

Florothane CR 250 ESD

Product Description: Florothane CR 250 ESD provides a textured, glossy, pigmented surface which is approved for use in Military Hangars. Specially formulated to furnish reliable ESD properties, this urethane also protects concrete from exposure to harmful maintenance fluids & electronics manufacturing solvents. Florothane CR 250 ESD is used as a chemical resistant, static dissipative coating over Floropoxy SL 4700 Primer and Floropoxy SL 4805 optional midcoat.

Typical Uses: Floors requiring ESD control and excellent chemical resistance, such as:

- Aircraft hangars
- Electronics Mfg

Product Advantages:

- Furnishes electrostatic dissipation i.a.w. ESD Association Guidelines
- Superior resistance to many harmful Chemicals, incl. Skydrol, JP Jet Fuels and solvents used in electronics manufacturing
- Resistant to UV and oxidation. Maintains original color over time and is non-chalking

Packaging:

Florothane CR 250 ESD

- 10 Gallon Pail Set
- 2 Gallon Kit

Floropoxy SL 4700 WNGrey Primer

- 20 Gallon Pail Set
- 4 Gal Overpak

Floropoxy 4805 WNGrey Midcoat (Optional)

- 20 Gallon Pail Set
- 4 Gal Overpak

Storage: Store at 40°-95°F in tightly sealed containers and out of direct sunlight.

Coverage:

Florothane CR 250 ESD

- 310 SF/gallon (2 coats required)

Prime with Floropoxy SL 4700 WN Grey

- 160 SF/gallon

Optional: Floropoxy SL 4805 WN Grey

- 80 – 160 SF/gallon

Blended Liquid Physical Properties CR 250 ESD		
Property	Test Method	Results
% Solids by Weight /Volume	ASTM D-2697	67/53
Viscosity	ASTM D-1200	220 cps
SETA Flash, min.	ASTM D-3278	43° F
VOC gpl	EPA Method 24	250 gpl

Blended Components – Application Data	
Ratio	1:1 by Volume
Pot life	2 hours
Drying Time at 70° F @ 50% RH	
Set to Touch	1 hour
Dry to Recoat	8 hours
Maximum Recoat	24 hours
Foot Traffic	24 hours
Full Cure	10 days
Floor & Air Temp. Limitations	55° F - 90° F
Recommended Spread Rate	310 sf per gal
Dry mil @ Spread rate	2.7 mils/coat
Recommended Clean up Solvent	MEK

ESD CR 250 Electrostatic Dissipative Properties:

Surface Resistance: (Test Method EOS/ESD 7.1-1991 & 1992 at 100 volts DC) Point to point resistance is 1 mega ohm to 100 mega ohms maximum.

Resistance to Ground: (Test Method EOS/ESD 7.1-1991 & 1992 at 100 volts DC) Point to ground resistance is 1 mega ohm to 100 mega ohms maximum.

Body Voltage Generation: (test Method AATCC/ANSI 134, Static Voltage_ Less than 1 kilovolt after walk test using AATCC TM 134 sandals.

Static Decay: (Test Method FTMS 101C, Method 4046) Time to dissipate 99% of a +/-5 kv charge = .05 seconds.

Note: Measurements vary depending on substrate and air conditions, and on placement of the electrodes. Measurements are in accordance with ASTM F150.

Surface Preparation: New concrete must have a 28 day cure, and preferably a broom swept finish, prior to coating. In the case of older concrete flooring, remove all surface oils, paint, dust and debris. Prior to coating, make sure the surface is clean, passes the MVT test and the water drop test and that all surface defects have been repaired. Refer to the Florock "Preparation of Concrete" datasheet for more information on preparation and MVT before proceeding.

Florothane CR 250 ESD System: In the basic system, 2 coats of Florothane CR 250 ESD are applied over Floropoxy SL 4700 Primer, WN Grey. If a midcoat is needed, apply Floropoxy SL 4805 WNGrey over primer in sufficient thickness to restore profile.

Important: Floropoxy should not be applied when floor temperature is above 90°F, below 55°F, or when within 5°F of the dew point.

Installation Over Smooth, Bare Concrete:

1. Primer: Once surface preparation is complete, apply FloroPoxy System 4700 WN Grey Primer to the concrete floor. In a clean, dry container, blend 3 parts by volume of Resin Part A with 1 part Activator Part B. Mix thoroughly for 3-5 minutes, using a low speed mechanical mixer. Transfer the mixture from the batch container to a transport container. Remix and pour entire mix from the transport container onto floor immediately. Retaining mixture in the bucket will shorten the pot life. Using a flat squeegee, apply at desired thickness. Backroll with a 3/8" nap roller.

Important: Do not sand, screen, or abrade the primer coat.

Note: The cure time will vary with conditions. Allow a minimum of 4 hours and a maximum of 24 hours before moving on to next step.

2. Optional Intermediate Coat: When the primer has cured, and before 24 hours elapses, apply the Floropoxy SL 4805 WNGrey Midcoat. In a clean, dry container, blend 3 parts by volume of Resin Part A with 1 part by volume of Activator Part B.

