

Florock Seamless Flooring Systems

Architectural Specification – Floropoxy ESD

Electrostatic Dissipative Epoxy

Part 1: General

1.01 System Description

- A. Roller-applied 100% solids, penetrating epoxy primer, followed by an optional 100% solids epoxy midcoat and sealed with one finish coat of ESD epoxy.
- B. This system shall be applied to the prepared substrate(s) as defined by the plans strictly in accordance with the manufacturer's recommendations.
- C. Optional slip-resistant properties shall be achieved by broadcasting #36 white Aluminum Oxide granules into the topcoat of uncured Epoxy and back-rolled into place.

1.02 Submittals

- A. Product Data
 - 1. Current edition of manufacturer's product literature including physical data, chemical resistance, surface preparation, and application instructions.
- B. Samples
 - 1. A hard sample of the proposed system shall be submitted to represent the finished floor.
- C. Warranty
 - 1. Manufacturer's standard warranty
 - 2. Applicator's standard warranty

1.03 Quality Assurance

- A. Qualifications
 - 1. The manufacturer shall have a minimum of ten (10) years' experience in the production, sales, and technical support of polymer-based floor coatings.
 - 2. The applicator shall have a minimum of three (3) years' documented experience in the application of polymer floor coatings to concrete floors and be approved by Florock.
 - 3. Proposed suppliers shall provide certification that they have ten (10) years' experience in the production of polymer floor coatings and be required to meet all provisions of this specification, as well as provide evidence of compatibility among product components to the satisfaction of the Architect.

B. Pre-Bid Conference

Florock Seamless Flooring Systems

1. A pre-bid conference should be held among prospective applicators and the Architect to review surface preparation, application, clean-up procedures, and design issues.
- C. Packing and Shipping
1. All materials are to be delivered to the job site in the manufacturer's original packaging. The product code and other identification marks should be clearly marked and visible.
- D. Storage and Protection
1. All material is to be stored in a cool, dry place out of the direct sunlight and away from any ignition sources. The applicator should refer to the manufacturer's literature and Material Safety Data Sheets for more information.
 2. Material Safety Data Sheets are to be kept on site and made readily available for all personnel.
 3. Keep containers sealed and ready for use.
- 1.04 Project Conditions
- A. Environmental Requirements
1. Optimum air and substrate temperature for product application is between 55° F (13° C) and 95° F (35° C). For temperatures outside of this range, consult the manufacturer for product application suggestions.
 2. Verify that the work environment is properly equipped with vapor barriers and perimeter drains.
 3. Maintain proper lighting throughout the work environment; the lighting should be comparable to the final lighting level of the space.
 4. Store and dispose of any waste in accordance with regulations of local authorities.
- B. Safety Requirements
1. "No Smoking" signs shall be posted throughout the work area prior to application.
 2. The owner shall be responsible for removing any foodstuffs from the work area.
 3. Open flames, spark producing tools/items, and ignition sources shall be removed from the work area prior to application.
 4. Only work-related personnel shall be allowed within the work area.
- 1.05 Warranty
- A. Coordination
1. The manufacturer offers a full, one-year warranty against defects in materials. Warranties concerning the installation of the material are solely the responsibility of the applicator.

Florock Seamless Flooring Systems

Part 2: Products

2.01 Manufacturer

- A. Crawford Laboratories, Inc.
4165 South Emerald Avenue
Chicago, IL 60609
Phone: (773) 376-7132; (800) 356-7625
Fax: (773) 376-0945
<http://www.florock.net>

2.02 Materials

- A. Primer
 - 1. The primer shall be a 100% reactive, epoxy-based, penetrating primer that exhibits chemical resistance: Floropoxy 4700 Epoxy Primer.
- B. Optional Midcoat
 - 1. The Midcoat shall consist of chemical resistant, self-leveling 100% solids Floropoxy System 4805.
- C. Topcoats
 - 1. The topcoat shall be Florock Floropoxy ESD, which exhibits excellent chemical and electrostatic-dissipative properties. One coat shall be applied. Optional skid-resistance shall be achieved by using Aluminum Oxide.

