



## SELECT ESD EPOXY / CONDUCTIVE / DISSIPATIVE

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### Take Control of Static

**EPOXY CONDUCTIVE / DISSIPATIVE** is a low-odor, 100%-solids cyclo-aliphatic epoxy containing carbon nanotube technology for enhanced scratch-resistance and better electrostatic discharge (ESD) control than traditional ESD systems. Designed as a top coat, it withstands heavy traffic and chemical spills, and inhibits microbial growth, all while maintaining its ESD properties. It can be applied to a variety of surfaces, including properly treated concrete, wood, metal, and non-glazed tile.

#### ADVANTAGES

- Meets ANSI 20.20, USDA, FDA, EPA, and SCAQMD Standards
- Body Voltage Generation: <15 volts
- Resistivity (Conductive):  $2.5 \times 10^4$  to  $10^6$  Ohms
- Resistivity (Dissipative):  $10^6$  to  $10^9$  Ohms
- Adhesion to Properly Prepared and Treated Concrete, Wood, Metal, Non-glazed Tiles, Epoxy, Urethane Polymer Concrete, and Sand
- Anti-bacterial
- Easy Installation
- Eligible for LEED Points
- Heavy-Duty
- High Chemical Resistance
- High Traffic and Impact Resistance
- Low Maintenance
- Waterproofing

#### SUGGESTED USES & APPLICATION AREAS

- 911 Call Centers
- Aircraft Hangars
- Clean Rooms, Labs, and Testing Facilities
- Electronics Assembly and Production
- Heavy-Duty Forklift and Manufacturing Areas
- Hazardous Industries (e.g., dust or explosion)
- Packaging Lines
- Pharmaceutical Facilities
- Plastics Manufacturing
- Processing Areas
- Sensitive Product Storage
- Data Server Rooms
- Shipping and Receiving
- Transport Aisles

#### KRETUS® SYSTEMS

This top coat can be applied over any of the following systems:

- Industrial Sand
- Color Splash
- Epoxy MVR or UPC MVR

For all KRETUS® systems, see [kretus.com/systems](https://kretus.com/systems).

#### PRECAUTIONS AND LIMITATIONS

- This material was designed as a top coat ([kretus.com/esd](https://kretus.com/esd)) and is required for the system to achieve the desired electrostatic properties.
- **Prime Coat:** A prime coat may be required if stem walls are highly absorbent, if outgassing is suspected or prevalent, or if concrete is very porous or in poor condition. All concrete repairs must be completed before installing any system.
- Apply with 5-7 WFT-mil blade.
- DO NOT apply any single coat thicker than 7 mils (215 SF/gal).
- DO NOT let material puddle on the floor—this will cause white spots to appear when the coating cures.
- **UV Resistance:** Epoxy will amber over time. If color stability is important, use the UV-stable Poly Conductive / Dissipative application (see [kretus.com/esd](https://kretus.com/esd)).
- Complete samples and onsite mockups to ensure desired results are achieved.
- **Application temperatures:** When temperatures increase, material cures faster. Material cures slower when temperatures decrease. If application temperatures are outside of those recommended, contact your KRETUS® Technical

Representative. Apply material when temperature is decreasing—adhere to the KRETUS® Dew Point Calculation Chart available at [kretus.com/project-planning](https://kretus.com/project-planning). DO NOT apply under direct sunlight. DO NOT install under inclement weather conditions.

- Application times are based on test results compiled by lab technicians in a controlled setting. All times were recorded using 1-quart samples.
- Coverage rates are for estimating purposes only. Factors such as waste, unusual/abnormal substrate conditions, and other unforeseen jobsite conditions may affect actual product yields and are the responsibility of the installer.
- Recommended for Applicators level 3 and up. See [kretus.com/applicator-skill-level](https://kretus.com/applicator-skill-level).

## FINISH AND COLOR

- Gloss
- Color: See ESD Brochure at [kretus.com/esd](https://kretus.com/esd).
- Round-shaped surface texture makes this easy to clean with microfiber pads.

## COMPONENTS FOR SELECT ESD 1.5-GALLON KIT (COVERS 400 SF PER KIT AT 6 MILS)

### Epoxy Conductive

- Part A: Epoxy ESD Conductive, 1 gal in 2-gal pail
- Part B: Epoxy ESD, 1/2 gal
- Colorant: Epoxy ESD Colorant, 16 oz
- Texture: Anti-Slip Bead 50/100, 32 oz

### Epoxy Dissipative

- Part A: Epoxy ESD Dissipative, 1 gal in 2-gal pail
- Part B: Epoxy ESD, 1/2 gal
- Colorant: Epoxy ESD Colorant, 16 oz
- Texture: Anti-Slip Bead 50/100, 32 oz

Larger kits may be available through KRETUS® distributor.

