

# Sikafloor® 81 EpoCem

## Self-Leveling, Epoxy-Cement Floor Topping for Structural Resurfacing

<b>Description</b>	Sikafloor 81 EpoCem is a three-component, solvent-free, odorless, moisture-insensitive, epoxy-modified, cementitious self-leveling mortar. Especially formulated for leveling and structurally reprofiling on damp, "green" or saturated surface dry concrete slabs for thicknesses of 100-160 mil (2.5-4 mm).
<b>Where to Use</b>	<ul style="list-style-type: none"> <li>■ As a temporary moisture barrier, minimum thickness 100 mils (2.5 mm), prior to subsequent flooring systems on damp, "green" or saturated surface dry concrete slabs. <b>Note:</b> Sikafloor 81 EpoCem must be sealed with a suitable Sikafloor® epoxy coating to form a permanent vapor barrier. Contact Technical Service for recommendations.</li> <li>■ As a self-leveling mortar for reprofiling and resurfacing concrete surfaces, thickness between 100-160 mils (2.5-4 mm), before the application of: Subsequent Sikafloor epoxy or polyurethane resin-based products, polymer floor coatings, waterproofing membranes, tile, carpet and wood floor bonding systems. Other authorized finished flooring systems.</li> <li>■ Can be used as a patching and repair mortar for thickness of ¼-8 in (6-200 mm) when extended with oven-dried silica sand.</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>■ Economical structural resurfacing compound.</li> <li>■ Water-based, solvent-free and odorless.</li> <li>■ Self-leveling and good flowability.</li> <li>■ Can be overcoated with epoxy resin compounds after 24 h [68°F (20°C)].</li> <li>■ Application possible on damp and "green" cement based substrates.</li> <li>■ Waterproof yet permeable to water vapor.</li> <li>■ Fast curing and high early strengths.</li> <li>■ Excellent adhesion to dry, damp, "green" or saturated surface dry concrete substrates.</li> <li>■ Modulus of elasticity and coefficient of thermal expansion comparable to concrete.</li> <li>■ Good adhesion after long-term water immersion.</li> <li>■ Will not corrode reinforcement steel.</li> <li>■ USDA certifiable for incidental food contact.</li> </ul>

### Typical Data

<b>Packaging</b>	46.3 lb (21 kg) unit: 1 Jug (A), 1 Jug (B), 1 Bag (C) Component A: Carton containing (4)* 1-gal Jugs Component B: Carton containing (4)* 1-gal Jugs Component C: 38 lb bag * Order one carton of Part A (4 Jugs per carton), one carton of Part B (4 jugs per carton) and 4 bags of Part C
<b>Color</b>	Gray after mixing
<b>Yield</b>	<b>Primer</b> - Components A+B = 1 gal. (3.85 L) of Sika EpoCem Module Depends on substrate porosity: 200-400 ft <sup>2</sup> /gal. (5-10 m <sup>2</sup> /L) Primer sold separately. <b>Self-Leveling Mortar</b> - Components A+B+C = 2.64 gal. (10 L) of mortar/43 ft <sup>2</sup> (4 m <sup>2</sup> ) for a 100 mils (2.5 mm) application thickness <b>Patching Mortar</b> - Sikafloor 81 EpoCem extended with oven-dried silica sand
	Sikafloor 81 EpoCem pre-mix      2.64 gal, 46.3 lb (21 kg) (10 L) Silica sand # 24 (0.3-0.85 mm)    1.82 gal, 22 lb (10 kg) (6.9 L) Silica sand # 16 (0.6-1.6 mm)    1.88 gal, 22 lb (10 kg) (7.1 L) Final mix                                5.05 gal, 90.3 lb (41 kg) (19.1 L)
<b>Shelf Life</b>	1 year in original, unopened packaging. Store dry at 40° - 90°F (5° - 32°C). Protect from freezing and high temperatures. If frozen, discard.
<b>Mixing Ratio</b>	A:B:C = 1:2.7:15-15.9 by weight A:B:C = 1:2.8:9.5-9.9 by volume
<b>Properties at 73°F (23°C) and 50% R.H.</b>	
<b>Density, lbs/gal. (kg/L)</b>	Component A                                8.84 (1.06) Component B                                8.58 (1.03) Component C                                14.1 (1.7) Components A+B+C                        17.5 (2.1)
<b>Application Life</b>	Components A+B+C                        20 min.* Maximum time before de-airing with spiked roller 15 min. *Do not use after this period
<b>Curing Time</b>	<b>50°F (10°C)**      68°F (20°C)**</b> Foot traffic                                24 hrs.                15 hrs. Light mechanical loading                3 days                2 days Overcoatable after                        3 days                1 day Fully cured after                            14 days                7 days
**Product cured and tested at temperatures indicated.	
<b>Compressive Strength ASTM C109, psi (MPa)</b>	1 day    3300 (23) 3 days     7250 (50) 28 days     9400 (65)
<b>Bond Strength ASTM D4541</b>	> 250 psi (1.7 MPa) substrate failure



