Product Data Sheet
Edition 4.26.2013
Sikafloor® 110

Industrial Flooring

Sikafloor® 110

Epoxy Epo-Rok Mortar System

Description

A three-component, high solids epoxy concrete floor resurfacer. This product can be placed using a screed and finished by hand troweling or power troweling. Typical thickness is from 3/16" (4.8 mm) to 1/4" (6 mm).

Where to Use

Designed for overlaying new and resurfacing worn concrete floors in light to heavy duty industrial applications. Sikafloor 110 is formulated to restore and protect concrete floors from impact and abrasive traffic.

Advantages

- Protects new concrete from abuse
- Rejuvenates worn surfaces, to a smooth finish
- Designed to take heavy loads
- Formulated for easy application
- Fast curing reduces downtime
- Smooth and Slip resistant surface possible
- (Optional) Use of EpoRok RB Aggregate will contain 30 % recycled Basalt, Pre-Consumer Recycled Material
- Meets the qualifications for acquiring LEED point.

TYPICAL 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.

Packaging

Component A: 1.4 US gal. (5.3 L)*	Component A: 5 US gal. (19 L) *	Component A: 55 US gal. (208 L)*
Component B: 0.35 US gal. (1.3 L)*	Component B: 5 US gal. (19 L)	Component B: 55 US gal. (208L)
Component C: 12 bags	Component C: 43 bags	Component C: 469 bags
Component A+B: 7 US gal. (6.6 L)	Component A+B: 25 US gal. (94.5 L)	Component A+B: 275 US gal. (1,040 L)
*(4 Units needed)	*(4 Units needed)	*(4 Units needed)

Colors

Neutral aggregates, Gray aggregates or pigmented with Sikafloor Epoxy Color Additive; 1 quart (1.0 L) size Depending on the color chosen,1 or 2 of color packs may be required per 3 gallon mix.

Coverage

Approximately 200 ft² (18.5 m²) at a nominal 3/16" (4.8 mm) thickness per unit.
Approximately 250 ft² at a nominal 1/4" thickness per unit (23 m² at 6 mm over relatively smooth concrete floors. Rough, worn or pitted concrete floors will require additional material.
Each unit includes 4 triple kits, 4 pails of Resin, 4 pails of Hardener and 12 bags of aggregate.

Size Unit	Sq. feet/unit	Thickness
25 US gal unit	720 ft² (67 m²)	1/4" (6 mm)
(43 bags)	900 ft² (84 m²)	3/16" (4.8 mm)
275 US gal unit	7,800 ft² (725 m²)	1/4" (6 mm)
(469 bags)	9,750 ft² (906 m²)	3/16" (4.8 mm)

Pot Life

Material Temperature	Time
+50°F (10°C)	~ 40 minutes
+68°F (20°C)	~ 25 minutes
+86°F (30°C)	~ 15 minutes

Waiting / Recoat Times

Before applying Sikafloor Epoxy or Polyurethane on Sikafloor 110 allow:

Ambient & Substrate Temperature	Minimum	Maximum
+50°F (10°C)	24 hours	3 days
+68°F (20°C)	12 hours	2 days
+86°F (30°C)	6 hours	1 day

Cure Times

Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
+50°F (10°C)	~ 16 hours	~ 3 days	~ 10 days
+68°F (20°C)	~ 8 hours	~ 2 day	~ 7 days
+86°F (30°C)	~ 6 hours	~ 1 day	~ 5 days

Properties Tested at 73°F (23°C) and 50 % R.H:

