

Sikafloor® 700 ESD

ESD Epoxy Novolac Coating

Description	Sikafloor 700 ESD coating is a three-component ESD epoxy novolac system designed especially for areas that require both ESD control and chemical resistance to acids and solvents.
Where to Use	Sikafloor 700 ESD can be used in almost any environment where the damaging effects of electrostatic discharge (ESD) cannot be tolerated. Industries currently using the Sikafloor 700 ESD are: <ul style="list-style-type: none"> ■ Electronics ■ Data processing ■ Military/Aerospace ■ Photographic, graphic arts ■ Hazard industries (dust or explosion hazards)
Advantages	A modified cycloaliphatic curing agent blend is used to provide increased chemical resistance to strong acids and caustics, fast cure cycle and satin, durable tile-like finish. Sikafloor 700 ESD can be used inside or outside for secondary containment applications. Sikafloor 700 ESD is applied in one 15-mil coat and will bridge moving cracks with the use of fiberglass reinforcement or a flexible membrane.
Chemical Resistance	Good to excellent overall chemical resistance to a wide spectrum of chemicals, including splash and spillage of: <ol style="list-style-type: none"> 1. Aromatic and aliphatic hydrocarbons 2. 98% sulfuric acid, 37% hydrochloric acid and other inorganic acids 3. 20% acetic acid and other organic acids 4. Dilute and concentrated caustics 5. Gasoline, jet fuel, many solvents

Typical Data

Coverage

Sikafloor 700 ESD cannot be used without a primer. Do not add solvent or other thinners, as this may affect the final cure and ESD properties.

The Sikafloor 700 should be applied at 10-15 wet mils.

3.9 mixed gallons = 415-625 sq. ft. (38-58 sq. m.)

1.3 mixed gallons = 140-205 sq. ft. (13-19 sq. m.)

Cure Mechanism

Temperature	Working Time	Recoat Time Minimum	Recoat Time Maximum
55°F (13°C)	35 minutes	16 hours	36 hours
73°F (23°C)	20 minutes	8 hours	24 hours
90°F (32°C)	20 minutes	6 hours	20 hours

Shelf Life: 1 years in original unopened container under proper storage conditions. Store dry between 40° - 90°F (5° - 32°C).

Packaging:

3.9-gallon (14.7 liter)

Part R ESD Resin Pack

Part H Activator

Color Pack

5-gallon (18.9 liters)

1-gallon (3.8 liters)

1-pint (0.5 liters)

1.3-gallon (4.8 liter)

Part R ESD Resin Pack

Part H Activator

Color Pack

2-gallon (7.6 liters)

1-quart (0.9 liters)

1/2-pint (0.2 liters)

How to Use

Surface Preparation

Remove all oil, grease and chemicals by scraping or washing with detergents before acid etching, shot blasting, sanding or buffing. Sanding or buffing are sufficient preparation for previously coated areas. (Refer to section on Application to Cured Base Coat). Shot blasting is the preferred method of concrete surface preparation. Sikafloor 207 Primer, a high solids primer, is recommended for priming substrates prior to applying Sikafloor 700 ESD. The Two coats of Sikafloor 207 may be necessary to completely hide the shot blast pattern prior to the application of the one or two coats of Sikafloor 700 ESD.

Electrical Grounding

Installing an insulative primer typically seals the substrate. A high degree of ESD control can be achieved with ESD top coats without direct connection to an earth grounding point; this is especially true for installations directly over concrete. However, for applications that are more critical or per project specifications, it is recommended that the various coatings (especially the conductive primer if a conductive system is being installed) 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 1000 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 200 ESD cannot be expected to maintain integrity over expansion joints that experience wide movement.

Methods of installation include 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 200 ESD). 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

Do not mix more material than can be applied within the working time limits at the actual field temperature. The Sikafloor 700 ESD Part R ESD resin portion will ship in a 2-gallon pail. The Part H will ship in a 1 quart can. The color pack will ship in a 1-pint (0.5 liters) can. Place a variable speed mixing drill with a jiffy-type mixing paddle in the Part R container and while running, Add the color pack into the vortex of the mix. Then add the one-quart can of Part H to the pigmented Part R and mix for 3 minutes at a moderate speed, scraping the container side and bottom with the mixer.

