

**Troweled Electrostatic Dissipative Flooring System (ESD)**

**PRODUCT DESCRIPTION**

Tera-Gem III Troweled Electrostatic Dissipative Flooring System (ESD) is a tough wearing, chemical resistant, solvent free epoxy based composite system designed to reduce static generation and to dissipate static charges. The ESD system provides excellent resistance to various industrial chemicals. The incorporation of select graded silica aggregates provide greater impact strength and heavier load capabilities. This product has excellent adhesion to concrete, tile and wood substrates. The available colors are black and various shades of grey. Custom colors are available upon request. The Tera-Gem III ESD system is a nominal 1/8" or 1/4" (3-6.3 mm) thick composite consisting of the following:

**CONDUCTIVE PRIMER:** A two-component moisture tolerant epoxy primer, curing agent, and conductive materials. Other primers can be substituted depending on application.

**CONDUCTIVE BASE COAT:** Consists of a chemical resistant epoxy, curing agent, conductive materials and select graded silica aggregates. (aggregate modification can be made to adjust physical properties and workability). If necessary, embedded in the base coat will be either copper ground straps, copper tape or conductive foil tape with conductive adhesive. Existing metal beams or structures may be used as grounding points. All grounding points must be tested for continuity.

**DISSIPATIVE TOP COAT:** Consists of a chemical resistant epoxy, curing agent and dissipative materials. For custom colors, dissipative pigments are added to obtain the desired color.

**PHYSICAL PROPERTIES –SYSTEM CURED 7 DAYS**

|   |   |  |
|---|---|--|
| Compressive Strength                      | (ASTM C-579)  | 8,600 psi.<br>AFTER 7 DAYS                 |
| Flexural Strength                         | (ASTM C-580)  | 4,400 psi.                                 |
| Tensile Strength                          | (ASTM C-307)  | 2,400 psi.                                 |
| Flammability                              | (ASTM 635)  | Self Extinguishing                         |
| Impact Resistance                         | (Mil D-3134F Sec 4.7.3)                                       | No cracking or delamination at 16/ft./lbs. |
| Bond Strength                             | (ASTM 4541)   | >350 psi                                   |
| Fungus/Bacteria Resistance                | (Mil-D-3134F Sec. 4.4.2.11)                                   | None per TT-P-34                           |
| Water Absorption, %                       | (ASTM C-413)  | 0.10                                       |
| Hardness                                  | (ASTM 2240)   | Shore D -85                                |
| Abrasion Resistance, gm lost              | (ASTM 4060)   | 0.035                                      |
| Water Spot Resistance at 72 F, 8 hr. cure |   | Pass                                       |
| Dissipative Properties                    | (EOS/ESD-DS 7.1-1991 & 1992 at 100 volts DC (Point to Ground) | 1000 Mega Ohms                             |

**Application Properties**

|   |                    |
|---|--------------------|
| Mix Ratio                                     | 2A : 1B by volume  |
| Pot Life (minutes)                            | 30-40 @ 77 deg. F  |
| Application Temp.                             | (F. Min) 50 deg .F |
| Dry filler if required-pre measured container |                    |

When placed by trained applicators, Tera-Gem III ESD will provide a long lasting, easy to maintain floor that will stand up even in the most demanding of environments.

**NOTE ON ELECTRO STATIC DISSIPATIVE COATINGS:** Due to the insulated properties of most foot wear, caster or equipment stand, electrostatic charges can be generated and accumulated on personnel and equipment. To minimize electrostatic generation and accumulation, electrostatic dissipative (ESD) flooring must be used with controlled footwear and conductive wheels, casters and equipment stands. Unless all equipment, work practices or test instruments are properly designed, electrostatic dissipative flooring may be hazardous. By meeting the specifications of this product data sheet will not guarantee personnel safety.

### SUGGESTED USES

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Tera-Gem III ESD is suitable for electronic process areas, warehouses, electronic plants, clean rooms and hospital operating rooms.