Compressive Strength	ASTM C579	11,000 psi (75.8 MPa)
Tensile Strength	ASTM C307	1,900 psi (13.1 MPa)
Flexural Strength	ASTM D790	4,100 psi (28.3 MPa)
Flexural Modulus of Elasticity	ASTM D790	2.01 x 106 psi (13,856 MPa)
Shore D Hardness	ASTM D2240	87 - 90
Thermal Coefficient of Linear Expansion	ASTM D696	3.45 x 10^{-5} in/in/ °F (1.9 x 10^{-6} mm/mm/°C)
Pull-off Strength	ACI COM #503 (pp. 1139-1141)	> 400+ psi (2.7 MPa) or concrete failure
Indentation	MIL-D-3134F	No Indentation
VOC Content	ASTM D2369	≤ 50 g/L
Abrasion Resistance by Taber Abraser *(CS-17 Wheel, 1000 gm load, 1000 cycles)*	ASTM D1044	0.1 gm max
Water Absorption	ASTM C413	0.24%
Shelf Life	2 years in unopened container, Store dry between 40° - 90°F (4°- 32°C).	
Chemical Resistance	Please consult Sikafloor Technical Services	

Industrial Flooring

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. 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-free and contaminant-free, open textured surface by shot blasting or equivalent mechanical means (CSP-3 to CSP-4 as per ICRI guidelines). Sweep and vacuum any remaining dirt and dust with a wet/dry vacuum. Removing residual dust will help ensure a tenacious bond between the primer and substrate. Whenever "shot-blasting" is utilized, be careful to leave concrete with a uniform texture. "Over-blasting" will result in reduced coverage rates of the primer and/or subsequent topcoats. The "shotblast" pattern may show through the last coat, known as "tracking". The compressive strength of the concrete substrate should be at least 3,500 psi (24 MPa) at 28 days and at least 215 psi (1.5 MPa) in tension at the time of application. For other substrates, please contact Sikafloor Technical Services.

Priming

Priming for concrete substrate is required.

For wet in wet application: Prime with either **Sikafloor 107, Sikafloor 160 or Sikafloor 161** using a squeegee and back roll to provide uniform coverage. Avoid ponding. If primer becomes tack-free, re-prime the substrate.

For dry application: Apply either **Sikafloor 107, Sikafloor 160 or Sikafloor 161** using a squeegee and back roll to provide uniform coverage and broadcast a 20 mesh quartz sand into the fresh primer. Avoid ponding.

Please refer to the individual most current and respective Product Data Sheet for specific and detailed information.

Mixing

Mix Ratio - 4 : 1 by volume.
For bulk packaging, when not mixing full units, each component must be pre-mixed separately to ensure product uniformity.

Clear Resin:
Premix each component separately to ensure product uniformity. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin). Mix the combined components for at least 2 minutes using a low speed drill (300 - 450 rpm) and Exomixer or Jiffy type paddle suited to the volume of the mixing container to minimize entrapped air. Be careful not to introduce any air bubbles while mixing. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing. Transfer the mixed binder (components A+B) into a suitable mechanical mixer. Gradually add aggregates (Component C) to the binder to avoid excessive air entrapment.
Once all ingredients are combined, mix continuously and thoroughly for 2 to 4 minutes to ensure complete mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the mortar. Immediately transfer the materials onto the floor or into the screed box for application.

Field Pigmented:
Premix each component separately to ensure product uniformity. If color is desired, the appropriate Sikafloor Epoxy Color Additive is added to Component A at a rate of 1 quart per 3 mixed gallons (i.e. Components A+B) for all colors except bright colors like White, Safety Yellow or Tile Red which require 2 quarts per 3 mixed gallons (i.e. Components A+B). Mix Component A and Sikafloor Epoxy Color Additive for 30 seconds or until a uniform color is achieved with a low speed drill (300 - 450 rpm) and Exomixer or Jiffy type paddle suited to the volume. Empty Component B (Hardener) in the correct mix ratio to Component A (Resin) and mix for additional 2 minutes. Be careful not to introduce any air bubbles while mixing. During the mixing operation, scrape down the sides and bottom of the container with a flat or straight edge trowel at least once to ensure complete mixing. Transfer the mixed binder (components A+B) into a suitable mechanical mixer. Gradually add aggregates (Component C) to the binder to avoid excessive air entrapment.
Once all ingredients are combined, mix continuously and thoroughly for 2 to 4 minutes to ensure complete mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the mortar. Immediately transfer the materials onto the floor or into the screed box for application.

