



Resilient  
Epoxy  
Flooring  
and  
Grouting  
Systems

# PRODUCT DATA SHEET

## ICO URE GUARD ESD™

### Product Description

ICO Ure Guard ESD is a two part, water based aliphatic polyurethane coating with conductive powders added to achieve a uniform ESD floor (conductivity range of one million to one billion ohms). Unlike conventional fiber-filled ESD coatings, this system depends on a newer technology that relies on microscopic conductive particles dispersed uniformly throughout the cross section. Recommended application thickness is 10 to 12 mils wet (130 to 160SF/gal). It should always be applied over our standard epoxy primer, **ICO Primer LV** or **LVFC**, into which the copper strips are embedded every 1000SF for connection to a ground.

The finished coating dries to a semi-gloss finish with excellent UV resistance and color stability. It is available in several colors: light gray, dark gray, red, off white and beige in pre-measured 4 gallon kits. **Ure Guard ESD** has zero VOC's and negligible odor. It can be applied in the temperature range of 50° to 90°F, at least 5 degrees above the dew point. Cure times are approximately 14-18 hours at 70°F, after which the floor is ready for traffic. However, note that full conductive properties are achieved only after 48 hours

### Product Applications

ICO Ure Guard ESD is basically designed for facilities where buildup of electric charge on the floor can be a safety hazard or injurious to the product. The most common examples include electronic plants, especially those involved in the manufacture of silicon chips and dry powder processing in low humidity conditions where fire threats are highest. Other applications include hospital operating room floors, solar cell producers and CD manufacturers. Some newer industries such as lithium battery plants that are proliferating with the expected trend to electric cars also are expected to be users of these ESD floors. Some explosive or highly flammable operations such as munitions plants, solvent storage or processing facilities and air bag manufacturers require a more conductive, spark-proof floor, in which **ICO Conducto Floor** should be used.

**Chemical Resistance** Preliminary chemical tests (up to 72 hours) on **ICO Ure Guard ESD** show the following results:

Acetic Acid, 10%	: NR	Ethylene Glycol	: S	Mineral Spirits	: S	Sodium Hydroxide	
Ammonium Hydroxide, 10%	: S	Hydrochloric Acid 10%	: NR	Nitric Acid, 10%	: NR	50%:	OS
Brake Fluid	: NR	Oleic Acid	: S*	Sulfuric Acid, 40%	: NR		
Citric Acid	: NR	Jet Fuel	: S	Phosphoric Acid, 50%	: OS		
Diesel Fuel	: S*	Methanol	: S	Skydrol	: OS		

CODE: **NR** – not recommended (attack within 24 hours); **OS** - Splash/Spill (no attack within 24 hours); **S** – Secondary Containment (no attack within 72 hours); \* - Stain

### Physical Properties

Hardness Shore A (D-2240)	: 85
Bond Strength to Concrete	: 150psi
Taber Abrasion (D-1044), CS 17, 1000g 1000cycles	: 50 mg loss
Static Dissipative Range (at 100v)	: 10 - 10 ohms

### Physical Characteristics

<b>Density, lbs/gal.</b>	<b>Viscosity@77°F, cps</b>	
Pt. A 10.6	Pt. A 350	
Pt. B 9.6	Pt. B 800	
A&B Mixed 10.5	A&B Mixed 500	
<b>Mixing Ratios</b>	<b>By Volume</b>	<b>By Weight</b>
Pt. A : Pt. B	6:1	6.5 : 1

<b>Curing Times @</b>	<b>50°F</b>	<b>70°F</b>
Pot Life	30min	25min
Working Time	28min	20-25min
Tack Free	12hrs	8hrs
Hard, Foot	20hrs	15hrs
Hard, Truck	32hrs	20hrs

**NOTE: Max physical properties achieved after 7 days @70°F**

**Shelf Life:** 90 days in unopened containers stored between 60° - 80°F

### Color Availability

Light Gray, Dark Gray, Red, Off White and Beige

### Packaging and Coverage Rates

4 gallon kits only: maximum coverage is 640SF

## Installation

Please refer to our Application Specs for detailed instructions. Particular care must be taken to follow those instructions precisely to assure proper installation.