### CHEMICAL RESISTANCE (PARTIAL LIST)

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| <u>Reagent</u>        | <u>Film Integrity</u> | <u>Reagent</u>       | <u>Film Integrity</u> |
|-----------------------|-----------------------|----------------------|-----------------------|
| 30% Nitric Acid       | No Effect             | Urine                | No Effect             |
| 30% Phosphoric Acid   | No Effect             | Household Cleaner    | No Effect             |
| 20% Hydrochloric Acid | No Effect             | (Non-Dye Containing) |                       |
| 70% Sulfuric Acid     | No Effect             | Beer/Wine            | No Effect             |
| 10% Acetic Acid       | No Effect             | Rubbing Alcohol      | No Effect             |
| 50% Sodium Hydroxide  | No Effect             | Bleach               | No Effect             |

### NOTE:

- The end user should supply information regarding chemical concentrations, service temperatures and cleaning procedures to verify correct use of product. Review full chemical resistance charts for additional chemical information. Tera-Gem III ESD performs well in many chemical environments, however it is not recommended for continuous immersion service. Contact TL technical department for information regarding specific applications.
- Staining or a white blush will occur if the new floor is not allowed to cure fully (7 days) prior to allowing water, chemicals, etc. to stand on the surface.

### SURFACE PREPARATION

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Concrete surfaces must be free from surface contaminants, laitance, curing compounds, oils, greases, dirt, chemical contaminants, delaminated coatings, etc. The surface must be sound. Concrete compressive strength must be a minimum of 3,000 psi. New concrete should be cured for a minimum of 28 days, preferably by wet cure. User must notify manufacturer if conditions differ from above. If hydrostatic moisture test results are in excess of 10lbs. then a moisture vapor barrier coating will be required in order to warranty application against failure due to hydrostatic moisture. To properly prepare concrete surfaces, the concrete may be steel shot-blasted, ground, scarified, or prepared using another approved technique.

## SYSTEM APPLICATION

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### CONDUCTIVE PRIME COAT:

Mix Primer liquid components at a mix ratio of 2A:1B by volume. Mix in a clean mixing vessel. To one weight equivalent of mixed liquid components, add 1 weight equivalent of pre measured conductive filler. Mix all components using an electric drill motor mixer or a plaster mixer. Mix all components for 2-3 minutes or until uniformly wetted. Transfer to installation area and use a squeegee and/or roller; apply to a thickness of 3 to 10 mils. Do not apply over standing water.

### CONDUCTIVE BASECOAT (aka Body Coat, Troweled Coat):

Use the same liquid resins and procedure as above along with the pre-measured conductive filler and select graded silica aggregates for the conductive base coat. Apply by troweling the conductive matrix to nominal thickness of 1/8" or 1/4". Other thicknesses are possible.

### DISSIPATIVE TOP COAT:

Use the liquid components with the proper mix ratio of 2A:1B by volume, add one weight equivalent of pre-measured dissipative topcoat filler. Mix all components for 2 to 3 minutes or until uniformly wetted. Apply using a squeegee and/or roller to a thickness of 4-10 mils. For custom colors, all materials will be in pre-measured containers. During the dissipative top coat process, if an anti-skid is required, incorporate graded silica aggregate to desired texture. See anti-skid recommendations for texture options.

## MATERIAL HANDLING

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Epoxy resins and curing agents have certain handling hazards. Users should become familiar with the information contained in the MSDS sheets for each formulated systems. Observe warning indications on the labels for each component.

## PACKAGING

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Tera-Gem III ESD epoxy system is available in pre-measured gallon, 3 gallon kits, 15 gallons kits and 165 gallon kits. Pre-measured conductive filler is supplied to its appropriate units.

## NOTES

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The following information is available online at [www.teralite.com](http://www.teralite.com):

- Material Safety Data    - Color Selection    - Anti-Skid Recommendation    -Maintenance Suggestions
- Chemical Resistance

The technical data furnished is true and accurate to the best of our knowledge. However, no guarantee of accuracy is given or implied. We suggest that the user evaluate these recommendations and suggestions in conjunction with their specific application. Tera-Lite, Inc. / Revolan Systems warrant its products to be free from manufacturing defects conforming to our most recent material specifications. In the event of liability, we will be limited to the replacement of material at the material value only and at the sole discretion of Tera-Lite Inc. /Revolan Systems. We assume no responsibility for coverage, suitability of application, performance, or injuries resulting from use.