## SAFETY, TESTING, AND WARRANTY

- **Safety:** Personal protective equipment and safety conditions must be considered before using any product. Review all relevant and current documentation including Safety Data Sheets ([kretus.com/safety-data-sheets](https://kretus.com/safety-data-sheets)).
- **Testing before installation:** Test and look for any unknown site conditions and/or defects. To ensure desired results are achieved, the system should be tested in a small area on site before full installation begins.
- **Testing after installation:** After completion of the installation, test according to the most current ANSI 20.20 standards as well as any testing required by the facility's ESD program.
- **Warranty:** For warranty to be upheld, Pre- and Post-Job Checklists ([kretus.com/project-planning](https://kretus.com/project-planning)) must be completed. All materials used to treat the substrate and clean the [Poly/Epoxy Conductive/Dissipative] must be manufactured by or approved for use by KRETUS®.

## STORAGE AND APPLICATION TEMPERATURES

Ideal Storage Environment	Dry, Out of Direct Sunlight, 60-80°F
Material Temperature During Application	50-70°F and 5°F Above Dew Point
Minimum Substrate Temperature During Application	5°F Above Dew Point
Recommended Application Temperature for Material	50-90°F, <90% RH (Relative Humidity)

## Average Application Time

Ambient Temperature	50°F, 50% RH	70°F, 50% RH	90°F, 50% RH
Working Time	35 min	25 min	15 min
Return to Service (Foot Traffic)	36 hrs.	24 hrs.	24 hrs.
Full Cure (Vehicle Traffic)	7 days	7 days	7 days

## SURFACE PREPARATION

SELECT ESD kits are designed to be installed over another KRETUS® system (e.g., Epoxy MVR, Industrial Sand, Color Splash). Before installing, the substrate must be sound, meaning all necessary concrete repairs have been completed, and it must be clean, dry, and free of any contaminants, moisture, materials, or particles that may hinder material's adhesion to concrete.

## MIXING AND APPLICATION

Combine components according to mix instructions. Continue mixing until the coating's consistency is uniform. The coating must remain thoroughly mixed during the application. Continue mixing during application to ensure a uniform cure.

Keep a wet edge while applying product. Wear spiked shoes when walking on material.

Standard Kit Mix Ratio	1 gal A:1/2 gal B:16 oz colorant:32 oz Anti-Slip
Mixing Drill	low-RPM, low-torque drill with Jiffy double-bladed mixer
Mixing Directions	Add Colorant to Part A and mix until color is uniform. Add Part B and continue mixing for up to 1 minute. Add texture and continue to mix until color and consistency are uniform. Total mixing time: 2 minutes.

## Coverage Rates

APPLICATION	COVERAGE RATE
Apply as a top coat with a 5-7 mil blade. Smooth the application with 3/8" non-shed nap roller.	400 SF per kit

If you need to increase working time, KRETUS® Solvent Cleaner may be added and will not affect Ohm readings. Mix ratio is 32 oz of Solvent Cleaner per standard SELECT ESD kit. Increase the coverage rate to 475 SF/kit.

## PROPERTIES OF FULLY CURED COATING

PROPERTIES	TEST METHOD	TYPICAL VALUES
Conductive System Resistivity	ASTM D257, ANSI/ESD S7.1	$2.5 \times 10^4$ – $10^6$ ohms
Dissipative System Resistivity	ASTM D257, ANSI/ESD S7.1	$10^6$ – $1.0 \times 10^9$ ohms
Body Voltage Generation (with Dissipative Footwear)	ANSI/ESD STM 97.2	15V
Abrasion Resistance	ASTM D4060	15-20 mg
Adhesion Strength over Concrete	ASTM D4541	400 psi, concrete failure
Adhesion Strength over Sand	ASTM D4541	500 psi, sand/natural quartz failure
Compressive Strength	ASTM D695	13,700 psi
Flame Spread/Critical Flux	ASTM E648	Class 1
Flame Spread/Rate of Burning	ASTM D635	Self-extinguishing
Flexural Strength	ASTM D790	9,000 psi
Hardness (Shore D)	ASTM D2240	85
Impact Resistance	ASTM D2794	120 in-lbs.
Indoor Air Quality	CA 01350	Compliant
Microbial Resistance	ASTM G21	Passes, 0 growth
Modulus of Elasticity	ASTM D790	$5.0 \times 10^5$ psi
Moisture Vapor Permeance	ASTM E96	0.08 perms
Tensile Elongation at Break	ASTM D638	5%
Tensile Strength	ASTM D638	7,800 psi
Thermal Coefficient of Linear Expansion	ASTM D696	$18.0 \times 10^{-6}$ in/in/°F
Water Absorption	ASTM D570	<0.05%