1. New concrete should be shot blasted to arrive at a texture of 40 to 60 grit. Old concrete should be chemically cleaned, then diamond ground or shot blasted to remove all old coatings down to a sound, clean substrate.
2. Calcium chloride tests should be taken on new or old concrete. Maximum allowable moisture readings: 5 pounds. Readings higher than this, consult **ICO Tech Services** prior to applying primer.
3. Any open cracks (> 1/8") and control joints must be prefilled with **ICO Gel** flush to surface. Allow to dry tack free.
4. Apply a single coat of **ICO Primer LV** (or **LVFC**) at a coverage rate of 160 to 200SF/gal. Re-prime dry spots. Allow to tack up and insert copper grounding strips every 1000SF to ground.
5. Thoroughly mix **ICO Ure Guard ESD Part A** for 30 to 60 seconds to ensure uniformity, then add Part B and mix for another 30 to 60 seconds until color is totally uniform. Mixing must be done with a jiffy-style mixer at low speeds (<750rpm) and care must be taken to avoid introduction of air to the mix.
6. Pour contents onto floor, spread with a notched squeegee at a coverage rate of 130 to 160SF/gal and then back-roll in two directions with a fine (1/4") adhesive roller. Allow to dry hard for walking.
7. Ohmmeter readings can be taken when floor is dry enough to walk on; however, full ESD properties are not achieved until 48 hours after application.

**Failure to follow the above instructions, unless expressly authorized by an ICO Tech Service Representative, will void our material warranty.**

## Precautions

1. **Caution: Mix Part A thoroughly to disperse sediment on bottom of pail.**
2. **Apply only between temperatures of 50° to 90°F and at least 5 degrees above the dew point.**
3. **Keep from freezing.**
4. **Do not over roll coating, as this can cause air entrapment.**
5. **Do not add any solvents to mix**
6. **Tools can be cleaned with mineral spirits**

## Product Specification

The specified area shall receive an application of **ICO Ure Guard ESD** as manufactured by **International Coatings, Franklin Park, Illinois**. The material shall be installed by precisely following the manufacturer's published recommendation pertaining to preparation, mixing and application. **ICO Ure Guard ESD** shall be a low odor, water based urethane applied at 10 to 12 mils over **ICO Primer LV**. The material shall have a Shore A Hardness of 85, a bond strength to concrete of 150psi, and a Taber abrasion of 50mg (CS 17 wheel, 1000g, 1000 cycles). When measured according to EOS/ESD STM 7.1. It shall have a static dissipative range of  $1 \times 10^6 - 1 \times 10^9$  ohms.

## Mission Statement

Our mission is to provide our customers the highest possible quality products and services and by so doing, build long term relationships based on mutual trust and respect.

The data, statements and recommendations set forth in this product information sheet are based on testing, research and other development work which has been carefully conducted by us, and we believe such data, statements and recommendations will serve as reliable guidelines. However, this product is subject to numerable uses under varying conditions over which we have no control, and accordingly, we do NOT warrant that this product is suitable for any particular use. Users are advised to test the product in advance to make certain it is suitable for their particular production conditions and particular use or uses.

**WARRANTY** - All products manufactured by us are warranted to be first class material and free from defects in material and workmanship.

Liability under this warranty is limited to the net purchase price of any such products proven defective or, at our option, to the repair or replacement of said products upon their return to us transportation prepaid. All claims hereunder on defective products must be made in writing within 30 days after the receipt of such products in your plant and prior to further processing or combining with other materials and products. WE MAKE NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE SUITABILITY OF ANY OF OUR PRODUCTS FOR ANY PARTICULAR USE, AND WE SHALL NOT BE SUBJECT TO LIABILITY FROM ANY DAMAGES RESULTING FROM THEIR USE IN OPERATIONS NOT UNDER OUR DIRECT CONTROL.

THIS WARRANTY IS EXCLUSIVE OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND NO REPRESENTATIVE OF OURS OR ANY OTHER PERSON IS AUTHORIZED TO ASSUME FOR US ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF OUR PRODUCTS.



2925 Lucy Lane • Franklin Park, IL 60131 • 847.451.0279 • 800.624.8919 • FAX 847.451.0379

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