## How to Use Surface Preparation

Surface must be clean, sound and dry. Remove dust, laitance, grease, curing compounds, bond inhibiting impregnations, waxes and any other contaminants. **Preparation Work:** All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application. **Concrete** - Should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blastcleaning or equivalent mechanical means. (CSP3 as per ICRI guidelines). The compressive strength of the concrete should be at least 3500 (24 MPa) psi at 28 days and at least 200 psi (1.4 MPa) in tension at the time of Sikafloor 81 EpoCem application.

## Mixing

Shake components A and B and pour them into an appropriate 5 gal. (20 L) sized mixing container. Pre-mix thoroughly with an electric or pneumatic mixer at low speed (300-450 rpm) for 30 sec. Progressively add component C while mixing. Continue mixing thoroughly for 3 min after complete addition of component C. Use an Exomixer type mixing paddle (recommended model). During the mixing operation, scrape down the sides and bottom of the pail with a flat or straight edge trowel at least once to ensure thorough mixing. Upon completion of mixing, Sikafloor 81 EpoCem should be uniform in consistency.

## Application

**Primer for Self-Leveling Mortar** - Sika EpoCem Module (A+B) at a rate of 200-400 ft<sup>2</sup>/gal. (5-10 m<sup>2</sup>/L) using a brush or roller of appropriate length nap to control the coverage according to the surface profile of the concrete. Avoid puddling. Apply the self-leveling mortar after a minimum waiting time of 1 hrs. [68°F (20°C)] but within 3 hrs. [68°F (20°C)] maximum.

Note: For porous or excessively absorbent concrete, prime with a second application of Sika EpoCem Module applied at a rate of 200-400 ft<sup>2</sup>/gal. (5-10 m<sup>2</sup>/L).

**Primer for Extended Mortar** - As a primer for extended mortar with oven dried silica sand, use Sikadur® 32 Hi-Mod or Sikafloor 89 in accordance with the respective technical data sheet.

**Self-Leveling Mortar** - After mixing, immediately apply the self-leveling mortar using a notched trowel [ $\frac{3}{16} \times \frac{3}{16}$  in. (4 x 4 mm)] or a screed rake (rubber or metal) to obtain even coverage. Immediately work down with a spiked roller to ensure uniform thickness and to remove entrapped air. When Sikafloor 81 EpoCem has cured sufficiently, sand if required and apply appropriate Sikafloor epoxy resin based product or any other authorized finished flooring systems directly over the mortar coating, ideally within 3 days. Maintain the floor topping in a clean, dry surface condition prior to the application of the floor system.

Note: The consistency of the mix may be adjusted to suit application requirements by slightly reducing the powdered C component. See mixing ratio or consult Sika Technical Service for more information.

