



DIVISION 9 - FINISHES
Section 09830 Elastomeric Coatings

Part 1 - General

1.01 Summary

- A. This specification describes the coating of substrates with an elastomeric, crack bridging, anti-carbonation, protective coating.

1.02 Quality Assurance

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001:2008 certified and have in existence a recognized ongoing quality assurance independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.03 Delivery, Storage, and Handling

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

1.04 Job Conditions

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 45°F (7°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

1.05 Submittals

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets, and appropriate Material Safety Data Sheets (MSDS).

1.06 Warranty

- A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.

Part 2 - Products

2.01 Manufacturer

- A. **Sikagard 550W Elastocolor**, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.
- B. **Sikagard Elastic Base Coat (Smooth & Textured)**, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.
- C. **Sikagard 552W Primer or SikaLatex R**, as manufactured by Sika Corporation, 1682 Marion Williamsport Road, Marion, Ohio, 43302 is considered to conform to the requirements of this specification.

2.02 Materials

- A. Elastomeric Acrylic Coating:
 - 1.Product shall be 100% Acrylic Emulsion with the following properties:
 - a. Water vapor permeable
 - b. Can bridge dynamically moving cracks
 - c. Crack bridging properties maintained at low temperatures
 - d.The material shall be resistant to dirt pick-up and mildew
- B. Elastomeric Acrylic Smooth & Textured Base Coating:
 - 1.Product shall be 100% Acrylic Emulsion with the following properties:
 - a. Water vapor permeable
 - b. Can bridge dynamically moving cracks
 - c. Crack bridging properties maintained at low temperatures
- C. Adhesion Promoter / Surface Conditioner
 - 1.Product shall be a water-based, acrylic primer with the following properties:
 - a. Solids content 12.5% -20% by volume
 - b. Recoat time 4 – 24 hours

2.03 Performance Criteria

- A. Properties of the elastomeric Sikagard 550W Elastocolor acrylic coating:
1. Pot Life: indefinite
 2. Tack Free Time 6 Hours @ 73°F, 50% Relative Humidity. Final Cure < 24 Hours
 3. Carbon Dioxide Diffusion: μCO_2 214,000 Carbon Dioxide Diffusion Resistance at 16 mils (400 microns)
 $\text{SdCO}_2 = 299$ ft. (equivalent air thickness) i.e. Approx. 9-in. of standard concrete cover.
 4. Water Vapor Diffusion: $\mu\text{H}_2\text{O}$ 2,146 Water Vapor Diffusion Resistance at 16 mils $\text{SdH}_2\text{O} = 2.6$ ft. (0.8m)
(equivalent air thickness)
 5. Moisture Vapor permeability (ASTM E96) 14.5 perms
 6. Tensile Properties (ASTM D-412 Modified)
7 day-Tensile strength 190 psi (1.3 MPa) - Elongation at break 820% - 340% @ 0°F (-18°C)
 7. Crack Bridging(at 16 mils = 400 microns DFT
 - a. Static (at -4°F/-20°C) 30 mils (0.75mm)
 - b. Dynamic >1000 cycles(at -4°F/-20°C) 12 mils (0.30mm)
 8. Resistance to wind driven rain (TT-C-555B): No passage of water through coating
 9. Weathering (ASTM G-23) 10,000 hours excellent, no chalking or cracking.
 10. Solids Content: by weight – 62% by volume – 55%
 11. Flame Spread and Smoke Development (ASTM E-84-94)
Flame Spread 5 Smoke Development 5 Class Rating A

Note: Tests above were performed with the material and curing conditions @ 71°F – 75°F and 45-55% relative humidity.

Part 3 – Execution

3.01 Surface Preparation

- A. Substrate must be clean, sound, and free of surface contaminants. Remove dust, laitance, grease, oils, curing compounds, form release agents and all foreign particles by mechanical means. Substrate shall be in accordance with ICRI Guideline No. 03732 for coatings and fall within CSP1 to CSP3.

3.02 Mixing and Application

- A. Mixing: Stir materials to ensure uniformity using a low speed (400-600 rpm) drill and paddle. To minimize color variation, blend two batches of material.(boxing)
- B. Crack detail: Recommended application temperatures 40° - 100°F (4⁰-38⁰)

Small defects and cracks (non-structural): Cracks 10 – 20 mils. Apply Surface Filler “Brush Grade” generously over the center of the cracks. Feather material to zero over a two-inch wide area. Allow a minimum 24 hours to cure before overcoating.