Application

The Sikafloor 700 ESD should be applied with a notched squeegee over a smooth surface or a flat squeegee over a rough, porous surface. The notched squeegee should be approximately 36 inches (0.9 m) long with 1/16-to 1/8-inch (1.6-3.2 mm) notches at 1/4-inch (6.3 mm) intervals. This type of squeegee will apply sufficient material to achieve 10-15 wet mils when back rolled. The back rolling is typically done with a 9-inch (.25 m) short nap, 3/8-inch (9.5 mm), solvent resistant roller cover. Back roll the Sikafloor 700 ESD to level the material applied; over-rolling will cause bubbling. Divide the floor into sections that can be completed without stopping. When ending a section, tape it off to form a clean edge for an adjacent section.

The recommended application procedures are:

1. Take one 5-gallon (18.9-liter) pail of the mixed Sikafloor 700 ESD and start at one end of the section to be coated. Trim the walls and/or obstructions in the immediate area where the coating will be applied. Pour the Sikafloor 700 ESD in a line approximately one-foot (0.3 m) from the wall or starting line along the entire width of the section to be coated.

2. The person using the squeegee can then make one pass along the wall or starting line, turn and come back making a second pass adjacent to the first pass. Next, use the rollers to level the Sikafloor 700 ESD squeegee applied material. One person can easily roll a 15- to 20-foot (13-18m) wide section. Do this as quickly as possible.

3. Pour another line of Sikafloor 700 ESD approximately one-foot (0.3 m) from the rolled area and repeat step 2. The rolling personnel should make sure they are not leaving puddles or thick sections of Sikafloor 700 ESD at the junction of the previously rolled and freshly applied Sikafloor 700 ESD.

4. Follow these procedures until the section is completed. If the work must stop for any reason, use a tapeline as a breaking point.

Limitations	<ul style="list-style-type: none"> ■ Minimum/Maximum substrate temperature: 60°F/85°F (15.5°C/30°C). ■ Minimum/Maximum relative humidity: 30% / 85%. ■ Substrate temperature must be 5°F (3°C) above measured dew point. ■ Determine the surface moisture content by using an impedance moisture meter designed for use on concrete as detailed in ASTM E-1907. ■ Acceptable test results shall be 4% by mass or less. If above use Sikafloor Epocem 81/82. ■ Conduct quantitative anhydrous calcium chloride testing in accordance with ASTM F1869. ■ Maximum acceptable test result is 3 pounds per 1,000 ft² (1.5 kg per 100 m²) per 24 hours. If over, use Sikafloor Epocem 81/82. ■ Do not use on exterior, on-grade substrates. ■ Freshly applied Sikafloor 700 ESD should be protected from dampness, condensation and water for at least 24 hrs. ■ Do not thin this product. Addition of thinners will slow the cure and reduce the ultimate properties of this product. ■ Critical recoat times will also be affected.
Caution	<p>COMPONENT R: WARNING: IRRITANT, SENSITIZER. Contains Modified Epoxy Resin (Mixture), Tin Antimony Oxide (CAS: 68187-54-2), MICA (CAS:12001-26-2), Silica Crystalline (CAS: 14808-60-7) and Hydrocarbon Resin (CAS: 25155-81-1). May cause eye/skin/respiratory irritation. May cause skin sensitization. Harmful if swallowed. WARNING: This product contains a chemical known to the State of California to cause cancer.</p> <p>COMPONENT H: WARNING: CORROSIVE, IRRITANT, SENSITIZER. Avoid direct contact. Contains Proprietary Blend of Aliphatic and Cycloaliphatic Amines (Mixture) and Benzyl Alcohol (CAS: 100-51-6). Corrosive to eyes and skin. Causes burns to skin/respiratory and digestive tract. Causes eyes and respiratory irritation. May cause respiratory sensitization. May be harmful if absorbed through skin. Harmful if swallowed. 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.</p> <p>COMPONENT Color Additive: DANGER: FLAMMABLE, IRRITANT. Contains Propylene Glycol Monomethyl Ether Acetate (CAS: 108-65-6), Titanium Dioxide (CAS:13463-67-7), and Toluene (CAS:108-88-3). 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. Eye/skin/respiratory irritant. Inhalation can result in headaches and dizziness. Harmful if swallowed. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal. 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.</p>
First Aid	<p>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.</p>
Handling and Storage	<p>Part R and H: 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.</p> <p>Color Additive: 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.</p>

Industrial Flooring

Clean Up	Parts R and H: 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. Color Additive: 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. 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.
Additional Info	Technical Data Sheets are updated periodically. To ensure the most current version is being used, visit Technical Resources on www.sikafloorusa.com . Proper material application is the responsibility of the user. Site visits made by Sika personnel are for making technical recommendations only and not for supervising or providing quality control. Before applying for protection against specific chemical environments, consult Chemical Resistance Guide or Sika Technical Service.

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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

