

Florock Seamless Flooring Systems

Architectural Specification – FloroCrete RT

Rake/Trowel Urethane Mortar 3/16" - 1/4" (4.5 - 6.0 mm) Floor Resurfacing System

Part 1: General

1.01 System Description

- A. System I – Skid-Resistant Finish Resurfacing System with Full Broadcast: Rake/ Trowel-applied, three-component polyurethane and aggregate-cement based matrix coat, followed by a full broadcast of silica sand, quartz aggregate or vinyl chips, a compatible grout coat and optional topcoat, designed to achieve a nominal total floor 1/4" (6.0 mm).
- B. System II – Smooth Finish Resurfacing System: Roller-applied, solvent-free, three-component compatible primer, followed by rake/ trowel-applied, three-component polyurethane and aggregate-cement based matrix coat, designed to achieve a nominal total floor thickness of 3/16" to 1/4" (4.5 to 6.0 mm).
- C. This system shall be applied to the prepared substrate(s) as defined by the plans strictly in accordance with the manufacturer's recommendations.

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 supplier's products 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 for compatibility between components to the satisfaction of the Architect.

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B. Pre-Bid Conference

1. A pre-bid conference should be held between 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 45° F (7° C) and 85° F (30° C). For temperatures outside of this range, consult the manufacturer for product application suggestions.
2. Verify 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. 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.

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Part 2: Products

2.01 Manufacturer

- A. Florock Polymer Flooring
1120 W. Exchange Avenue
Chicago, IL 60609
Phone: (773) 376-7132; (800) 356-7625
Fax: (773) 376-0945
<http://www.florock.net>

2.02 Materials

- A. System I – Skid- Resistant Resurfacer with Full Broadcast
 - 1. Matrix Coat
 - a. The matrix coat shall be a three-component polyurethane and aggregate-cement based floor resurfacer designed to provide impact, abrasion, corrosion and thermal shock resistance: Florock FloroCrete RT.
 - 2. Broadcast
 - a. Broadcast onto the wet matrix fully, to the point of rejection. Choose sand, decorative colored quartz or vinyl chips – Florock EcoBlend, FloroQuartz, or FloroChips.
 - 3. Grout Coat
 - a. The grout coat shall be a high performance resin system compatible with the matrix coat, capable of encapsulating the broadcast aggregates, and providing additional protection as required; FloroCryl SL, FloroPoxy SL, FloroWear, FloroThane CR or FloroSpartic.
 - 4. Optional Topcoat(s)
 - a. Optional topcoat(s) shall be a high performance system providing additional chemical and abrasion resistance, as desired; Florock FloroWear, Florothane CR or FloroSpartic.
- B. System II – Smooth Finish Resurfacer
 - 1. Primer Coat
 - a. The primer coat shall be a penetrating three-component, urethane/cement, compatible coating: Florock FloroCrete P.
 - 2. Matrix Coat
 - a. The matrix coat shall be a three-component, polyurethane and aggregate-cement based floor resurfacer, designed to provide impact, abrasion, corrosion and thermal shock resistance: Florock FloroCrete RT.

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2.03 Properties

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

Cured System Properties

<u>Chemical Properties</u>	<u>FloroCrete RT</u>
Compressive Strength, ASTM C 579, psi	9,000
Tensile Strength, ASTM C 638, psi	2,500
Flexural Strength, ASTM C 790, psi	5,100
Hardness, Shore D, ASTM D 2240	85
Bond Strength, ASTM D 4541, psi	>400
Impact Resistance, MIL-D-3134	Pass
Coefficient of Friction, ASTM D 1894-61T	0.8
Water Absorption, ASTM C 413, %	0.10%
Resistance to Fungi Growth, ASTM G 21	Passes
VOC, EPA Method 24, gpl	0
Service Temperature	-50° F to 235° F

Part 3: Execution

3.01 Inspection

A. General

1. Examine the areas and conditions where FloroCrete RT 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.

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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. System I
 1. Substrate Preparation
 2. Matrix Coat
 3. Broadcast
 4. Grout Coat
 5. Optional Topcoat
 - b. System II
 1. Substrate Preparation
 2. Primer Coat
 3. Matrix Coat
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.

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- B. Priming
 - 1. All System II (Smooth Finish) areas shall be primed with the manufacturer's primer to seal and penetrate the substrate in preparation for applying the matrix coat and help prevent outgassing.
 - 2. Porous concrete substrates may require the addition of a primer in System I or additional applications of primer in System II.
- C. Matrix Coat
 - 1. All System I and II areas shall receive a matrix coat consistent with the manufacturer's recommended three-component polyurethane and cement-based matrix material to resurface the floor, seal the surface and give the floor impact, abrasion, corrosion and thermal shock resistance.
- D. Broadcast
 - 1. All System I (Skid-Resistant Broadcast) areas shall receive a full broadcast, to rejection, of manufacturer-approved silica sand, decorative colored quartz or vinyl chips.
- E. Grout Coat
 - 1. All System I (Skid-Resistant Broadcast) areas shall receive a high performance, compatible grout coat designed to encapsulate the skid-resistant aggregate and provide additional properties, as required.
- F. Optional Topcoat
 - 1. System I (Skid-Resistant Broadcast) areas may receive an optional topcoat of manufacturer's compatible high performance urethane to provide additional abrasion and chemical resistance, as desired.
- G. No traffic or equipment shall be permitted on the floor during the curing period.

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.

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