

PRODUCT BULLETIN  
**WearGuard™-SDS**



**Static Dissipative, Chemical Resistant Urethane Topcoat**

Tennant Company, 701 North Lilac Drive, P.O. Box 1452, Minneapolis, MN 55440-1452  
 800-553-8033 / www.tennantfloorcoatings.com  
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**DESCRIPTION:**

A high performance, two-component urethane coating containing an electro-conductive additive which dissipates electronic charges.

**USES:**

- Ideal for areas where ESD needs to be controlled such as electronics manufacturing, clean rooms and aircraft hangars.

**ADVANTAGES:**

- Controls electrostatic discharge (ESD)
- Meets static dissipative specifications ( $10^6$  to  $10^9$  ohms)
- Non-yellowing, semi-gloss finish available in five colors
- Resists Skydrol®, jet fuels and other industrial chemicals
- Complies with VOC regulations

**STORAGE:** Materials should be stored indoors between 65°F (18°C) and 90°F (32°C).

**SHELF LIFE:** Minimum 6 months from date of manufacture.

**PACKAGING OPTIONS / PART NUMBERS:**

**WEARGUARD™-SDS:**

4 gallons / 60670-4

**OPTIONS:**

**Colors:** Use Battleship Gray, Medium Gray, Canada Gray, Black or Light Gray at one half-pint per 4-gallon unit of WearGuard™-SDS. The conductive filler is gray, so these colors will look darker than normal.

**LIMITATIONS:**

**Colors:** Neutral is not available.

**Contamination (Fisheyes):** Products may fisheye if oil, silicones, mold release agents or other contaminants are present.

**MATERIAL PROPERTIES (LIQUID):**

Property	Test Method	Results
Flash Point °F/C Seta Closed Cup	ASTM D3278	A - 110 (43) B - 110 (43) Colors - 110 (43)
Percent Solids, by wt	ASTM D2369	A - 66.9 B - 66.2 Colors - 85-92
Density lb/gal / kg/L	ASTM D1475	A - 9.96 (1.20) B - 8.95 (1.07) Colors - 13.0-19.0 (1.58-2.28)
Viscosity, cps Brookfield	ASTM D2196	A - 1500-2500 B - 40-60 Mixed - 200-300
Volatile Organic Compound - VOC lb/gal (g/L)	ASTM D3960	A+B+Colors - <3.3 (<400)

**CURED COATING PROPERTIES (DRY FILM):**

Property	Test Method	Results
Abrasion Resistance, mg/(mils) loss* Taber Abraser	ASTM D4060*	70-80
Coefficient of Friction - COF James Friction Tester	ASTM D2047	0.61-0.64
Dry Film Thickness , mils		1.9 (1 coat)
Tensile Strength, psi (kPa)	ASTM D2370	3,800 (26,220)
Percent Elongation (1 mil film)	ASTM D2370	70
König Hardness	ASTM D4366	165
Body Voltage Generation, volts	AATCC/ANSI 134 Shoe/WG™-SDS	Typical Charge <500 <250 <50-100 <25 <25
Point to Point Resistance Point to Ground Resistance	EOS/ESD-S7.1	$10^6$ - $10^9$ ohms at 100 V DC $10^6$ - $10^9$ ohms at 100 V DC

\*CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions  
 Results are based on conditions at 77°F, 50% relative humidity.

**APPLICATION CHARACTERISTICS:**

A gallon of WearGuard™-SDS will cover:

Coverage Rate, ft <sup>2</sup> /gal)	500
Application Thickness, wet mils	3.2 (1 coat)

Results are based on conditions at 77°F, 50% relative humidity.

## CHEMICAL RESISTANCE

WEARGUARD™-SDS	1 Day	7 Days
<b>Acids, Inorganic</b>		
10% Hydrochloric Acid	E	E
30% Hydrochloric Acid (Muriatic)	E	E
10% Nitric Acid	E	E
50% Phosphoric Acid	E	E
37% Sulfuric Acid (Battery Acid)	E	E
<b>Acids, Organic</b>		
10% Acetic Acid	E	E
10% Citric Acid	E	E
Oleic Acid	E	E
<b>Alkalies</b>		
10% Ammonium Hydroxide	E	E
50% Sodium Hydroxide	E	E
<b>Solvents (Alcohols)</b>		
Ethylene Glycol (Antifreeze)	E	E
Isopropyl Alcohol	G	G
Methanol	P	P
<b>Solvents (Aliphatic)</b>		
d-Limonene	E	E
Jet Fuel - JP-4	E	E
Gasoline	E	E
Mineral Spirits	E	E
<b>Solvents (Aromatic)</b>		
Xylene	G	G
<b>Solvents (Chlorinated)</b>		
Methylene Chloride	P	P
<b>Solvents (Ketones &amp; Esters)</b>		
Methyl Ethyl Ketone (MEK)	P	P
Propylene Glycol Methyl Ether Acetate (PMA)	E	G
<b>Miscellaneous Chemicals</b>		
20% Ammonium Nitrate	E	E
Brake Fluid	E	E
Bleach	E	E
Motor Oil (SAE 30)	E	E
Skydrol® 500B	E	E
Skydrol® LD4	E	E
20% Sodium Chloride	E	E
1% Tide® Laundry Soap	E	E
10% Trisodium Phosphate	E	E

Based on 1-day and 7-day spot testing on concrete. Coating cured 2 weeks prior to testing.

