

Eco-SDS™ - Satin

Static Control Dissipative Urethane



DESCRIPTION – Light-stable urethane that contains a conductive filler to yield static dissipative properties. This coating has a satin appearance for long-lasting durability.

- **ELECTROSTATIC DISCHARGE CONTROL** - Meets ANSI/ESD S20.20-2007 for resistance $<1 \times 10^9$ ohms and <100 volts Body Voltage Generation
- **LEED® v4** – Indoor Air Quality credits available.
 - Meets requirements per CDPH-CA Section 01350 Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental chambers Version 1.2.

ENVIRONMENTALLY & USER FRIENDLY

- Reduced solvent means less evaporation and less waste.
- Low Odor. Can be applied during normal business hours.
- Complies with SCAQMD VOC regulations.

PRIMARY APPLICATIONS

| | |
|--|--------------------------|
| Manufacturing / Automotive Manufacturing | Avionics |
| Electrical Assembly / Production | Clean Room / Lab |
| Packaging | Warehouse / Distribution |

APPLICATION COVERAGE RATE

| | |
|--|------------|
| Coverage Rate, ft ² /gal [m ² /3.78 L] | 600 [55.7] |
| Application Thickness, wet mils [mm] | 3 [0.08] |

MATERIAL PROPERTIES (LIQUID)

| Property | Test Method | Results |
|--|-------------|-----------------------|
| Percent Solids, by wt [by vol] | ASTM D2369 | A+B+C = 93.67 [92.49] |
| Volatile Organic Compound, VOC, lb/gal [g/L] | ASTM D3960 | A+B+C = 0.05 [6] |

CURED COATING PROPERTIES (DRY FILM)

| Electrical Properties | Test Method | Results |
|---|---|---|
| Body Voltage Generation | ANSI/ESD STM 97.2 (ANSI/ESD S20.20 - Method 2) | 12 volts with ESD shoes 32 volts with heel straps |
| Body Voltage Decay (with ESD shoes or heel straps) | AATCC 134-1979 (modified) | 1,000 volts to <10 volts in <1.0 second |
| Resistance to Ground in Combination with a Person | ANSI/ESD STM 97.1 (ANSI/ESD S20.20 - Method 1) | $<3.5 \times 10^7$ ohms (ESD shoes or heel straps) |
| Surface Resistance Point to Point / Point to Ground | ESD Assoc. ANSI/ESD STM 7.1-2013 | 1×10^5 ohms to 1×10^9 ohms |
| Material Properties | Test Method | Results |
| Abrasion Resistance Taber Abraser CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions | ASTM D4060 | 38 |
| Coefficient of Friction – COF, James Friction Tester | ASTM D2047 | 0.50 |
| Coefficient of Friction, Wet Static, BOT 3000 | ANSI/NFSI B101.1 | 0.95 |
| Flammability/Rate of Burn (topcoat resin) mm/min | ASTM D635 | 182 |
| König Hardness (3 mil / 0.08 mm film) (topcoat resin only) | ASTM D4366 | 171.3 |
| Resistance to Yellowing As measured using ASTM D2244 after 1000 consecutive hours UV exposure in QUV. | ASTM G154 | <10 increase to yellow units (CIE Δb) |
| Water Absorption, 24-hour immersion | ASTM D570 | 0.2% weight increase |

Results are based on conditions at 77°F (25°C)

GENERAL PRODUCT INFORMATION

| | |
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| STORAGE: | Materials should be stored indoors between 65°F [18°C] and 90°F [32°C]. |
| SHELF LIFE: | One year from date of manufacture. |
| PACKAGING OPTIONS / PART NUMBERS: | 1.09 gallons / 9009553 |
| OPTIONS: | <p>Use the same color in the epoxy and Eco-SDS Satin. White is not recommended for this system.</p> <p>Colors in Tennant Epoxy: Use colorants at a rate of one unit per 3-gallon (11.34 litres) mix. Standard Colorants--Yellow, Light Gray and Rotunda Red will not impart total hide. Use these colorants at a rate of two units per 3-gallon (11.34 litres) mix. Similar colorants also may not hide as well. Refer to Color Selection Guide or consult Tennant Technical Support.</p> <p>Colors in Eco-SDS Satin: Use Colorants at a rate of one-half unit per 1-gallon (3.78 litres) mix.</p> |
| LIMITATIONS | <p>Colors: The use of color is recommended in Eco-SDS Satin. DO NOT USE White.</p> <p>Hide: The topcoat must be applied over a pigmented primer or existing coating of similar color to obtain color hide in Eco-SDS Satin. The resulting system color will be closer to the primer.</p> <p>Contamination (Fisheyes): Product may fisheye if oil, silicones, mold release agents or other contaminants are present.</p> <p>Chemical Resistance / Staining: Reduced chemical resistance and staining is possible in pigmented versions of the system.</p> |