Note: The color of the installed Sikafloor 110 may vary in shades, due to the high consumption of natural aggregates and/or different finishes like power or hand troweling.

Do not mix more material than can be applied within the working time limits (i.e. Pot Life) at the actual field temperature.

Industrial Flooring

Application

Mortar Application

Maintain all control joints and expansion joints through the screed where movement is expected. Place mortar onto the still uncured primed surface while still tacky or fully cured primer with quartzite sand and spread using a steel trowel, rake or if using a screed box, pull the box across the wet primer overlapping approximately 1 inch. The hand troweled or screed box applied material can then be power troweled. The power trowel will compact the material, remove voids and make the floor smooth and dense. (Excessive power troweling will cause blisters.) The finished surface should be relatively smooth, free of trowel marks and without any process areas. If primer becomes tack-free, re-prime substrate. Finish using a clean steel finishing trowel or power trowel. The finished surface should be relatively smooth, free of trowel marks and without any process areas.

Whenever Sikafloor 110 does not abut a vertical surface, the mixed product should be troweled into a chase which is a special groove cut into the concrete floor during the preparation process. Areas around drains and elevation changes or terminations must maintain a minimum 1⁄4 in (6 mm) thickness. Sikafloor 110 has a wet consistency. To finish areas inaccessible to a power trowel, use light “feathering” strokes with a hand trowel to smooth the surface. When Sikafloor 110 has cured, the surface should be lightly ground or sanded to remove any burrs or surface defects then sweep or vacuum.

Grout and Sealer Application

Grouting and sealing of Sikafloor 110 is required. The following Sikafloor products may be use **Sikafloor 205, Sikafloor 206 and Sikafloor 264 Thixo Light.**

Please refer to the individual most current and respective Product Data Sheet for specific and detailed information.

Limitations

Notes on Limitations:

Prior to application, measure and confirm Substrate Moisture Content, Ambient Relative Humidity, Ambient and Surface Temperature and Dew Point. During installation, confirm and record above values at least once every 3 hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.).

Substrate Moisture Content: Moisture content of concrete substrate must be ≤ 4% by mass (pbw – part by weight) as measured with a Tramex® CME/CMExpert type concrete moisture meter on mechanically prepared surface according to this product data sheet (preparation to CSP-3 to CSP-4 as per ICRI guidelines). Do not apply to concrete substrate with moisture levels > 4% mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter. If moisture content of concrete substrate is > 4% by mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter, use Sikafloor 1610 or Sikafloor 81 EpoCem.

When relative humidity tests for concrete substrate are conducted per ASTM F2170 for project specific requirements, values must be ≤ 85%. If values are > 85% according to ASTM F2170 use Sikafloor 1610 or Sikafloor 81 EpoCem.

ASTM F2170 testing **is not** a substitute for measuring substrate moisture content with a Tramex® CME/CMExpert type concrete moisture meter as described above.

Material Temperature: Precondition material for at least 24 hours between 65° to 75°F (18° to 24°C)

Ambient Temperature: Minimum/Maximum 50˚/85˚F (10˚/30˚C)

Substrate Temperature: Minimum/Maximum 50˚/85˚F (10˚/30˚C). Substrate temperature must be at least 5˚F (3˚C) above measured Dew Point.

Mixing and Application attempted at Material, Ambient and/or Substrate Temperature conditions less than 65˚F (18˚C) will result in a decrease in product workability and slower cure rates.

Relative Ambient Humidity: Maximum ambient humidity 85% (during application and curing)

Dew Point: Beware of condensation!
The substrate must be at least 5˚F (3˚C) above the Dew Point to reduce the risk of condensation, which may lead to adhesion failure or “blushing” on the floor finish. Be aware that the substrate temperature may be lower than the ambient temperature.