### Legend:

E - Excellent (No Adverse Effect) - Recommended.  
 G - Good (Limited Adverse Effect) - Use for short-term exposure only.  
 F - Fair (Moderate Adverse Effect) - Not recommended.  
 P - Poor (Unsatisfactory) - Little or no resistance to chemical.  
 Note: Reduced chemical resistance and increased staining is possible in pigmented versions of this system.  
 Tide® is a registered trademark of Proctor and Gamble.  
 Skydrol® is a registered trademark of Monsanto.

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

### PRELIMINARY FLOOR INSPECTIONS

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

**CHECK FOR MOISTURE:** Concrete must be dry before application of this floor coating material. Concrete moisture testing must occur. Calcium chloride testing or in-situ relative humidity testing is recommended. Readings must be below 3 pounds per 1,000 square feet over a 24-hour period on the calcium chloride test or below 70% relative internal concrete humidity. Test methods can be purchased at [www.astm.org](http://www.astm.org), see ASTM F1869 or F2170, respectively or follow manufacturer's instructions.

**NOTE:** Although 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 from oils, chemical spills or excessive salts.

**CHECK THE TEMPERATURE AND HUMIDITY:** Floor temperature and materials should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 85%. Floor temperature must be five degrees greater than the dew point. **DO NOT** coat if floor temperature and dew point are within five degrees of each other.

### APPLICATION EQUIPMENT

- Protective clothing
- Chemical Respirator approved for organic vapors
- Jiffy® Mixer Blade  
[Tennant Part No. 08643-1 (1 gal) or 08643-5 (5 gal)]
- Slow speed drill (500 rpm or less)
- Mixing container
- Roller Assembly
- Shed Resistant, Medium (1/4") Nap Rollers
- Application Tray
- Disc machine
- 100 grit sandpaper [Tennant Part No. 65451]

**ASSEMBLE EQUIPMENT:** Clean roller with tape to remove any residual lint.

### RECOAT

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

The existing floor coating must be thoroughly sanded and cleaned prior to application of WearGuard™-SDS.

### APPLICATION - BARE CONCRETE

**WEARGUARD™-SDS MUST BE APPLIED OVER AN EPOXY PRIMER**--use Eco-CRU™ Primer. If floor has been shot blast, use Eco-MPE™. (See appropriate product bulletins for prep and application instructions).

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## APPLICATION - COATING

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**PREMIX PART A** using a Jiffy® mixer blade and slow speed drill. **Note:** It is crucial to get all settled material off the bottom and mixed back into solution. *POTLIFE:* Mix only enough material which can be used in a 2 hour period. DO NOT split proportioned units.

**COLORS:** Premix Tennant Colorants before adding to WearGuard™-SDS to ensure uniform color. Add one half-pint of colorant to WearGuard™-SDS Part A and mix using a Jiffy® mixer blade and slow speed drill.

### **ADD PART B'S (2 GALLONS TOTAL) TO PART A.**

**MIX FOR 3 MINUTES** using a Jiffy® mixer blade and slow speed drill. Pour into application tray.

**APPLY WEARGUARD™-SDS** at the rate of 500 sq. ft. per gallon with a 1/4" nap roller. For proper appearance and development of physical properties, it is crucial that material is not applied above or below this rate. Dip the roller in the coating and lightly roll out excess in the application tray. Apply two 8-10 foot long paths on the concrete, making one stroke left to right and one right to left. Rewet the roller and apply two more paths adjacent to the first pair. Rewet roller and .

**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. Insufficient material will cause the floor to look non-uniform.

**LEVEL THE AREA** with straight passes that cross the initial material paths. These final strokes will reduce roller marks.

**ALLOW COATING TO DRY 12 HOURS** [at 75°F (24°C), 50% relative humidity]. If time between coats exceeds 24 hours, sand with 100 grit sandpaper, detergent scrub and rinse with clean water to ensure adequate adhesion between coats.

**APPLY SECOND COAT** as above.

**ALLOW COATING TO DRY 24 HOURS** [at 75°F (24°C), 50% relative humidity] before opening to traffic. Allow more time at low humidity.

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## APPLICATION OF ADDITIONAL COATINGS

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WearGuard™-SDS can be coated with other Tennant Coatings. Floor must be sanded prior to recoating.

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## TECHNICAL SUPPORT

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For any application questions, please call Tennant technical support at 800-553-8033 ext. 6075.

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## DISPOSAL

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Dispose in accordance with federal, state and local regulations.

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**PLEASE SEE MATERIAL SAFETY DATA SHEET (MSDS) FOR SAFETY AND PRECAUTIONS.**

**USE PRODUCT AS DIRECTED.**

**KEEP OUT OF THE REACH OF CHILDREN.**

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## MAINTENANCE GUIDELINES

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**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 bassine, nylon brushes or white pads on your new floor coating. Polypropylene or abrasive bristle (Tynex®) brushes 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: 800-553-8033.

**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.

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## TENNANT COMPANY LIMITED WARRANTY Eco-EDP™ / Eco-EDE™ Electrostatic Dissipative Primer / Electrostatic Dissipative Epoxy and WearGuard™-SDS Static Dissipative System

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**Eco-EDP™ (Electrostatic Dissipative Primer), Eco-EDE™ (Electrostatic Dissipative Epoxy), and 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.