RESTOKRETE® SUBSTRATERESURFACER F-121

RestoKrete® Substrate Resurfacer F- 121 is a Portland cement based high strength, rapid set substrate repair material designed for an economical repair where deterioration is greater than small voids, bug holes and irregularities in concrete or brick substrates. No. F-121 repair material is also designed as a water resistant barrier to aid in the prevention of inflow and infiltration.

RestoKrete® Substrate Resurfacer F-121 is used in concrete and brick structures where the surface integrity needs to be restored. No. F-121 Resurfacer is used in various industries to restore damaged substrates to provide a uniform surface plane for subsequent corrosion resistant linings, including wastewater

CHARACTERISTICS

- Sprayable or trowelable
- Economical, fast installation
- Moisture tolerant
- Can be spin cast/sprayed in manholes
- Safe to use - non-toxic
- Used as an I & I barrier in manholes

AREA PREPARATION

The substrate should be maintained at 50ºF to 85ºF for 48 hours prior to beginning work.

At temperatures below 50ºF, the application becomes more difficult, and curing is retarded.

Above 85ºF, the material working time decreases. It is recommended that the material components be stored in a cooler area prior to mixing and shaded when out in the open.

Anchoring System

When No. F-121 is applied on a vertical surface at an overall thickness greater than 1 inch it must be reinforced or anchored. "T" type anchors or 2 inch x 2 inch mesh are suitable to secure the No. F-121 material.

PHYSICAL PROPERTIES **(At seven days, unless noted otherwise)**

Bond strength by Slant Shear (ASTM C-882)	2,200 psi (154.9 kg/cm^2)
Compressive strength (ASTM C-109)	
@ 24 hours	3,900 psi (274.2 kg/cm^2)
@ 7 days	5,000 psi (351.5 kg/cm^2)
@ 14 days	5,500 psi (386.7 kg/cm^2)
@ 28 days	7,000 psi (492.1 kg/cm^2)
Density (ASTM C-20)	137 pcf (2.19 gm/cm^3)
Flexural strength (ASTM C-580)	1,500 psi (105.5 kg/cm^2)
Freeze Thaw (ASTM C-666 Method A)	100 cycles: Durability factor >78
Mix ratio	6.25 to 1, by weight
Tensile strength (ASTM C-307)	822 psi (57.78 kg/cm^2)

Physical properties were determined on specimens prepared under laboratory conditions using applicable ASTM procedures. Actual field conditions may vary and yield different results; therefore, data are subject to reasonable deviation.

Consult Sauereisen for applications on overhead surfaces for recommendations on required thickness, reinforcement and anchoring systems.

Surface Preparation

Concrete - Refer to SSPC-SP13/NACE 6 "Surface Preparation of Concrete" guidelines. Surface should be profiled to an ICRI CSP 4-6 per ICRI 310.2.

Surfaces should be made free of oil, grease, water, and other contaminants that may inhibit bond.

Concrete must be firm and structurally sound as specified by the architect or engineer.

Hydroblasting or abrasive blasting should be utilized to remove laitance, contaminants, or loose particles and to produce a clean, sound substrate. All standing surface water should be removed prior to applying RestoKrete® Substrate Resurfacer No. F-121.

To ensure maximum adhesion and to prevent dehydration of No. F-121 at the substrate interface, the concrete should be thoroughly dampened with potable water (SSD – surface saturated dry) prior to application of F-121.

If concrete cannot be dampened or an unusual stress condition exists, Consult Sauereisen for recommendations.

APPLICATION

Mixing

Mixing should be done mechanically with a slow speed mortar mixer or drill motor with a “Jiffy” type mixing blade to obtain a uniform consistency. The mixing equipment must be clean and free of contaminants.

Sauereisen recommends that powder and water ratios are accurately measured prior to mixing. For every 50 lb. bag of powder, the appropriate amount of water is 8 lbs. If water must be measured in the field by volume, the amount per 50 lb. bag of powder is 0.962 gallons or 7.7 pints (124 ounces). The mixing time for this mixture is 5 minutes.