Large defects and cracks (non-structural): Cracks >20mils. Rout to 1/4-in wide by 1/4-in. deep. Blow out cut with oil-free compressed air. Fill slot with Surface Filler “Knife Grade” allowing for a small crest to remain. This will compensate for any shrinkage that might occur. **NOTE:** *Sikaflex-1a, -2c, or -15LM, polyurethane sealant may be used in place of Knife Grade Surface Filler.* Allow 24 hours-minimum cure before over coating.
- C. Coating Application: Apply by brush, roller, or spray over entire area moving in one direction. A minimum of two coats are required. Each coat should be applied at a rate not to exceed 100 sq. ft. per gallon. Total dry film thickness shall be a minimum 8 - 10 dry mils per coat. Allow a minimum of 2 hours prior to re-coating.
- D. When applying the coating, never stop the application until the entire surface has been coated. Always stop application at an edge, corner, or joint. Never let a previously coated film dry; always coat into a wet film. Always apply the coating at a 45° angle to an edge, corner, or joint.
- E. If substrate has been previously coated and presents a “chalky” condition, apply 1 coat of Sikagard 552W or SikaLatex R, primer/surface conditioner by brush, roller, or spray at a rate not to exceed 300 sq. ft. per gallon.
- F. Adhere to all limitations and cautions for the elastomeric acrylic coating in the manufacturers printed literature.

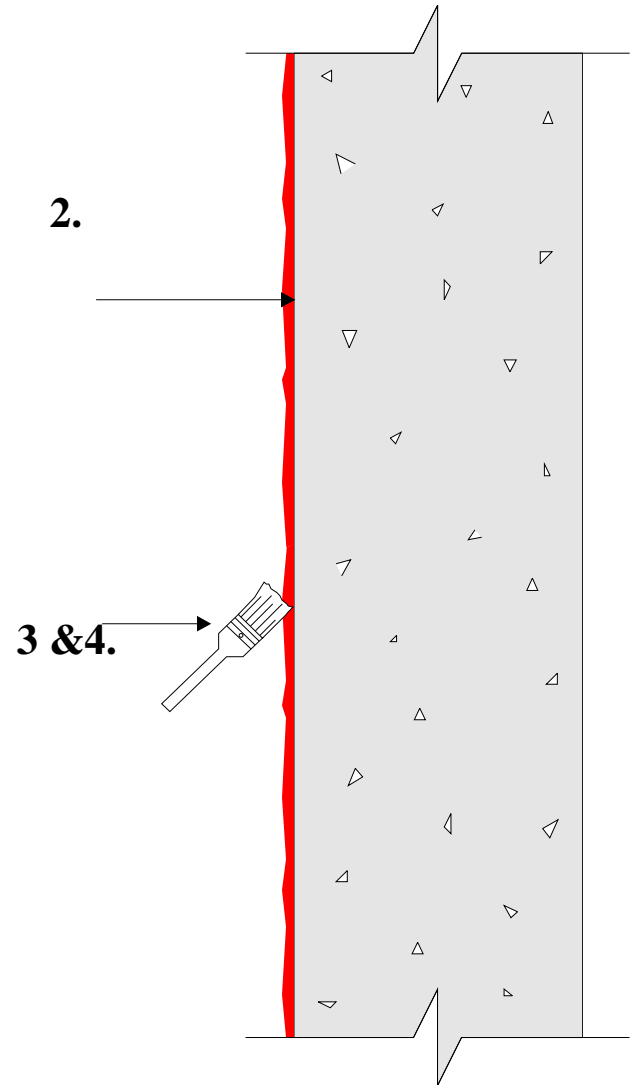
3.03 Cleaning

- A. The uncured elastomeric acrylic coating can be cleaned from tools with water. The cured elastomeric acrylic coating can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

SC-058

Sikagard® 550W Elastocolor, Anti-Carbonation Crack-bridging Coating

1. Substrate must be dry, clean and sound.
2. Condition surface with Sikagard 552W or SikaLatex R(as needed)
3. Apply base coating as needed
4. Apply Sikagard 550W Elastocolor by brush, roller or spray over entire area moving in one direction.



Concrete Restoration Systems by Sika Corporation, 201 Polito Avenue, Lyndhurst, NJ 07071

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