Mixing: Do not hand mix Sikafloor materials. Mechanically mix only.
Do not thin this product. Addition of thinners (e.g. water, solvent, etc.) will slow cure and reduce ultimate properties of this product. Use of thinners will void any applicable Sika warranty.
Improper mixing procedure or incorrect mixing ratio may result in moisture sensitivity, whitening, slow cure, soft spots, and other defects.

- Do not apply while ambient and substrate temperatures are rising, as pinholes may occur. Ensure there is no vapor drive at the time of application. Refer to ASTM D4263, may be used for a visual indication of vapor drive.
- Freshly applied material should be protected from dampness, condensation and water for at least 72 hrs.
- Will discolor over time when exposed to sunlight (UV) and under certain artificial lighting conditions. Use of clear UV resistant top coat may not prevent discoloration of underlying coatings.

Industrial Flooring

- Do not apply Sikafloor to concrete substrate containing aggregates susceptible to ASR (Alkali Silica Reaction) due to risk of natural alkali redistribution below the Sikafloor product after application. If concrete substrate has or is suspected to have ASR (Alkali Silica Reaction) present, do not proceed. Consult with design professional prior to use.
- Any aggregate used with Sikafloor systems must be non-reactive and oven-dried.
- This product is not designed for negative side waterproofing.
- Typically not recommended for exterior slabs on grade where freeze/thaw conditions may exist.
- Use of unvented heaters and certain heat sources may result in defects (e.g. blushing, whitening, debonding, etc.).
- Beware of air flow and changes in air flow. Introduction of dust, debris, and particles, etc. may result in surface imperfections and other defects.
- Do not use on exterior, on-grade substrates.
- Terminate at shoulders cut into substrate, avoid feather-edging.
- For professional use only by experienced applicators.

Caution

COMPONENT A: WARNING - IRRITANT, SENSITIZER: Contains epoxy resins, Furfuryl Alcohol (CAS 98-00-0). Eye irritant. May cause skin/respiratory irritation. Prolonged and/or repeated contact with skin may cause allergic reaction/sensitization. Deliberate concentration of vapors for purposes of inhalation is harmful and can be fatal. Harmful if swallowed. **Strictly follow all use, handling and storage instructions.**
COMPONENT B: WARNING: CORROSIVE, SENSITIZER, IRRITANT. Contains amines (mixture), bisphenol A (CAS 80-05-7). Contact with skin and eyes causes severe burns. Respiratory irritant. May cause eye/skin irritation. Possible skin sensitization/allergic reaction with prolonged or repeated exposure. Harmful if swallowed. Deliberate concentration of vapors for purposes of inhalation is harmful and can be fatal. **Strictly follow all handling, use and storage instructions.**

First Aid

Eyes – Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin** – Remove contaminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation** – Remove to fresh air. **Ingestion** – Do not induce vomiting. Dilute with water. **Contact physician. In all cases contact a physician immediately if symptoms persist.**

Handling and Storage

Wear protective equipment (gloves/safety glasses/clothing) to prevent contact with skin and eyes. Keep container closed in a cool dry place. Wash skin thoroughly with soap and water after use. Use with adequate, general and local, exhaust ventilation. In absence of adequate ventilation, use a properly fitted NIOSH respirator. Remove contaminated clothing. Launder before reuse. Store in cool dry well ventilated area with container closed..

Clean Up

Avoid direct contact with eyes and skin. Wearing chemical resistant goggles/gloves/clothing, collect spill. Ventilate area. In absence of adequate ventilation, use properly fitted NIOSH respirator. Sweep up spill and place in closed container. Dispose of in accordance with applicable local, state and federal environmental regulations.

Visit our website at www.sikausa.com **1-800-933-SIKA NATIONWIDE**

Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 800-933-7452
Fax: 201-933-6225

Sika Canada Inc.
601 Delmar Avenue
Pointe Claire
Quebec H9R 4A9
Phone: 514-697-2610
Fax: 514-694-2792

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537