CHEMICAL RESISTANCE PROPERTIES

| | 1 Day | 7 Days | | 1 Day | 7 Days |
|----------------------------------|-------|--------|--|-------|--------|
| (pigmented) | | | (pigmented) | | |
| Acids, Inorganic | | | Solvents (Chlorinated) | | |
| 10% Hydrochloric Acid | E | E | Methylene Chloride | P | P |
| 30% Hydrochloric Acid (Muriatic) | E | F | Solvents (Ketones & Esters) | | |
| 10% Nitric Acid | E | E | Methyl Ethyl Ketone (MEK) | F | F |
| 50% Phosphoric Acid | F | F | Propylene Glycol Methyl Ether Acetate (PMA) | E | E |
| 37% Sulfuric Acid (Battery Acid) | E | E | Miscellaneous Chemicals | | |
| Acids, Organic | | | 20% Ammonium Nitrate | E | E |
| 10% Acetic Acid | E | E | Brake Fluid | E | E |
| 10% Citric Acid | E | E | Bleach | E | E |
| Oleic Acid | E | E | Motor Oil (SAE 30) | E | E |
| Alkalies | | | Skydrol® 500B | E | E |
| 10% Ammonium Hydroxide | E | E | Skydrol® LD4 | E | E |
| 50% Sodium Hydroxide | E | E | 20% Sodium Chloride | E | E |
| Solvents (Alcohols) | | | 1% Tide® Laundry Soap | E | E |
| Ethylene Glycol (Antifreeze) | E | E | 10% Trisodium Phosphate | E | E |
| Isopropyl Alcohol | E | E | Coffee | E | E |
| Methanol | P | P | Coke® | E | E |
| Solvents (Aliphatic) | | | Ketchup | E | E |
| d-Limonene | F | F | Mustard | G* | G* |
| Jet Fuel - JP-4 | E | E | Red Wine | E | G* |
| Gasoline | E | F | 3M™ DuraPrep™ | G* | F |
| Mineral Spirits | E | E | Purdue Betadine Solution | G* | G* |
| Solvents (Aromatic) | | | | | |
| Xylene | E | E | Registered trademarks: Tide® of Procter and Gamble, Skydrol® of Solutia, Inc., Coke® of Coca-Cola Company and 3M™ DuraPrep™. | | |

ASTM D1308 Test Method 3.1.1 spot test, covered. Results are based on 1-day and 7-day. Coating cured 2 weeks prior to testing.

Legend:

E - Excellent (No Adverse Effect) - Recommended.

F - Fair (Moderate Adverse Effect) - Not recommended.

G - Good (Limited Adverse Effect) - Use for short-term exposure only.

P - Poor (Unsatisfactory) - Little or no resistance to chemical.

*Only adverse effect was staining.

NOTE: *Reduced chemical resistance and staining is possible in pigmented versions of the system.*

IMPORTANT: READ AND FOLLOW ALL PRECAUTIONS AND INSTRUCTIONS BEFORE PROCEEDING.

PLEASE SEE SAFETY DATA SHEET (SDS) FOR HANDLING PROCEDURES.

USE PRODUCT AS DIRECTED.

KEEP OUT OF THE REACH OF CHILDREN.

PRELIMINARY FLOOR INSPECTIONS

CHECK THE TEMPERATURE AND HUMIDITY: Floor temperature and materials should be between 65°F (18°C) and 80°F (27°C). Humidity must be less than 70%. Call Tennant Company Tech Support if conditions are outside these guidelines. **DO NOT** coat unless floor temperature is more than five degrees over the current, local dew point.

BARE CONCRETE

CHECK THE CONCRETE: Concrete must be structurally sound and free of curing membrane, paint and/or other sealer. If you suspect that the concrete has been previously sealed, call Tennant Company Tech Support for further instructions.