Mix only as much RestoKrete® Substrate Resurfacer No. F-121 material that can be applied in 15-20 minutes. Do not retemper by adding more water and remixing. Material that has hardened due to delay in placing must be dis- carded.

APPLICATION

Installation

F-121 may be applied by trowel, the wet shotcrete method or by the spin cast method for manholes. The minimum thickness for the F-121 is 1/8 inch regardless of application method. When using the shotcrete or spin casting methods a rotor-stator pump is required. Piston pumps are not recommended for F-121 shotcrete applications. Consult Sauereisen for equipment recommendations.

Regardless of application method, all mixing instructions detailed above should be followed.

Trowel Application

Mix only as much material as can be placed in 15-20 minutes, applying in lifts up to ½ inch thick.

A raked finish of the initial layer of F-121 is required if an additional lift is to be applied.

Follow finishing requirements as detailed below.

Spray Application

F-121 can be applied by straight shot spray or the spin casting method in manholes. Depending on the pump and spray equipment utilized, F-121 can be sprayed up to 1 inch in thickness per lift. Reinforcing requirements detailed above must be followed if the total thickness of the application exceeds 1 inch.

After placement by spray, trowel out the F-121 to maintain a uniform plane and finish as directed below.

FINISHING

After No. F-121 is applied by trowel, spray or spin casting, finishing after material placement is recommended. In this case, apply a broom or brush finish to provide a more desirable bonding surface equal to a minimum ICRI CSP 4. A damp sponge may also be used to obtain the necessary finish, but care should be taken with both brush and sponge finishing not to over wet the surface, as this will increase the chance of laitance development.

COVERAGE

When mixed at the proper ratio of powder and water, a bag of RestoKrete® Substrate Resurfacer No. F-121 will yield the following:

0.423 ft^3 per bag.

40 ft^2 per bag at 1/8 inch thickness.

20 ft^2 per bag at 1/4 inch thickness.

10 ft^2 per bag at 1/2 inch thickness.

CLEAN-UP

All equipment should be cleaned by scrubbing with a stiff brush and water at the end of each working period or when build-up becomes pronounced.

SETTING/CURING

Proper curing of No. F-121 is critical to the serviceability of the completed structure. No. F-121 may be top coated after its initial set in 8 hours at 70°F. Final set is achieved at 24 hours at 70°F

RestoKrete® F-121 must be properly cured in a high humidity environment (fog spray or equivalent). A Sauereisen curing compound may be utilized. If special conditions exist, please consult Sauereisen's technical service department for additional information and recommendations.

PACKAGING

RestoKrete® No. F-121 is packaged in 50 pound moisture-resistant bags on plastic wrapped pallets.

SHELF LIFE

Sauereisen RestoKrete® Substrate Resurfacer No. F-121 has a shelf life of twelve (12) months when stored unopened in a dry location at 70°F. If there is a doubt as to the quality of the materials, consult a Sauereisen representative.

CAUTION

Consult Safety Data Sheets and container label Caution Statements for hazards in handling these materials.

WARRANTY

We warrant that our goods will conform to the description contained in the order, and that we have good title to all goods sold. WE GIVE NO WARRANTY, WHETHER OF MERCHANTABILITY, FITNESS FOR PURPOSE OR OTHERWISE, EXPRESS OR IMPLIED, OTHER THAN AS EXPRESSLY SET FORTH HEREIN. We are glad to offer suggestions or to refer you to customers using Sauereisen cements and compounds for a similar application. Users shall determine the suitability of the product for intended application before using, and users assume all risk and liability whatsoever in connection therewith regardless of any suggestions as to application or construction. In no event shall we be liable hereunder or otherwise for incidental or consequential damages. Our liability and your exclusive remedy hereunder or otherwise, in law or in equity, shall be expressly limited to our replacement of nonconforming goods at our factory or, at our sole option, to repayment of the purchase price of nonconforming goods.

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