**Extended Mortar with Silica Sand** - To proceed with local repairs and slope corrections for thickness of  $\frac{1}{4}$ -8 in. (6-200 mm), Sikafloor 81 EpoCem can be extended with oven dried silica sand.

## Limitations

- Minimum thickness of self-leveling mortar: 100 mils (2.5 mm).
- Maximum thickness of self-leveling mortar: 160 mils (4 mm).
- Maximum thickness for holes of 1  $\frac{1}{4}$  -2 in. (3-5 cm) diameters:  $\frac{3}{8}$  in. (10 mm).
- Minimum substrate temperature: 45°F (8°C).
- Maximum substrate temperature, with mixing ratio by weight of:
  - A+B:C = 4:17/77°F (25°C)
  - A+B:C = 4:16/86°F (30°C)
- Maximum ambient temperature: 85°F (30°C).
- Maximum relative humidity: 85%.
- On no account should water be added to the mix.
- Minimum topping thickness when used as a temporary moisture barrier: 100 mils (2.5 mm).
- Maximum moisture content in Sikafloor 81 EpoCem prior to subsequent application of an epoxy resin based Sikafloor coating: 4% by weight.

## Caution

**WARNING: COMPONENT 'A': IRRITANT, SENSITIZER.** Contains Epoxy Novolac Resin (CAS 28064-14-4) and Epoxy Resin (CAS 025068-38-6). May cause eye/ skin/respiratory irritation. Prolonged and/or repeated skin/respiratory contact may cause allergic reaction/sensitization. Harmful if swallowed.

**WARNING: COMPONENT 'B': CORROSIVE, IRRITANT, SENSITIZER.** Contains Proprietary blend of Aliphatic amines (mixture). Causes eye irritation. Contact with eyes/skin causes burns. May cause skin/respiratory irritation. Prolonged and/or repeated skin contact may result in allergic reaction/sensitization. Harmful if swallowed.

**WARNING: COMPONENT 'C': IRRITANT, SENSITIZER.** Contains Calcium Silicate (CAS 1344-95-2), Magnesium Oxide (CAS 1309-48-4) and Silica Quartz (CAS 14808-60-7). May cause eye/skin/respiratory irritation. Prolonged and/or repeated skin contact may cause allergic reaction/sensitization. May cause delayed lung damage (silicosis). May be harmful if swallowed.

**WARNING: This product contains a chemical known to the State of California to cause cancer. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.**



# Construction

<b>First Aid</b>	<b>Eyes</b> - Hold eyelids apart and flush thoroughly with water for 15 minutes. <b>Skin</b> - Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. <b>Inhalation</b> - remove to fresh air. <b>Ingestion</b> - Do not induce vomiting. Contact physician. <b>In all cases contact a physician immediately if symptoms persist.</b>
<b>Handling and Storage</b>	Avoid direct contact with eyes and skin. Wear chemical resistant gloves/goggles/clothing. Avoid breathing vapors. Use with adequate general and local ventilation. In absence of adequate ventilation, use properly fitted NIOSH approved respirator. Wash thoroughly after handling product. Store in a cool, dry, well ventilated area. Keep containers tightly closed.
<b>Clean Up</b>	Uncured material can be removed with approved solvent. Follow solvent manufacturer's instructions for use and warnings. Cured material (when Component 'A' combined with Component 'B' and Component 'C') can only be removed mechanically. In case of spill, ventilate area and contain spill. Collect with absorbent material (Component 'A' and Component 'B'). Shovel Component 'C' into approved container. Dispose of in accordance with current applicable local, state and federal regulations.

**KEEP CONTAINER TIGHTLY CLOSED • KEEP OUT OF REACH OF CHILDREN • NOT FOR INTERNAL CONSUMPTION • FOR PROFESSIONAL USE ONLY**

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Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Technical Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

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The Sika logo consists of the word "Sika" in a bold, yellow, sans-serif font, positioned inside a red triangle that points downwards.