CHECK FOR MOISTURE: Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. In-situ relative humidity testing is recommended. Readings must be below 75% relative internal concrete humidity. Test methods can be purchased at www.astm.org, see F2170, or follow manufacturer's instructions. If moisture issues are present, the use of a moisture mitigation system may be a consideration. Please call Tennant Company Technical Support for further information / instructions.

NOTE: Although moisture testing is critical, it is not a guarantee against future problems. This is especially true if there is no vapor barrier or the vapor barrier is not functioning properly and/or you suspect you may have concrete contamination. Additional testing may be necessary to determine the vapor barrier and any contamination.

APPLICATION EQUIPMENT

| | |
|--|--|
| • Protective clothing | • 3/8" medium-nap roller (18") |
| • Jiffy® mixer blade [Tennant Part No. 08643-1 (small unit) or 08643-5 (large unit)] (Registered trademark: Jiffy® Mixer Co. Inc.) | • Roller assembly (18") |
| • Slow speed drill (500 rpm or less) | • Application tray |
| • 18-24" Flat rubber squeegee | • Disc machine |
| • 18-24" 1/16" Notched rubber squeegee | • 60 grit sandpaper [Tennant Part No. 65449] |
| • Spiked shoes | • 80 grit sandpaper [Tennant Part No. 65450] |

ASSEMBLE EQUIPMENT: Due to the limited pot life of the material, all application equipment, etc. should be ready for immediate use. (Clean roller with tape to remove any residual lint.)

PREPARATION

Detergent scrub and rinse with clean water to remove surface dirt, grease, oil and contaminants.

THICK FILM APPLICATIONS (25 mils / 0.64 mm):

Steel Shot Blast: Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust.

Diamond Grind: Sweep to remove large debris and vacuum to remove fine dust.

JOINTS: Depending on the preference of the facility owner, joints may or may not be filled. If the joints are filled, non-moving joints, i.e. contraction or control joints, can be hard filled with thickened, 100% solids epoxy or with a semi-rigid joint filler such as Eco-PJF™ or Eco-EJF™. Construction joints less than one inch wide may also be filled with Eco-PJF. Isolation or expansion joints must be filled with a flexible material designed for this purpose.

APPLICATION – PRIMER

ECO-SDS SATIN MUST BE APPLIED OVER A TENNANT 100% SOLIDS EPOXY PRIMER. (See appropriate epoxy product bulletin for application instructions.)

APPLICATION – BUILD COAT

AT LEAST 8 MILS OF AN EPOXY BUILD COAT ON TOP OF THE EPOXY PRIMER ARE RECOMMENDED FOR COMPLETE HIDE. (See appropriate epoxy product bulletin for application instructions.)

ELECTRICAL GROUNDING

If Eco-SDS-Satin is the primary ground, then a grounding system that meets the customer's specifications needs to be connected to the common ground of the facility. If copper tape is used, install the copper tape on the insulator coat, underneath the Eco-SDS-Satin.

APPLICATION – TOPCOAT – ECO-SDS SATIN

PREMIX PART A USING A JIFFY® MIXER BLADE with slow speed drill. **POTLIFE:** *Mix only enough material which can be used within 30 minutes.* **NOTE:** *Once opened, this material cannot be resealed for later use.*

CONTINUE TO MIX AND ADD PART B. MIX FOR 1 MINUTE using a Jiffy® mixer blade and slow speed drill.

POUR MIXED PARTS A/B INTO PART C while mixing. **NOTE:** *The Part C is not blended—DO NOT SPLIT MIX OR PRODUCT MAY NOT MEET PERFORMANCE SPECIFICATIONS.*

MIX FOR 3 MINUTES using a Jiffy® mixer blade and slow speed drill. Move the blade up and down the sides of the pail and across the bottom to ensure contents are thoroughly mixed so no dry filler remains.

COLORS: Use Colorants at a rate of one-half unit per 1-gallon (3.78 litres) of Eco-SDS Satin. Premix Tennant Colorant before adding to the combined Parts A/B/C to ensure uniform color. Add colorant to combined Parts A/B/C and mix using a Jiffy® mixer blade and slow speed drill. Mix until well blended. Pour into application tray.

