

Floropoxy ESD Electrostatic Dissipative Epoxy Flooring System

Product Description:

Floropoxy ESD is a 100% solids, solvent-free, four-component epoxy system designed to furnish electrostatic dissipative properties whilst providing excellent protection against harmful fluids. It can provide an ESD surface over a thin film coating system or a heavy build mortar system and cures to a glossy finish.

A variety of colours are available upon request, contact your Florock representative for information.

Typical Uses:

Floors requiring ESD control and excellent chemical resistance such as:

- Aircraft Hangars
- Electronics manufacturers
- Pharmaceutical installations
- Data processing
- Hazardous industries (dust or explosive environments)
- Photographic, graphic arts

Product Advantages:

- Furnishes electrostatic dissipation properties in accordance with the latest ESD Association guidelines and in accordance with EOS and ANSI/ESD specifications
- Superior resistance to many harmful chemicals
- Consistent readings
- 100% epoxy system, solvent free

Packaging:

- 14 litre kit (when blended) Consisting of resin (Part A), hardener (part B), colourant and ESD component

Blended Liquid Physical Properties ESD Epoxy		
Property	Test Method	Results
% Solids by Weight /Volume	ASTM D-2697	100%
Viscosity	ASTM D-1200	1,350 cps
SETA Flash, min.	ASTM D-3278	>93° C
VOC gpl	EPA Method 24	0 gpl

Blended Components – Application Data	
Ratio	4-component kit/ inseparable
Pot life	18 minutes
Curing Time at 21° C @ 50% RH	
Set to Touch	4-6 hours
Foot Traffic	24 hours
Full Cure	7 days
Floor & Air Temp. Limitations	13° C – 32° C
Recommended Spread Rate	44m ² per kit
Dry film thickness @ Spread rate	300 microns
Recommended Clean up Solvent	Xylene

Storage: Store at 5° to 35°C in tightly sealed containers and out of direct sunlight.

Coverage:

- Floropoxy ESD Topcoat shall be applied at 3.16m²/ltr (44m² per kit)

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 Moisture Vapour Transmission (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.

Floropoxy ESD System

In the basic coating system, 1 coat of Floropoxy ESD Epoxy is applied @ 300 microns over Floropoxy 4700 SL primer in appropriate colour. If a mid-coat is needed, apply Floropoxy 4805 in appropriate colour over primer in sufficient thickness to restore profile.

Primer Application:

In a clean, dry container, blend 3 parts by volume of Resin Part A with 1 part by volume of 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 or 3mm notched squeegee, apply at desired thickness. Backroll with a 10mm nap roller.

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

Floropoxy should not be applied when the floor temperature is above 32° C or below 13° C, or when within 3° C of the dew point.

Important: Do not sand, screen, or abrade the primer coat. Consult your representative concerning grounding tape before proceeding

Optional Mid-coat:

When the primer has cured, and before 24 hours elapses, apply the Floropoxy 4805 in appropriate colour. In a clean, dry container, blend appropriate parts of resin, activator and colourant. 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 mix from the transport container onto floor immediately. Retaining mixture in the bucket will shorten the pot

Chemical Resistance	
Reagent	Spot Test Results
Isoproponal	1
Bleach	1
MEK	4
Ammonia	1
Sodium Hydroxide 50%	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
Mineral Spirits	1
Tincture of Iodine	1, S
AFFF	1
Water	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

life. Using a flat squeegee, apply at desired thickness and backroll with a 10mm 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.

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Important: Grounding tabs must be installed prior to installing the topcoat.

Topcoat Floropoxy ESD:

In a clean, dry container, blend part C & part B together for 2-3 minutes using a jiffy mixer blade (this combination will become a thick paste). Allow mixture to rest for 5-10 minutes. Remix part C & part B solution, add part A & colourant. Mix thoroughly for 3 minutes using a low speed mechanical mixer. Pour entire mix on to the floor immediately. Retaining mixture in the bucket will shorten the pot life. Using a flat squeegee, apply at 44m²/ kit and backroll with a 10mm nap roller. **DO NOT SPRAY APPLY THIS MATERIAL.**

Note: Up to 1 litre of Xylene may be added to this kit for increased flow characteristics. Coverage for the kit will remain at 44m²/kit.

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 seven days cure for complete chemical resistance.

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 should be placed on each side of the proposed lines to give a straight edge. Line marking may be achieved by using clear Florothane CR250 and Florock 100% colourant or by using Florock Floromark line marking kits. Remove the tape approximately one hour after application; the area may be opened to light traffic 10 to 12 hours after application.

Chemical Resistance	
Reagent	Spot Test Results
Water	1
Isopropyl Alcohol	4
Acetone	4
Sulfuric Acid 10%	1
Nitric Acid	1
Hydrochloric Acid 10%	2
Phosphoric Acid 50%	1
Citric Acid 10%	1
Brake Fluid	1
Salt 20%	1
Acetic Acid 10%	4
Sugar Solution 10%	1
MEK	4
JP 4 Jet Chloride	1
Methylene Chloride	D
Xylene	4
Toluene	4
Mineral Spirits	1
Skydrol	1
Tincture of Iodine	4,S
Lactic Acid 10%	4
Sulfuric Acid 25%	3

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.

Floropoxy ESD Topcoat Cured Physical Properties		
Property	Test Method	Results
Point to Point Resistance	EOS/ESD 7.1	1.0 Mega Ohms to 35 Mega Ohms
Point to Ground Resistance	EOS/ESD 7.1	1.0 Mega Ohms to 35 Mega Ohms
Body Voltage Generation	ESD STM 97.2	<15 Volts
Static Decay	MIL-STD-3010 4046	0.01 seconds
Gloss 60 Degree	ASTM E-97	80
Coefficient of Friction	ASTM D-2047	0.55 smooth 0.65 with Beads
Adhesion to Concrete	ASTM D-4541	>3 N/mm ² Concrete fails
Flexibility	ASTM D 522	6mm passes test
Compressive Strength	ASTM C-579	77 N/mm ²
Tensile Strength	ASTM D-2370	287kN/m ²
Impact Resistance	ASTM D-2794	92 kg cm, direct and reverse
Shore Hardness Shore D	ASTM D-2240	80
Tensile Elongation	A ASTM 2370	5%
Abrasion Resistance CS-17 Wheel, 1,000 gm load, 1,000 cycles	ASTM D-4060	75mg
Water Absorption	ASTM C-413	0.2%
Indentation	MIL-D-3134	PASSES