

Product Data Sheet
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Sikafloor® 340 ESD

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Electrostatic Control Aliphatic UV, Chemical Resistant Urethane Coating

Description Sikafloor 340 ESD is a five component, aliphatic polyurethane ESD control system. The system is applied in two coats to provide a tough, durable ESD surface with matte finish.

Where to Use It is designed to impart electrostatic control properties to a variety of substrates, including existing non-conductive coatings or resurfacers. Sikafloor 340 ESD is chemical resistant and UV resistant. Sikafloor 340 ESD can be used in almost any environment where the damaging effects of electrostatic discharge (ESD) cannot be tolerated. Industries currently use Sikafloor 340 ESD:

- Electronics
- Data processing
- Military/Aerospace
- Photographic, graphic arts

Advantages

- Consistent resistance measurements are obtained when testing in accordance with standard methods.
- Very low body voltage generation values possible when wearing heel straps C or SD footwear.
- Conforms to ANSI S20.20, < 3.5 x 10⁷ ohms when tested in accordance with ANSI STM 97.1
- Maintains ESD performance over the wear life of the coating.
- Maintains electrical conductivity throughout the entire thickness of the system.
- Does not depend on relative humidity for conductivity properties.
- Excellent hard wearing surface.
- Tough, non-porous surface is easy to clean and maintain.
- Good abrasion resistance

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. (5.29 L) Resin packaged in carton with two 1 US gal. cans
Component B: 1.00 US gal. (3.78 L) Hardener packaged in carton with two, 0.5 US gal. cans
Component C: 1.98 US gal. (7.49 L) ESD Additive packed in one 5 US gal. pail
Component D: 0.25 US gal. (0.946 L) Color Additive, two, one-pint cans (0.125 US gal. each)
Agg: 0.25 US gal. (0.946 L) Slip Resistant Additive, two, one-pint cans (0.125 US gal. each)
Components A+B+C+D+Agg.: 4.88 gal. (18.47 L)
Mix all units of all components according to the instructions herein.

Colors Sky Gray (approx. RAL 7035) Light Gray (No RAL)
Medium Gray (approx. RAL 7001) Marshal Bleu (No RAL)
Brick Red (approx. RAL 3009)
Other colors require lead time, or may not be possible due to pigment limitations.
***Sikafloor 340 ESD must not be used with Dark Gray.**

Coverage Sikafloor 340 ESD cannot be used without a primer and/or isolation layer like Sikafloor 107, Sikafloor 161, or Sikafloor 1610. Sikafloor 340 ESD must be applied in two coats of 4 mils wet film thickness.
Theoretical coverage for 4.61 gallon unit = 1,844 ft² (171.3 m²) per coat at 4 wet mils.
Sikafloor 340 ESD system requires two (2) coats.

Pot Life	Material Temperature	Time
	+55°F (10°C)	~ 40 minutes
	+73°F (20°C)	~ 30 minutes
	+90°F (30°C)	~ 20 minutes

***Do not apply after indicated Pot Life is exceeded. End of Pot Life is not visible.**

Waiting / Recoat Times Before applying second coat of Sikafloor 340 ESD allow:

Ambient & Substrate Temperature	Minimum	Maximum
+55°F (10°C)	14 - 16 hours	36 hours
+73°F (20°C)	10 - 12 hours	24 hours
+90°F (30°C)	8 - 10 hours	16 hours

Cure Times	Ambient & Substrate Temperature	Foot traffic	Light traffic	Full cure
	+50°F (10°C)	~ 24 hours	~ 6 days	~ 10 days
	+68°F (20°C)	~ 12 hours	~ 4 days	~ 7 days
	+86°F (30°C)	~ 10 hours	~ 2 days	~ 5 days

Shelf Life 3 months in original unopened container under proper storage conditions. 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

Use of Primer on concrete substrate and/or isolation layer on existing ESD or Epoxy coating 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 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.

Electrical Grounding

The installation of an isolation layer/primer to seal the substrate is required. A high degree of ESD control may be achieved with ESD top coats without direct connection to an earth grounding point. For applications that are more critical or per project specifications, it is recommended that the various coatings be applied in direct, uninterrupted contact with properly prepared grounding points. Metal floor joints, metal equipment bases and steel columns or posts may be used if they have been electrically tested to confirm permanent continuity with an earth ground. Generally, a minimum of one grounding point per every 1,000 square feet of flooring is sufficient for proper dissipation of static electricity.

Adhesive backed copper grounding tape is used as a grounding point. Copper tape can also be used to bridge control joints around columns or different concrete slabs. Copper tape and the Sikafloor 340 ESD cannot be expected to maintain integrity over expansion joints that experience wide movement.

Embedded grounding points, such as copper tape, grounding snaps, etc. must be placed on top of a primer/isolation layer prior to installation of Sikafloor 340 ESD.

Methods of installation include, but are not limited to, the following techniques:

1. Use the copper tape to make an electrical connection with the green wire or grounding portion of an electrical outlet. A 4 in. (10.2 cm.) portion of the copper tape is adhered to the floor (cured primer or directly beneath the first coat of Sikafloor 340 ESD). If using a conductive primer, the copper tape must be installed under the conductive primer. Run the remaining tape up the wall and attach it to the electrical outlet. A variation of this technique involves dropping a No. 10 or 12 copper wire, inside the wall from any convenient ground bus so that the wire emerges at the floor/wall junction. At this point, a small hole cut into the drywall or chipped out of the concrete to allow the copper wire to emerge. The copper grounding strip is intertwined with, or soldered to, the stranded copper wire. If intertwined, use a conductive adhesive tape to secure the copper tape with the copper wire. Insert the connection of the copper tape and wire into the wall. The balance of the grounding strip, typically 4 in. (10.2 cm.) is then adhered to the floor.

