

PRODUCT DATA SHEET

Sika Thorolastic®-850

(formerly MProtect EL 850)

SILICONE-MODIFIED, ELASTOMERIC, ANTI-CARBONATION AND WATERPROOF COATING

PRODUCT DESCRIPTION

Sika Thorolastic®-850 is a water-based, silicone-modified elastomeric coating for waterproofing exterior surfaces. It has superior crack-bridging ability with a total elongation of 700%. It retards the carbonation of concrete. It complies with Federal Specification TT-C-555B, Type II.

USES

- Exterior
- Vertical surfaces
- Above grade

Substrates

- Stucco
- Brick
- Concrete
- CMU
- EIFS
- Over Existing Coatings

CHARACTERISTICS / ADVANTAGES

- Silicone-modified acrylic formula is recoatable
- Available in a broad range of colors
- Resists wind-driven rain, helps prevent water penetration into the substrate
- Breathable to allow water vapor to escape
- High elongation and recovery for durable performance over dynamic cracks.
- Excellent adhesion, bonds securely to substrate for long-term durability
- UV resistance provides excellent color retention for a long-lasting attractive finish
- Excellent hiding power
- Effective carbon dioxide diffusion barrier protects embedded steel from corrosion
- Low VOC content for broad compliance across all regions
- Flexibility at very low temperatures makes it suitable for all climates
- Resistant to dirt pickup

PRODUCT INFORMATION

Chemical Base	Silicone-modified 100% acrylic emulsion coating
Packaging	5 gallon (18.93 L) pails
Shelf Life	18 months when properly stored
Storage Conditions	Store in unopened containers in a clean, dry area. Keep from freezing.
Density	10.6 lbs/gal (88.3 kg/L)
Solid content by mass	55.1%
Solid content by volume	45.7%

TECHNICAL INFORMATION

Dry film thickness	FT²/gal (m²/L) per coat	Average dry film mils (mm)	Average wet film mils (mm)
	50 (1.23)	14–15 (0.35–0.38)	32–33 (0.81–0.83)
	60 (1.47)	12–13 (0.30–0.33)	26–27 (0.66–0.68)
	80 (1.96)	9–10 (0.23–0.25)	20–21 (0.51–0.53)
	100 (2.45)	7–8 (0.18–0.20)	16–17 (0.41–0.43)
Tensile Strength	40 psi (0.28 MPa)		(ASTM D 2370)
Elongation at Break	Elongation at break 784.5%		(ASTM D 2370)
Solar Reflectance	Hiding at 6 wet mils (0.15 mm) 99.8% opacity		(ASTM D 2805)
Low Temperature Bend	Passes, 1/8" (3.2 mm) mandrel at -30 °F (-34 °C)		(ASTM D 522)
Resistance to wind-driven rain	98 mph, passes		(TT-C-555B)
Water Vapor Transmission	Wet	13 perms	(ASTM D 1653/ASTM E 96)
	Dry	1.62 perms	
Lap Shear Strength	323,000 8" (203 mm) equivalent concrete layer at 10 dry mils		(Engelfried)
Microbiological Resistance	Algae resistance No growth		(ASTM D 5589)
Resistance to Weathering	No chalking, checking, cracking, or adhesion loss Color change: $\Delta E < 2.6$ after Xenon Arc for 4,000 hrs		(ASTM G 155)
Natural Weathering	Dirt pick-up 93% at 2 months		(ASTM D 3719)

APPLICATION INFORMATION

Coverage	Substrate	ft²/gal (m²/L) per coat
	Troweled stucco	60–80 (1.5–2.0)
	Blown on stucco	50–70 (1.2–1.7)
	Block	50–70 (1.2–1.7)
	Brick	60–80 (1.5–2.0)
	Concrete	80–100 (2.0–2.5)
Drying Time	Times assume 70 °F (21 °C) and 50% relative humidity. To recoat: minimum of 12 hours.	

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 apply when the substrate or ambient temperature is 40 °F (4 °C) or below or is expected to fall below 40 °F (4 °C) within 24 hours after application.
- Do not apply if rain is expected within 24 hours of application.
- Do not use on interior applications, undersides of balconies, soffits, below-grade applications, or for immersion service.
- Do not use where there may be hydrostatic water transfer from the backside of the substrate.
- Do not apply to improperly sealed substrates that are subject to rising dampness or migrating moisture.
- Not intended for use as a horizontal traffic-bearing coating.
- The application of nonelastomeric topcoats could reduce the performance properties of Sika Thorolastic®-850.
- Apply a 4 by 4 ft (1.2 by 1.2 m) test area to verify acceptable color and adhesion before proceeding with any project. The test method for measuring adhesion is ASTM D 3359, Measuring Adhesion by Tape Method A. On the 0–5 scale, a minimum adhesion rating of 4A is required.
- Color formulas containing organic colorants are susceptible to fading in exterior applications. Refer to Technical Support for guidance.
- Do not thin the material.
- 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 not for supervising or providing quality control on the jobsite.

SUBSTRATE PREPARATION

1. Surfaces should be clean and sound and free of all bond-inhibiting contaminants.
2. Concrete substrates should be fully cured.
3. Repair any holes, spalled, and damaged concrete with appropriate Sika repair materials. Allow appropriate cure time prior to coating.
4. Remove any protruding concrete accessories and smooth out any surface irregularities.
5. High-pressure power wash surface (or abrasive blast on hard, dense surfaces) to create a profile of SP 3, per ICRI Guide 310.2.
6. Some stains may require chemical removal. Neutralize any cleaning compounds used and rinse with clean water.
7. Check the adhesion of old coatings according to ASTM D 3359, Measuring Adhesion by Tape Test Method A.
8. Remove any blisters or delaminated areas and sand edges to smooth rough areas and provide transition to old paint areas.
9. Treat cracks greater than 1/32" with Sika Thorocoat®-746 Knife Grade or SikaWall® FL 748. Treat cracks larger than ¼" as expansion joints and fill with

- appropriate Sika sealant.
10. New CMU must have a base coat of Sika Thorocoat®-749 Block Filler.

MIXING

1. Prior to use, mix Sika Thorolastic®-850 at a slow speed with a drill and mixing paddle to ensure uniform color disbursement and to minimize air entrapment.
2. In multi-pail applications, mix the contents of each new pail into the partially used previous pail to ensure color consistency and smooth transitions from pail to pail.

APPLICATION

1. Apply Sika Thorolastic®-850 by brush, spray, roller, or spray-and-backroll. Sika Thorolastic®-850 can be applied in a one or two-coat application, achieving a total dry-film thickness (DFT) of 12–18 MILS.
2. Maintain proper uniform wet-film thickness (WFT) during application to ensure the performance characteristics desired (see yield rates section).
3. Always work to a natural break and maintain a wet edge during application.
4. For uniformity of color, application techniques must be consistent throughout the project.

Roller

1. Use a quality ¾–1¼" nap roller cover.
2. Completely saturate the roller and keep it loaded with the coating to build the required mils. Never dry roll.
3. Cross roll, maintaining a wet edge, to achieve uniform thickness. Backroll in one direction for a consistent appearance.

Spray

1. Equipment is available for spraying Sika Thorolastic®-850. Contact the equipment manufacturer for further recommendations.
2. Backrolling in one direction after spray application is recommended to achieve uniform film thickness.

Brush

1. Application by brush is recommended only for small inaccessible areas, e.g., on touch-ups.
2. Use only a nylon brush.

CLEANING OF TOOLS

Clean all tools and equipment immediately with water. Cured material may be removed by mechanical means.

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

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Product Data Sheet

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