

Atlantic Painting & Sandblasting
 400 S. federal Hwy Suite 3
 Boynton Beach, Fl. 33435

Feb. 11,2014

City of Ft Lauderdale
 Epoxy Polymer Lining System
 Loehmeyer WWTP
 Project # 11942
 Concrete Repairs Breakdown

1 Beat out cracked beam concrete	48 hrs @ \$78.12 per hour	\$3,750
2 Additional Sandblasting Concrete & rebar	Sand 8 tons @ \$175 per ton Diesel \$100 per ton blasted by 8T Remove Sand \$100 per ton x8 ton Sandblasting sundries lenses gloves, protec clothing Sandblasting labor 64 hrs x\$78.12 per hr	\$1,400 \$800 \$800 \$1,750 \$5,000
3 Paint sandblasted rebar	16 hrs @ \$78.12 per hr. Additional epoxy	\$1,250 \$50
4 T-anchors & installation	24 hrs @78.12 per hr. T-anchors 625 @ \$1	\$1,875 \$625
5 F-121 repair Mortar	Additional 300 bags @\$27 per bag Labor to install 300 bags @ \$75 per bag	\$8,100 \$22,500
6 Additional Rented/Owned equip cost	Crane @ \$550 min. remove rentd equip & reinstall add \$550 Additional air comp rental for sandblasting/ mortar application \$250 per day / \$2500 per mo Scissor lift / scaffolding rental \$1,250 per week x4 weeks Sandblasting Equipment	\$1,100 \$2,500 \$5,000 <u>\$2,500</u>
	Total	\$59,000

SAUEREISEN

SUBSTRATERESURFACER™ No. F-121

SubstrateResurfacer™ No. F-121 by Sauereisen is a high strength substrate repair material and water resistant barrier for prevention of inflow and infiltration in concrete or brick manholes.

SubstrateResurfacer™ is portland cement-based and primarily specified for municipal wastewater environments where structural integrity needs to be restored.

CHARACTERISTICS

- o Pumpable and sprayable.
- o Economical.
- o Moisture tolerant.
- o Applied by spincast/spray.
- o Safe to use, non-toxic.
- o Trowelable

AREA PREPARATION

Temperature of Working Area

The substrate should be maintained at 50°F to 80°F for 48 hours prior to beginning work.

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

Above 85°F, the material working time decreases. It is recommended that the material components be stored in a cooler area prior to mixing.

Anchoring System

When No. F-121 is applied on vertical or overhead surfaces at a 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. Consult Sauereisen for recommendations on proper reinforcing or anchoring systems.

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.

Surface Preparation

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/engineer.

Hydroblasting should be utilized to remove laitance, contaminants, or loose particles and to produce a clean hard surface. All standing surface water should be removed prior to applying SubstrateResurfacer™ 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 water prior to application. If concrete cannot be dampened or an unusual stress condition exists, a concrete bonding agent is recommended. 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 weighed 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 approximate amount per 50 lb. bag of powder is in the range of 0.962 gallons or 7.7 pints (124 ounces). The approximate mixing time for this mixture is 5 minutes.

Mix only as much SubstrateResurfacer™ 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 discarded.

APPLICATION

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Installation

When using a lightweight mobile rotor-stator pump, apply a uniform coat to a minimum thickness of 1/8 inch. The following equipment is typical for rotary sprayed applications of substrate resurfacing materials:

Rotor/Stator Pump outfitted with an appropriate spincaster nozzle with internal air motor for rotary spray applications. For straight shot applications, use a pole gun with aluminum spray head.

Moisture Separator for collecting condensation within air lines.

Material Hose of 1-1/4 to 1-1/2 inch diameter and 15 feet length with internal expanded male ends and cam locks, with capacity of 300 psi required.

Air Hose of 1/2 inch diameter and 50 feet length from compressor to wet spray nozzle. Specify 200 psi and 2 lug Chicago fittings.

Air Hose of 1/2 inch diameter and 15 feet length from Moisture Separator to Spinning Nozzle Assembly. Specify 200 psi capacity with one end Chicago fitting and one end brass female swivel.

Cam-Lock Couplings of 1 inch and 3/4 inch diameter (2 sets each).

Miscellaneous Parts

- * 3/16 inch hardened steel tip
- * Tip retainer nut
- * Pole gun assembly

Other Outside Source Equipment

- * 180 cfm Air Compressor
- * 5500 watt Generator with 220 volt single phase

FINISHING

If Sauereisen No. F-121 is applied by trowel, finishing after material placement is recommended. In this case, apply a broom or brush finish to provide a more desirable bonding surface.

Such a surface texture is desired for spin-cast applications as well. Finish in a similar manner if necessary, take care not to disrupt the sprayed thickness.

COVERAGE

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

- 0.423 ft³ per bag.
- 40 ft² per bag at 1/8 inch thickness.
- 20 ft² per bag at 1/4 inch thickness.
- 10 ft² 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 it's initial set in 8 hours at 70°F. Final set is achieved at 24 hours at 70°F.

Underlayment No. F-121 must be properly cured in a high humidity environment (fog spray or equivalent). A Sauereisen curing compound may be utilized. If special condition exists, please consult Sauereisen's technical service department for additional information.

PACKAGING

Substrate Resurfacer™ No. F-121 is packaged in 50 pound moisture-resistant bags on plastic wrapped pallets.

SHELF LIFE

Sauereisen No. F-121 has a shelf life of six (6) months when stored unopened in a dry location at 70°F. Avoid freezing. If there is a doubt as to the quality of the materials, consult a Sauereisen representative.

CAUTION

Consult Material 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 non-conforming goods at our factory or, at our sole option, to repayment of the purchase price of non-conforming goods.

- o **Distributors and agents in major cities throughout the world. Consult manufacturer for locations.**
- o **Information concerning government safety regulations available upon request.**
- o **Sauereisen also produces inorganic compounds for assembling, sealing, electrically insulating and grouting.**

SAUEREISEN ...since 1899

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