



DIVISION 3 - CONCRETE
Section - 03930 Concrete Rehabilitation
Surface Sealer

Part 1 – General

1.01 Summary

- A. This specification describes the sealing of absorptive surfaces with an epoxy resin adhesive.

1.02 Quality Assurance

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001/9002 certified and have in existence a recognized ongoing quality assurance program 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 40°F (5°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 Manufacturers

- A. Sikadur 35, Hi-Mod LV, 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. Epoxy resin adhesive for the sealing of absorptive surfaces shall be **Sikadur 35 HiMod LV**.
1. Component "A" shall be a modified epoxy resin of the epichlorohydrin bisphenol A type containing suitable viscosity control agents. It shall not contain butyl glucidyl ether.
 2. Component "B" shall be primarily a reaction product of a selected amine blend with an epoxy resin of the epichlorohydrin bisphenol A type containing suitable viscosity control agents and accelerators.
 3. The ratio of Component "A": Component "B" shall be 2:1 by volume.

2.03 Performance Criteria

- A. Properties of the mixed epoxy resin adhesive:
1. Pot Life: 25 minutes (60 gram mass) @ 73F
 2. Tack-Free Time:

90F (32C)	1.5 – 2 hours
75F (24C)	3 – 3.5 hours
40F (5C)	14-16 hours
 3. Viscosity : Approx. 375 cps
 4. Color: clear, amber
- B. Properties of the mixed epoxy resin adhesive:
1. Compressive Properties (ASTM D-695) at 28 days
 - a. Compressive Strength: 13,000 psi (89.6 MPa)
 - b. Compressive Modulus: 320,000 psi (2,200 MPa)
 2. Tensile Properties (ASTM D-638) at 7 days
 - a. Tensile Strength: 8,900 psi (61MPa)
 - b. Elongation at Break: 5.4%
 - c. Modulus of Elasticity (14days) : 410,000 psi.
 3. Flexural Properties (ASTM D-790) at 14 days
 - a. Flexural Strength (Modulus of Rupture): 14,000 psi (97 MPa)
 - b. Tangent Modulus of Elasticity in Blending: 370,000 psi (2,600 MPa)
 4. Shear Strength (ASTM D-732) at 14 days: 5,100 psi (35MPa)
 5. Total Water Absorption (ASTM D-570) at 7 days: 0.90% (2 hour boil)
 6. Bond Strength (ASTM C-882) Hardened Concrete to Hardened Concrete
 - a. 14 day (moist cure): 2,900 psi (15MPa)
 7. Deflection Temperature (ASTM D-648) at 7 days: 129F (fiber stress loading = 264 psi)
 8. The epoxy resin adhesive shall be approved by the United States Department of Agriculture.

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

Part 3 Execution.

3.01 Mixing and Application

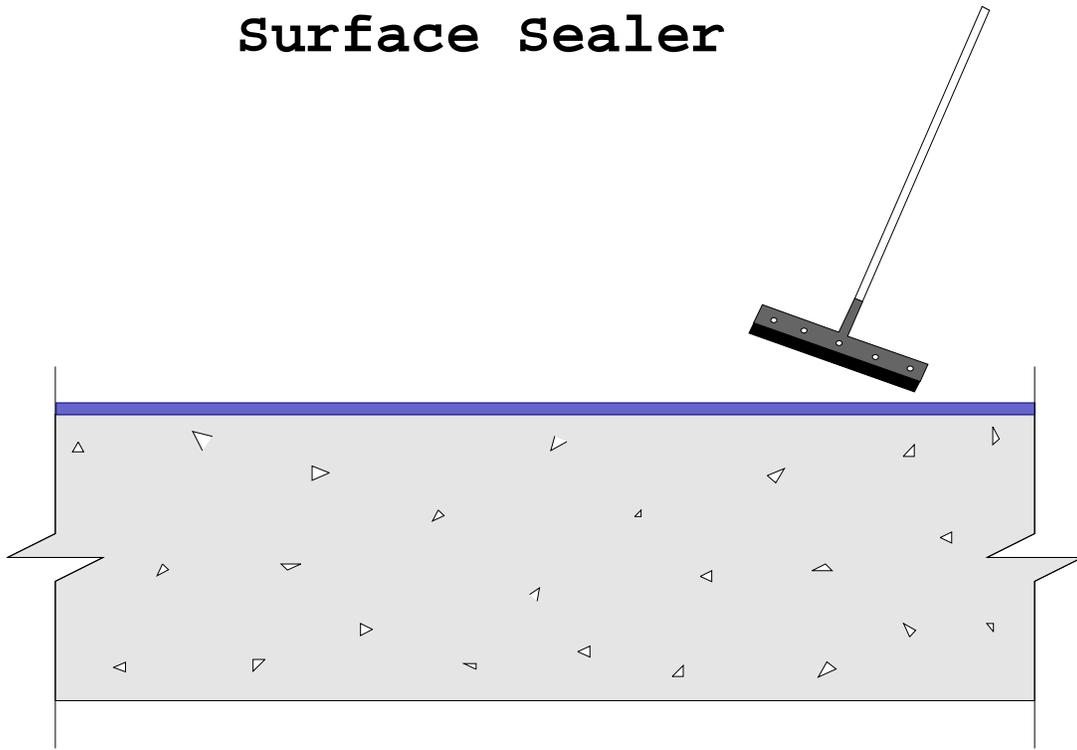
- A. Mixing the epoxy resin adhesive binder: Premix each component. Proportion 2 parts Component A to 1 part Component B by volume into a clean, dry mixing pail. Mix thoroughly for 3 minutes min. with a jiffy paddle on a low-speed (400-600 rpm) drill. Mix only that quantity of material that can be used within its pot life (20-30 minutes at 73F).
- B. Placement Procedure: Pour the mixed epoxy resin adhesive onto the substrate. Spread the material with flat squeegee or rollers. Allow material to puddle over any highly porous areas and small cracks for approximately 5-10 minutes. Forceably remove excess material to an untreated areas using flat squeegees. Use a broom or roller to remove material from low spots. Surface should appear wet but with no surface film. Retreat very porous areas before material has become tack-free.
- C. Adhere to all limitations and cautions for the elastomeric acrylic coating coating in the manufacturers printed literature.

3.02 Cleaning

- A. The uncured elastomeric acrylic coating can be cleaned from tools with water. The cured polymer-modified portland cement 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.

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

SC-068 sikadur[®] 35, Hi-
Mod LV
Surface Sealer



1. Spread neat Sikadur 35, Hi-Mod LV over slab with flat squeegee or roller.
2. Allow to penetrate.
3. Remove excess to prevent surface film.

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