



FLOW-LINER® SEWERGARD™ - TROWELABLE NO. 210

PHYSICAL PROPERTIES

Application time (ASTM C308 modified)	40-50 minutes
Working time at 70°F	17 hours
Initial set at 70°F	
Components	3 parts
Bond strength to concrete (ASTM D4541)	Concrete failure
Coefficient of thermal expansion (ASTM C531)	$3.5 \times 10^{-5} /F^{\circ}$ ($1.9 \times 10^{-5} /C^{\circ}$)
Compressive strength (ASTM C695)	@ 28 days 10,000 psi (703 kg/cm ²)
Density (ASTM C905)	113 pcf (1.81 gm/cm ³)
Flexural strength (ASTM C580)	4,900 psi (344.5 kg/cm ²)
Maximum service temperature	150°F (65°C)
Modulus of elasticity (ASTM C580)	2.75×10^5 psi (1.9×10^4 kg/cm ²)
Moisture absorption (ASTM D570-95)	< 0.04%
Tensile strength (ASTM C307)	2,000 psi (140.6 kg/cm ²)
Thickness	1/8 inch (3.175 mm)

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.

CHARACTERISTICS

- Resistant to corrosive conditions common to the municipal wastewater treatment industry.
- Suitable for application over damp or dry concrete surfaces.
- Trowelable nonsagging consistency ensures ease of application on vertical and overhead surfaces.
- Does not require a primer.
- Prohibits water infiltration.
- Available in Hot and Cold Weather formulations. Contact Sauereisen for more details.

Flow-Liner SewerGard™ No. 210 is an aggregate-filled epoxy material. This lining system is specifically designed to protect concrete surfaces of municipal wastewater treatment structures and collection systems from chemical attack and physical abuse. No. 210's nonsagging application properties permit economical repair and protection of vertical, horizontal and overhead surfaces of both new or rehabilitated substrates.

When cured, No. 210 provides an impermeable, high strength, corrosion-resistant lining for manholes, lift stations, grit chambers, aeration basins, and related structures subject to infiltration and attack from hydrogen sulfide and acid generated by microbiological sources.

AREA PREPARATION

Temperature of Working Area

Maintain a temperature of 60°-85°F on air, substrate, Liquid, Hardener, and Powder components during mixing, application, and cure.

The monolithic components should be maintained at 65°F to 80°F for 48 hours prior to beginning work.

At temperatures below 65°F, the application becomes more difficult and curing is retarded. Above 80°F, the material working time decreases.

Application in direct sunlight and rising surface temperature may result in blistering of the materials due to expansion of entrapped air or moisture in the substrate. Concrete surfaces that have been in direct sunlight must be shaded for 24 hours prior to application and remain shaded until the initial set has taken place. In rising temperatures it may be necessary to postpone the application or apply during cooler hours.

Surface Preparation

Surfaces should be made free of oil, grease, water, and other contaminants that may inhibit bond. This can be achieved by chemical cleaning.

Concrete - Refer to SSPC-SP13/NACE 6 "Surface Preparation of Concrete" for detailed guidelines.

New Concrete - All structures must be properly designed and capable of withstanding imposed loads. Abrasive blast, high-pressure water blast, or acid etch concrete to remove laitance and obtain uniform surface texture. After surface preparation, voids left in concrete surface must be filled with Flow-Liner Filler Compound No. 209.

Old Concrete - Concrete must be dry, firm and structurally sound as specified by the architect/engineer. Mechanical methods should be utilized to remove old paints, protective coatings, and attacked or deteriorated concrete. Abrasive blast or high pressure water blast concrete to remove laitance and obtain uniform sound substrate.

Substrate surfaces requiring repairs in excess of 1/8 inch depth should be resurfaced with Flow-Liner Underlayment No. F-120 to ensure proper rehabilitation of the substrate.

Brick - Abrasive blast or high-pressure water blast all foreign particles and attacked or unsound mortar from the joints. Loose brickwork or open joints should be regouted with appropriate Flow-Liner mortar to ensure structural integrity.

All active hydrostatic leaks must be stopped with Flow-Liner materials such as InstaPlug No. F-180 or Hydroactive Urethane Grout No. F-370 prior to SewerGard™ application.

If chemical cleaning is utilized to remove contaminants, substrate must be neutralized. If abrasive or high-pressure water blasting is used as the method of surface preparation, all sand and/or debris must be removed by thoroughly vacuuming the area with an industrial vacuum cleaner. If surface does not have desired conditions, repeat surface preparation procedure.

No. 210 may be applied over damp surfaces that are free of standing water; best results are achieved with dry surfaces.

APPLICATION

Mixing

No. 210 is packaged in pre-measured units of Powder, Liquid, and Hardener components. Mixing should be done mechanically with a "Jiffy" mixer blade chucked into a drill motor. The mixing equipment must be clean and free of Portland cement or other contaminants.

Remix both Liquid and Hardener prior to combining components. Empty contents of the Liquid into a clean, dry mixing container. Empty contents of Hardener into Liquid and mix thoroughly until blended for at least one minute. Add Powder component gradually while mixing to a uniform consistency.

Mix only complete batches. Material which has begun to set must be discarded. Do not try to retemper the material. Do not add solvent, additive or adulterant to any component or mixed material.

Remove the entire batch from the mixer when mixing is completed to prevent build-up in the equipment. While pouring one batch, another should be mixed in order to eliminate delays and to permit continuous operation.

Installation

No. 210 is applied by trowel at a minimum 1/8 inch thickness. Theoretical coverage is 44 ft² per unit at 1/8 inch thick-ness. Actual coverage may vary, depending upon jobsite conditions. Screed bars may be used to control thickness on large surface areas.

To provide a pinhole-free surface and removal of trowel marks in No. 210, a short-nap mohair paint roller slightly dampened with water may be used. Excess water should be shaken off prior to backrolling.

After No. 210 has achieved a hardened surface, a holiday detector should be utilized to ensure a continuous pinhole-free lining. A Flow-Liner SewerGard Patch Kit may be used to conveniently repair any pinholes. Consult Flow-Liner for details.

For details regarding construction joints, protrusions or penetrations through concrete, consult Flow-Liner for specific recommendations.

COVERAGE

No. 210 44 ft² per unit at 1/8 inch.

*Coverage is theoretical and will vary depending upon surface conditions, porosity, application techniques and specific project conditions.

SETTING/CURING

SewerGard™ No. 210T will have an initial set in approximately two hours and can resist standing water or sewage shortly thereafter. Aggressive or turbulent flow that may inhibit film formation or displace materials while curing will result in poor bond to the substrate. Consult Flow-Liner for parameters specific to your application.

PACKAGING

No. 210 is packaged in a premeasured unit consisting of:

Part A Hardener:
3.2 lbs. in a 1-gal. can

Part B Liquid:
10.1 lbs. in a 2-gal. bucket

Part C Powder:
40 lbs. in a paper or plastic bag

*Containers are filled by weight, not volume. Container size does not indicate volume of contents.

CLEAN-UP

All equipment should be cleaned with MEK before material cures. If removal is required after cure consult Sauereisen for specific recommendation.

SHELF LIFE

Flow-Liner SewerGard™ No. 210 has a shelf life of one (1) year, when stored in unopened, tightly sealed containers in a dry location at 70°F. Avoid freezing. If there is a doubt as to the quality of the materials, consult a FlowLiner 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 Flow-Liner 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.

- **Distributors and agents in major cities throughout the world. Consult manufacturer for locations.**
- **Information concerning government safety regulations available upon request.**

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