, sprayable up to 80 mils thick
- Epoxy chemistry for excellent resistance to hydrogen sulfide and many industrial chemicals; high bond strength
- Moisture insensitive, cures well in damp environments
- Low odor, suitable for application in confined spaces
- 100% solids, meets all federal and state VOC regulations

PRODUCT INFORMATION

Chemical Base	Sikagard®-100 CR is a 100% solids cyclo-aliphatic amine-cured epoxy coating.
Packaging	4 gal (15 L) kits <ul style="list-style-type: none"> ▪ Part A - 2 gallons ▪ Part B - 2 gallons
Shelf Life	2 years when properly stored
Storage Conditions	Store and transport in unopened containers in a cool, clean, dry area. Keep from freezing.
Color	Gray

Viscosity**Mixed Viscosity**

9,000-11,000 cps, #6 spindle, 50 rpm

(Brookfield)

TECHNICAL INFORMATION

Shore D Hardness	78	(ASTM D 2240)
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Compressive Strength	8,500 psi (58.6 MPa)	(ASTM D 695)
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Compressive Modulus

5 × 10 ⁵ psi (3,400 MPa)	(ASTM D 695)
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Flexural Strength	4,300 psi (29.6 MPa)	(ASTM C 580)
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Modulus of Elasticity in Flexure	3.5 × 10 ⁵ psi (2,400 MPa)	(ASTM C 580)
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Tensile Strength	3,000 psi (20.7 MPa)	(ASTM D 638)
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Tensile Elongation

3%	(ASTM D 638)
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Adhesion in peel**Adhesion to dry or damp concrete**

350 psi (2.4 MPa); minimum substrate failure	(ASTM D 4541)
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Adhesion to SikaEmaco®-488 CI

resulted in substrate failure	(ASTM D 4541)
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Shrinkage**Weight Change**

Sulfuric acid concentration after 1 year.	%
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pH 1	0.7
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pH 2	0.3
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pH 3	0.3
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Chemical Resistance**Chemical****Results**

Bleach	Resistant*
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Detergent	Resistant
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Gasoline	Resistant
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Sodium chloride (20% solution)	Resistant
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Sodium hydroxide (20% solution)	Resistant
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Sulfuric acid (5% solution)	Resistant
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Sulfuric acid (10% solution)	Resistant
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Specimens cured 7 days at 75 °F (24 °C); 1 month immersion time

*Defined as no severe color change or deterioration of the samples.

APPLICATION INFORMATION

Mixing Ratio	1 to 1, part A to part B by volume
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Coverage	16 ft ² /gal (0.4 m ² /L) at 100 mils (WFT)
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Pot Life	approx 20 min for 4 gallons mixed, at 75 °F (24 °C)
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Cure Time	Final cure: 7 days
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Tack Free Time	3-5 hrs at 75 °F (22 °C)
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Product Data Sheet

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September 2024, Version 02.02

02030300000002033

BUILDING TRUST

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

- Do not use this product if the air, substrate, or material temperature is below 45 °F (7 °C) or expected to fall below 45 °F (7 °C) within 12 hours.
- Temperature variations affect nonsag properties of this product. Higher temperatures may cause the product to sag; lower temperatures will decrease the workability of the product by causing it to thicken.
- Do not thin; solvents will prevent proper curing.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of the product data sheet and SDS are being used.
- Proper application is the responsibility of the user. Field visits by Sika personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

SUBSTRATE PREPARATION

Cured Concrete

1. The surface must be clean, structurally sound, and fully cured for 28 days.
2. Remove any loose or unsound brick or concrete.
3. The surface must be entirely free of oil, grease, paint, detergent, rust, laitance, or other surface contaminants. Surfaces can be damp but must be free of standing water.
4. Abrade the surface by abrasive blasting or other mechanical scarification techniques to profile of ICRI CSP 4. Water blasting is not recommended.
5. For full surface restoration ½–4" (13–102 mm) deep, use SikaEmaco®-488 CI. Trowel or spray SikaEmaco®-488 CI onto the prepared surface and finish with a wood or plastic float.
6. Allow the SikaEmaco®-488 CI to cure for a minimum of 4 hours at 70 °F (21 °C) before applying Sikagard®-100 CR. If the SikaEmaco®-488 CI cures for more than 12 hours, scarify the surface to remove all laitance and prime the SikaEmaco®-488 CI with SikaEmaco® P 130 before applying a coat of Sikagard®-100 CR.

Priming

Prime surface with SikaEmaco® P 130. Apply Sikagard®-100 CR after the primer has become tack-free (Approximately 3–5 hours at 70 °F [21 °C]). Recoat with Sikagard®-100 CR no later than 24 hours after priming with SikaEmaco® P 130.

MIXING

1. Precondition all components to 70 °F (21 °C) for 24 hours before using.
2. If using a conventional airless sprayer, mix each component separately, then pour equal volumes of Part A and Part B into a clean pail. Scrape the sides of containers to ensure correct mixing ratios.
3. Do not mix more material than is sprayable within the pot life of the mixed material. (approximately 20 minutes at 70 °F)
4. Mix Part A and B together thoroughly for about 3 minutes using a slow-speed mechanical mixer to obtain a uniform color.

APPLICATION

Spray Application

1. Spray apply with a Graco® HydraMax™ 350 (4,000 psi) airless sprayer or equivalent. Use a high-pressure spray hose with an I.D. of 3/8" and a Graco® Flex Plus gun with a heavy-duty RAC tip (0.025–0.031).
2. For moderate chemical conditions, apply Sikagard®-100 CR at 30 mils (0.76 mm) at approximately 50 ft² /gallon (1.3 m²/L).
3. Harsh chemical environments require thicker applications at 80–125 mils (2.0–3.2 mm). Two coats may be required to achieve a void-free film on very porous surfaces.
4. Do not use this product if the air, substrate, or material temperature is below 45 °F (7 °C) or expected to fall below 45 °F (7 °C) within 12 hours of application.

Roller Application

Use a ¼" (6 mm) nap synthetic roller. Only mix enough material that can be applied within 20 minutes. Be aware that spraying is the preferred method of application.

Recoating Sikagard®-100 CR

Recoat within 24 hours at 70 °F (21 °C). After 24 hours, mechanically abrade the entire surface of the coating and clean it with acetone or MEK. Allow Sikagard®-100 CR to dry and reapply coating within 1 hour.

CLEANING OF TOOLS

Purge the airless system with xylene before material has time to set. Cured material must be removed mechanically.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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