Chemical Resistance	
Reagent	Spot Test Results
Skydrol	1
Brake Fluid	1
MEK	1
JP 4 Jet Fuel	1
Ammonia	1
Acetone	1
Sodium Hydroxide	1
Phosphoric Acid 10%	1
Nitric Acid 10%	1
Sodium Chloride 20%	1
Citric Acid 10%	1
Sulfuric Acid 10%	1
Sulfuric Acid 25%	1
Nitric Acid 10%	1
Hydrochloric Acid 10%	1
Acetic Acid 10%	2
Sugar Solution 10%	1
Lactic Acid 10%	1
1-1-1 Trichloroethane	1
Xylene	1
Toluene	1
Mineral Spirits	1
MIBK	5
Tincture of Iodine	2, S
AFFF	1
Water	1
Gasoline	1
Freon-11	1
Methyl Alcohol	1

Based on a 1 day spot test. Coating cured 2 weeks prior to testing. Spot Test IAW ASTM D1308, Pencil Hardness Test IAW ASTM D3363

Rating Scale:

- 1 - Excellent. No change in pencil hardness
- 2 - Good. 1-2 units change in pencil hardness
- 3 - Fair. 3 units change in pencil hardness
- 4 - Poor. 4 or more units change in pencil hardness
- 5 - Stains

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2. Optional Intermediate Coat (cont'd):

Mix thoroughly for 3 to 5 minutes using a low speed mechanical mixer. Transfer the mixture from the batch container to a transport container. Remix and pour entire contents from transport container onto the floor immediately. Using flat or notched squeegee, spread at 160 SF/gallon for 10 mils or at 80 SF/gallon for 20 mils. Backroll with a 3/8" nap roller.

Note: The cure time will vary with conditions. Allow a minimum of 8 hours and a maximum of 48 hours before moving on to next step.

Important: Consult your Representative concerning grounding tabs before proceeding.

3. Two Topcoats Florothane CR 250 ESD:

In a clean, dry container, blend equal volumes of Florothane CR 250 ESD Parts A and B. Mix well for 3-5 minutes using a low speed mechanical mixer. Do not mix more product than can be applied in two hours. Using a paint roller tray, apply first coat of Florothane CR 250 ESD at the rate of approximately 310 SF/gallon with a solvent resistant, medium nap roller. Allow a minimum of 8 hours and a maximum of 24 hours between coats. If more than 24 hours elapses between coats, consult your Florock Representative for recommendations. **DO NOT SPRAY APPLY THIS MATERIAL.**

Repeat with a second coat. Apply second coat of Florothane CR 250 ESD in the same manner as the first. Allow coating to cure for a minimum of 24 hours before opening floor to foot traffic and 48 hours before allowing equipment to be moved back in. Allow a full ten days' cure for complete chemical resistance.

Florothane CR 250 ESD Topcoat Cured Physical Properties		
Property	Test Method	Results
Gloss, 60 Degrees	ASTM E-97	58
Sward	ASTM D-2134	56
Elongation	ASTM D-2370	7%
Tensile Strength	ASTM D-2370	5,000 PSI
Abrasion Resistance	ASTM D-4060	50-60 mg loss
Adhesion, 5= Perfect	ASTM D-3359	5
Accelerated Weathering	ASTM D-623	Gloss Loss 12%
Compressive Strength	ASTM D-579	8,700 PSI
Tensile Strength	ASTM D-638	2,400 PSI
Shore Hardness	ASTM D-2240	85
Percent Elongation	ASTM D-638	27.5%
Abrasion Resistance CS-17 Wheel, 1,000 gm load, 1,000 cycles	ASTM D-4060	88 mg
Water Absorption	ASTM C-413	2.0%
Indentation	MIL-D-3134	No Indentation

Note: For optional skid resistant additive, wear spiked shoes and broadcast (using whirlybird method) aluminum oxide into the wet first coat of urethane to the desired level of skid resistance. Figure 4 -6 lbs per 1000 square feet. Use #36, #60 or #80 white aluminum oxide.

1. Fire Lanes and Traffic Lines: After the final coat has cured for 24 hours, the fire lanes, traffic lines, etc., may be installed as specified. Suitable masking tape will be placed on each side of the proposed lines to give a straight edge. Line marking may be achieved by using clear Florothane CR and Florock 100% Colorant or by using Florock Floromark line marking kits. Approximately one hour after application, remove the tape. 10 - 12 hours after application, the area may be opened to light traffic.

**Installation Over Existing Coatings
(Consult your Florock Representative):**

1. Examine existing coating to ensure that it is well bonded to the concrete. Any loose coating must be completely removed. Edges should be sanded to a feathered edge.
2. Clean the entire floor thoroughly with the detergent cleaner. The surface must be free of all dirt, oils, or other contaminants.
3. After the floor has completely dried, sand the existing coating until a powdery residue is evident and all gloss is removed. Sweep or vacuum clean, and wipe with Florobase mechanically prepared and primed with 10 mils of Floropoxy SL 4700 WN Grey.
4. Proceed with steps 2 and 3 from the "Installation Over Smooth, Bare Concrete" section.

Important: Do not skip the primer application even if the surface is in good condition.

Maintenance:

Sweep away dust and debris with a broom. Clean on a regular basis with a surfactant type, mild detergent. Florock floors never need to be waxed.

Please read Material Safety Data before using product.

DISCLAIMER:

All statements and recommendations above are based on experience we believe to be reliable. The use or application of these products being beyond the control of the Seller or Manufacturer, neither Seller nor Manufacturer make any warranty, expressed or implied, as to results or hazard from its use. The suitability, risk and liability of a product for an intended use shall be solely up to the User.