2.03 Properties

- A. The coating system should meet the following physical and chemical resistant properties:

Physical Properties – ESD Topcoat

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 (With dissipative footwear)	ESD STM 97.2	<15 volts
Static Decay	Mil-Std-3010, Method 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	>400 psi Concrete fails
Flexibility	ASTM D 522	¼" passes test
Tensile Strength	ASTM D-2370	12,000psi

Florock Seamless Flooring Systems

Impact Resistance	ASTM D-2794	80 in.-lbs, 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	100mg
Water Absorption	ASTM C-413	0.2%
Indentation	MIL-D-3134	PASSES

Electrical Properties:

ESD Epoxy Electrostatic Dissipative Properties:

Surface Resistance: (Test Method ANSI/ESD S7.1/ANSI/ESD STM 97.1/97.2 /ESD TR53) Point to point resistance is 1 mega ohm to 35 mega ohms maximum to meet ANSI/ESD S20.20-2007 spec.

Resistance to Ground: (Test Method ANSI/ESD S7.1/ANSI/ESD STM 97.1/97.2 /ESD TR53) Point to ground resistance is 1 mega ohm to 35 mega ohms maximum.

Body Voltage Generation: (Test Method ESD STM 97.2 Less than 15 volts after walk test using AATCC TM 134 sandals.

Static Decay: (Test Method Mil-Std-3010, Method 4046) Time to dissipate 99% of a +/-5 kv charge = 0.05 seconds.

Part 3: Execution

3.01 Inspection

A. General

1. Examine the areas and conditions where the Florothane CR ESD floor is to be installed and notify the Architect of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected by the contractor in a manner acceptable to the Architect.

3.02 Preparation

A. General

1. Consult the manufacturer's recommendations for concrete substrate preparation before proceeding.

B. Patching and Joint Preparation

1. Before application, the floor shall be examined for spalls, pits, holes, cracks, non-functional joints, etc. These must be treated after preparation and before application with the suitable Florock products. For functional or expansion joints, these shall be treated with 100% solids elastomeric resin having a minimum elongation of 150%, Florock System 6500.

Florock Seamless Flooring Systems

C. Concrete Surfaces

1. Shot-blast, diamond grind or power scarify as required to obtain clean, open, porous concrete. Remove sufficient material to provide a sound surface, free of laitance, glaze, efflorescence, and any bond-inhibiting curing compounds or form release agents. Remove grease, oil, and other penetrating contaminants. Repair damaged and deteriorated concrete to acceptable condition; leave surface free of dust, dirt, laitance, and efflorescence.

D. Materials

1. Mix components when required, and prepare materials according to flooring system manufacturer's instructions.

3.03 Application

A. General

1. The system shall be installed in the order described below:
 - a. Substrate Preparation
 - b. Priming
 - c. Optional Midcoat
 - d. Topcoat and Optional Skid-Resistant Grit Applications
2. Concrete surfaces on grade shall have been constructed with a vapor barrier to help protect against the effects of vapor transmission and possible delamination of the system. Refer to manufacturer's concrete preparation instructions for additional recommendations.
3. The surface should be dry prior to application of any of the aforementioned steps. Furthermore, the substrate shall always be kept clean, dry, and free of any contaminants.
4. The handling and mixture of any material associated with the installation of the system shall be in accordance with the manufacturer's recommendations and approved by the Architect.
5. The system shall follow the contours of the substrate unless otherwise specified by the Architect.
6. A neat finish with well defined boundaries and straight edges shall be provided by the applicator.

B. Priming

1. All areas considered for the application shall be primed with the manufacturer's primer to seal and penetrate the substrate in preparation for applying the basecoat and grout coats.
2. Porous concrete substrates may require additional applications of primer.

Florock Seamless Flooring Systems

- C. Optional Midcoat
 - 1. The midcoat shall consist of the manufacturer's approved epoxy midcoat to seal the surface and give the floor impact resistance.
- D. Topcoat and Skid-Resistant Grit
 - 1. The topcoat(s) and Skid-Resistant Aggregate shall be consistent with the manufacturer's recommended chemical resistant urethane and optional aggregate for skid-resistance.
 - A. No traffic or equipment shall be permitted on the floor during the curing period.
 - B. Ground tape to be installed prior to topcoat application.

3.04 Field Quality Control

- A. Tests & Inspection
 - 1. The following tests shall be performed by the applicator and recorded during application to submit to the Architect:
 - a. Temperature during installation
 - 1. Air
 - 2. Substrate
 - 3. Dew Point

3.05 Cleaning

- A. Disposal
 - 1. Properly remove and dispose of any excess materials.

-- End --