2. The copper tape can be used to make ground connections with steel columns. The copper tape is adhered to the floor and run up onto the lightly sanded steel column or base. Drill and tap a hole into the steel column or base secure the copper tape using a machine screw and washer.

Mixing

Mix full units only

Sikafloor 340 ESD must be applied with the full addition of the anti-slip additive.

Pre-mix every Component with a low speed drill (200 - 400rpm) for a minimum of 1 minute before proceeding. A jiffy-type mixing paddle with a variable speed mixing drill is then placed in the Component A container and while running add the ESD color pack (2 cans) and flow additive (2 cans) to the vortex of the mix. Then add the Component B to the pigmented Component A and mix for 3 minutes at a moderate speed (300rpm), scraping the container sides, bottom, and corners with the mixer. Add slip resistant additive (required) (2 cans) and mix for one minute at a moderate speed, scraping the container sides, bottom, and corners with the mixer.

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

Application

The floor should be divided into sections (at expansion joints or doorways when possible) that can be completed without stopping. When ending a section, tape it off to form a clean edge for an adjacent section. The Sikafloor 340 ESD must be applied with a 3/8" nap roller and roller trays. 18 inch roller assemblies and trays are preferred. The roller should be wet in the tray and then the excess coating is removed by lightly rolling in the tray so as to avoid drips. Then apply 3 pairs of 6 - 8 foot long paths on to the floor. Then spread the material with roller passes perpendicular to the paths of coating. It is extremely important to apply the coating at a rate of 4 - 5 mils to achieve proper appearance, texture, and color development, and consistent ESD properties.

If areas are too thick, the coating may be too soft, if too thin, the coating will appear very flat in sheen and may exhibit poor electrical properties. Work evenly to avoid late "tie-in" and re-rolling to adjacent previously applied material; Doing so may result in color variations.

It is also very important to remix the material often with the roller in the tray to keep the Non-Slip Additive from settling.

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 $\leq 4\%$ 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 $\leq 85\%$. 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: Minimum ambient humidity 30%

Maximum ambient humidity 75% (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.

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.
- Polymer concrete reinforcement fibers may interfere with conductive properties of Sikafloor ESD products. Consult Technical Service before applying to fiber reinforced substrates.
- 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.

Caution

COMPONENT A: DANGER: FLAMMABLE, IRRITANT. Contains Propylene Glycol Monomethyl Ether Acetate (CAS: 108-65-6), Polyol (CAS:37625-56-2), Xylene (CAS:1330-20-7) and Ethyl Benzene (CAS:100-41-4). **Keep away from heat, sparks, sunlight, electrical equipment, flame or other sources of ignition. VAPORS MAY IGNITE AND EXPLODE. DO NOT SMOKE.** Use only in well ventilated areas. Open doors and windows during use. Causes eye/skin/respiratory irritation. Inhalation can result in headaches and dizziness. Harmful if swallowed. 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. WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.**

COMPONENT B: WARNING: IRRITANT, SENSITIZER. Contains Hexane, 1,6 Diisocyanate, Homopolymer (CAS: 28182-81-2) and Hexamethylene Diisocyanate (CAS:822-06-0). Causes eye irritation. May cause skin and respiratory irritation. May cause skin and respiratory sensitization. May be harmful if swallowed. May be harmful if inhaled. **WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.**

COMPONENT C (ESD Pack): DANGER: FLAMMABLE, IRRITANT. Contains MICA (CAS: 12001-26-2), Tin Antimony Oxide (CAS:68187-54-2), Xylene (CAS:1330-20-7), 1-Methoxy-2-Propanol Acetate (CAS:108-65-6), Aluminum Oxide (1344-28-1) Propylene Glycol Methyl Ether (CAS:107-98-2), Silica (CAS:14808-60-7), Ethyl Benzene (CAS:100-41-4) and Aromatic Petroleum Naphtha (CAS:64742-95-6). **Keep away from heat, sparks, sunlight, electrical equipment, flame or other sources of ignition. VAPORS MAY IGNITE AND EXPLODE. DO NOT SMOKE.** Use only in well ventilated areas. Open doors and windows during use. May cause eye/skin/respiratory irritation. Inhalation can result in headaches and dizziness. Harmful if swallowed. 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. WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.**

COMPONENT Aggregate (Additive): WARNING: IRRITANT, SENSITIZER. Contains Glass Oxide (CAS: 65997-17-3). May cause eye and skin irritation. May be harmful if swallowed.

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

COMPONENT A and ESD Pack: Keep away from heat, sparks, sunlight, electrical equipment or flame. VAPORS MAY IGNITE AND EXPLODE. DO NOT SMOKE. Open doors and windows during use. Use adequate local and mechanical ventilation. Wear protective equipment (chemically resistant gloves/goggles/clothing) to prevent direct contact with skin and eyes. Use properly fitted NIOSH vapor cartridge respirator if ventilation is poor. Wash thoroughly with soap and water after use. Remove contaminated clothing after use. Store product in tightly sealed containers in a cool, dry well ventilated area at temperatures between 45° F and 75° F away from ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

COMPONENT B and Aggregate: 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 and ESD Pack: In case of spill, eliminate all ignition and heat sources. Ventilate area. Open doors and windows. Wear chemical resistant gloves/goggles/clothing. In absence of proper ventilation use properly fitted NIOSH respirator. Uncured material can be removed with approved solvents. Confine spill, collect using noncombustible absorbent material and place in properly sealed container. Dispose of excess product in accordance with applicable local, state and federal regulations.

COMPONENT B and Aggregate: 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.

Industrial Flooring

The Sika logo consists of the word "Sika" in a bold, yellow, sans-serif font, set against a red triangular background. A registered trademark symbol (®) is located to the right of the text.

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