APPLY ECO-SDS SATIN at the rate of 600 ft²/gallon (55.7 m²/3.78 L) with a 3/8" (10 mm) nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Material applied at a lower application rate will tend to foam at higher humidities and temperatures. Dip the roller in the coating and lightly roll out excess in the application tray. Apply material in an area no wider than 10 feet (3.0 meters). One dip should cover about 45 sq. ft. (4.2 m²).

SPREAD THE MATERIAL evenly with V-shaped cross passes.

MAKE SURE THE FLOOR HAS JUST ENOUGH COATING TO COVER EVENLY. Excess material could cause the floor to blister, especially in high humidity and will show more roller marks. Insufficient material will cause the floor to look non-uniform. If you cannot see the grit texture, the material is too thick.

LEVEL THE AREA with straight passes that cross the initial material paths. These final strokes will reduce roller marks. If the appearance is not satisfactory, reroll the area.

REMIX THE MATERIAL in the tray occasionally (with the roller) to prevent settling of the Part C (filler).

NOTE: *This product cannot be finish rolled by a separate individual. Late finish rolling may introduce foam in the coating especially at higher humidities and temperatures.*

ALLOW COATING TO DRY 24 HOURS at 75°F (24°C), 50% relative humidity before opening to light traffic. Allow more time at low temperatures, low humidity or for heavier traffic. Full coating properties take 14 days to develop.

TECHNICAL SUPPORT

For any preparation or application questions, please call Tennant technical support at 800-228-4943, option 3 (US & Canada), 800-832-8935 (International).

DISPOSAL

Dispose of all excess material, packaging and other waste in accordance with federal, state and local regulations.

MAINTENANCE GUIDELINES

Allow floor coating to cure at least one week before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care: Proper maintenance will increase the life and help maintain the appearance of your new Tennant floor coating. Sweep and scrub your new coating regularly, as dirt and dust are abrasive and can quickly dull the finish, decreasing the life of your coating. Remove spills quickly as certain chemicals may stain and could possibly permanently damage the finish.

Use soft nylon brushes or white pads on your new floor coating. Any brush more abrasive than a soft nylon or white pad can cause premature loss of gloss.

Detergent: Tennant has a full range of detergents--general purpose to heavy duty--for your cleaning needs. For assistance in determining which detergent is right for your facility or for additional technical information call: 800-228-4943, option 3 (US & Canada), 800-832-8935 (International).

Caution: Avoid scratching or gouging the surface. All floor coatings will scratch if heavy objects are dragged across the surface.

Do not drop heavy or pointed items on the floor as this may cause chipping or concrete popouts in the case of a weak cap.

Rubber tires can permanently stain the floor coating from plasticizer migration. Plexiglass® between the tire and the floor coating can prevent discoloration.

Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repair: Repair gouges or scratches or chip outs as soon as possible to prevent moisture or chemical contamination.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

Eco-ECE™ (Electrostatic Conductive Epoxy), Eco-SCT™ (Electrostatic Control Topcoat) and Eco-SDS™ (Static Dissipative System) ONLY.

The management and control of electrostatic charge is complicated and involves many factors. **BUYER ASSUMES ALL RISK AND LIABILITY ASSOCIATED WITH THE USE OF THIS PRODUCT.**

TENNANT COMPANY MAKES THE FOLLOWING LIMITED WARRANTY: (1) that this product is free from defects of manufacture, improper formulation, and defective ingredients and conforms to Tennant's manufacturing standards and (2) that the technical data furnished is true and accurate to the best of its knowledge (but no guarantee of accuracy is expressed or implied and all such data is to be used only as a general guide). **Warranty covers replacement of materials only.**

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In no event shall Tennant or Seller be liable for any incidental, consequential, or special damages arising out of the use of Tennant Specialty Surface Coatings. **THE ONLY REMEDY OF THE USER OR BUYER, AND THE ONLY LIABILITY OF TENNANT AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES, OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE) SHALL BE REPLACEMENT OF THE PRODUCT OR, AT THE ELECTION OF TENNANT OR SELLER, RETURN OF THE PURCHASE PRICE.**

No representative of Tennant has authority to give any other warranty or assume other liability.

The presence of a Tennant employee during the application of Tennant's Specialty Surface Coatings does not extend or alter the warranty or limitations in any manner whatsoever.