Industrial Flooring

Product Data Sheet
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Identification no.
Sikafloor 225N

Sikafloor® 225N

UV Resistant Epoxy System

Description

Sikafloor 225N is a low odor, 100% solids epoxy resin coating system primarily designed for high build coating and decorative quartz/flake applications. It may be applied clear or may be pigmented using Sikafloor Epoxy Color Additives.

Where to Use

Sikafloor 225N is ideal as a broadcast clear, low odor top coat over decorative quartz or vinyl flake floor broadcast systems, as well as slurry applications.
Sikafloor 225N clear and/or pigmented can also also be top coated with an aliphatic urethane when increased chemical and abrasion resistance are required.

Advantages

- UV Resistance properties exceed what other similar epoxy systems offer.
- 100% solids as supplied.
- Attractive, high gloss, reflective coating.
- Durable, impermeable and seamless
- Good abrasion resistance.
- Excellent impact resistance.
- Good overall resistance to a wide spectrum of chemicals.

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: 2 US gal. (7.6 L)
Component B: 1 US gal. (3.8 L)
Components A+B: 3 US gal. (11.4 L)
(Ready to mix unit)

Component A: 5 US gal. (18.9 L)*
Component B: 5 US gal. (18.9 L)
Components A+B: 15 US gal. (56.7 L)
*(2 units needed)

Colors

Clear or pigmented with Sikafloor Epoxy Color Additive.
Sikafloor Epoxy Color Additive is available in 1-quart (1.0 L) size. Depending on the color chosen, 1 or 2 of color additives may be required per 3 gallon mix.

Coverage

Smooth Finish/Wear/Sealer Coating:
80 - 100 ft² / US gal (1.9 – 2.5 m² / L) at 15 - 20 mils (0.38 – 0.50 mm) wet film thickness (w.f.t.)

Pot Life

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

Waiting / Recoat Times

Before applying second coat Sikafloor 225N allow:

Ambient & Substrate Temperature	Minimum	Maximum
+50°F (10°C)	16 hours	3 days
+68°F (20°C)	8 hours	2 days
+86°F (30°C)	6 hours	1 day

Before applying Sikafloor Epoxy or Polyurethane on Sikafloor 225N allow:

Ambient & Substrate Temperature	Minimum	Maximum
+50°F (10°C)	18 hours	3 days
+68°F (20°C)	10 hours	2 days
+86°F (30°C)	8 hours	1 day

Cure Times

Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
+50°F (10°C)	~ 18 hours	~ 6 days	~ 10 days
+68°F (20°C)	~ 10 hours	~ 3 days	~ 7 days
+86°F (30°C)	~ 8 hours	~ 2 days	~ 5 days

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

Compressive Strength	ASTM D695	2,500 psi
Pull-off Strength	ASTM D4541	> 400 psi (2.8 MPa) 100% concrete failure
Elongation %	30%	
Shore D Hardness	ASTM D2240	85 - 90
Impact Resistance	ASTM D2794	160 in - lbs. (1.8 kg-m.)
Abrasion Resistance by Taber Abraser *(CS-17 Wheels 1,000 cycles. /1,000 gm load)*	ASTM D4060	45 mg loss
VOC Content	ASTM D2369	≤ 50 g/L
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/coating 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. Prime with either **Sikafloor 107, Sikafloor 160, Sikafloor 161 or Sikafloor 1610.** Allow the primer to cure (varies with temperature and humidity) until tack free and clear in appearance before applying subsequent coats. Ensure that the primer is pore-free, pinhole-free and provides uniform and complete coverage over the entire substrate.

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

Mixing

Mixing Ratio - 2 : 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. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin). Mix the combined components for at least 3 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. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. 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.

Field Pigmented:
Premix each component separately. 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 2 minutes 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) n the correct mix ratio to Component A (Resin) and mix for additional 2 minutes. Be careful not to introduce any air bubbles while mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. 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.

Self-leveling Slurry:
Premix each component separately. Empty Component B (Hardener) in the correct mix ratio into Component A (Resin) and add the appropriate Sikafloor Epoxy Color Additive. Mix the combined components for at least 1 minute 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. Add Sikadur 504 type filler and mix for additional 2 minutes. Be careful not to introduce any air bubbles while mixing. Make sure the contents are completely mixed to avoid any weak or partially cured spots in the coating. 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.

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

Application

As Sealer/Intermediate:
Sikafloor 225N is applied with a 40 mil (1 mm) notched squeegee over a smooth surface and a flat squeegee over a rough or decorative quartz surface. Back rolling is typically done with an 18 inch (455 mm) wide 3/8 inch (10 mm) short nap, solvent-resistant roller cover.
Back roll the Sikafloor 225N only to level the squeegee applied material. Over-rolling and late back rolling may cause bubbling and leave roller marks. Product has a limited Pot Life, see Typical Data. Do not apply by dipping roller into mixing container. Pour a bead of product in the form of a ribbon on the surface to be coated, then spread with squeegee and back roll.

Self-Leveling Slurry:
Pour a bead of product to the surface to be coated, then spread with a notched squeegee or pin rake to the desired thickness. Roll immediately (within max. 10 minutes of application) in two directions with a spiked roller to ensure even thickness and the removal of entrapped air. To obtain a higher aesthetic finish, spike roll in two directions at a 90 degree angle by passing only once in each direction. The product has a limited Pot Life, see Typical Data.

Industrial Flooring

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.

Application: Apply the coating to the prepared substrate which should be pore-free and pinhole-free. If necessary, apply an additional coat of a suitable material to ensure the substrate is pore-free and pinhole-free and provides uniform and complete coverage over the entire substrate.

- 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.
- 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.
- For professional use only by experienced applicators.

Industrial Flooring

Caution	**COMPONENT A: WARNING: IRRITANT, SENSITIZER.** Contains Modified Epoxy Resin (Mixture). Causes eye/skin irritation. May cause respiratory irritation. Harmful if swallowed. May cause skin sensitization. **COMPONENT B: WARNING: CORROSIVE, IRRITANT, SENSITIZER.** Avoid direct contact. Contains Proprietary Blend of Aliphatic and Cycloaliphatic Amines (Mixture), Benzyl Alcohol (CAS: 100-51-6) and Salicylic Acid (CAS: 69-72-7). Causes burns to eyes/skin/digestive tract. Causes respiratory irritation. Harmful if swallowed. May cause skin sensitization. **Deliberate misuse by inhalation of vapors may be harmful or fatal. Strictly follow all usage, handling and storage instructions.** Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. **Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.**
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 & Storage	Avoid direct contact. Wear personal protective equipment (chemical resistant goggles / gloves / clothing) to prevent direct contact with skin and eyes. Use only in well ventilated areas. Open doors and windows during use. Use a properly fitted NIOSH respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing and launder before reuse.
Clean Up	**COMPONENT A:** Use personal protective equipment (chemical resistant gloves / goggles / clothing). Without direct contact, sweep up spilled or excess product and place in suitable sealed container. Dispose of excess product and container in accordance with applicable local, state, and federal regulations. **COMPONENT B:** Avoid contact. Wear chemical resistant clothing/gloves/goggles. In absence of adequate ventilation; use a properly fitted NIOSH respirator. 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) can only be removed mechanically. In case of spill, ventilate area and contain spill. Collect with absorbent material. Dispose of in accordance with current, applicable local, state, and federal regulations.

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