Moisture Vapor Emission Rate	ASTM F1869	8-10 lbs.
Relative Humidity	ASTM F2170	<80%

### CHEMICAL AND STAIN RESISTANCE

1 = Best for chemical resistance: Chemical has no adverse effects on fully cured coating; remove within 24 hours.

2 = Low potential for stain: Chemical has no adverse effects on fully cured coating if removed within 24 hours.

3 = High potential for stain or degradation: Chemical must be removed within 24 hours of exposure.

NR = Not recommended

Acetic Acid (Component of Vinegar), 10% .....	1	Methanol .....	NR
Acetic Acid, 30%.....	2	Methylene Chloride .....	NR
Acetone.....	NR	MIBK (Methyl Isobutyl Ketone).....	NR
Ammonia, 30%.....	1	Mineral Oil .....	1
Ammonium Hydroxide, 30%.....	1	Motor Oil, SAE 30 .....	1
Antifreeze (Coolant).....	1	Mineral Spirits.....	NR
Benzene (Component of Crude Oil).....	3	Mustard, Yellow .....	2
Benzyl Alcohol .....	3	Nitric Acid, 30% .....	NR
Betadine, 11% .....	NR	Oleic Acid .....	1
Boric Acid, 4% .....	1	Oxalic Acid, 10%.....	1
Brake Fluid, DOT 3 .....	1	Phosphoric Acid, 20% .....	3
Chromic Acid, 10%.....	3	Potassium Hydroxide, 30%	
Chromic Acid, 30%.....	3	(Alkaline Batteries, Soap Manufacturing).....	1
Citric Acid, 30%.....	1	Propylene Glycol.....	1
Ethanol, 95%.....	NR	Silver Nitrate, 20% (Photo Labs) .....	3
Ethyl Acetate, 99% (Food/Beverage Facility) .....	NR	Hydraulic Fluid (Aviation), Skydrol LD-4 .....	2
Formaldehyde, 37% .....	3	Sodium Chloride, 20%.....	1
Premium Gasoline.....	1	Sodium Hydroxide (Caustic Soda), 50% .....	1
Hydraulic Fluids		Sodium Hypochlorite (Bleach), 10% .....	2
(Machinery, Automobile, Aviation) .....	2	Sodium Hypochlorite (Bleach), 30%.....	3
Hydrochloric Acid, 10%.....	3	Sodium Persulfate	
Hydrochloric Acid, 30%.....	3	(Bleaching and Oxidizing Agent).....	3
Hydrofluoric Acid, 10% .....	1	Sulfuric Acid, 37% (Battery Acid) .....	NR
Hydrofluoric Acid, 30% .....	3	Tannic Acid, 20%.....	3
Hydrogen Peroxide, 10% .....	NR	Tartaric Acid, 10% .....	1
Hydrogen Peroxide, 50% .....	NR	Transmission Fluid .....	1
Iodine, 2%.....	3	Urine, Dog or Cat .....	1
Isopropyl Alcohol .....	3	Urea (Nitrogen-Rich Fertilizer).....	1
Jet Fuel.....	1	Vinegar, Distilled .....	1
Lactic Acid, 30% (Dairy Facility).....	NR	Water (Hard Water from Well) .....	1
Lime Juice .....	2	Whisky .....	1
Magnesium Hydroxide.....	1	Wine, Cabernet Sauvignon .....	2
MEK (Methyl Ethyl Ketone) .....	NR	Xylene .....	3

Pigments or colorants may affect working times, reduce chemical resistance, or increase potential for stain. Coatings tested at ambient temperature over 1-3 days' exposure to chemical. To ensure desired results are achieved, products should be tested on site before installation.

**DISCLAIMER:** The information contained in this document is intended for use by KRETUS®-qualified and -trained professionals. This is not a legally binding document and does not release the specifier from their responsibility to apply materials correctly under the specific conditions of the construction site and the intended results of the construction process. The most current valid standards for testing and installation, acknowledged rules of technology, as well as KRETUS® technical guidelines must be adhered to at all times. The steps given in this document and other mentioned documents are critical to the success of your project.