SAUEREISEN

SEWERGARD® NO. 210X

PHYSICAL PROPERTIES

Abrasion resistance @ 28 days (ASTM D 4060, Taber Abraser CS-17 Wheel, 1,000 gram load, 1,000 cycles)		44.9mg average weight loss
Adhesion (ASTM D4541)		Concrete Failure
Application time (ASTM C308 modified)	Working time at 70ºF	30 minutes
Bond strength to concrete (ASTM D7234)		Concrete failure
Compressive strength (ASTM D695)		15,500 psi
Components		2 parts
Elongation (ASTM D638)		12.9%
Flexural Strength (ASTM D790) @ 28 days		8,000 psi (562.4 kg/cm^2)
Max.service temperature (Dry)		150ºF (65ºC)
Mix Ratio (By Volume)		1 Part A-(Hardener) : 3 Parts B-(Resin)
Modulus of elasticity (ASTM D790)		5.1 x 10^4 psi
Permeability (ASTM E96)		1.32 x 10^{-10}(g/m·s·Pa)
Shore D (ASTM D2240)		95
Tensile Strength (ASTM D638)		4,300 psi

* All values determined @ 7 days unless otherwise noted

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.

Sauereisen SewerGard® No. 210X is a protective lining specifically formulated for municipal wastewater environments. SewerGard™ No. 210X provides a chemical-resistant barrier for concrete, masonry, brick, and steel substrates.

As a 100% solids epoxy polymer No. 210X is specified to protect infrastructure throughout the wastewater industry. Wherever extreme corrosive conditions exist, No. 210X is used as a stand-alone lining. No. 210X is a high strength lining that enables high build capabilities. Applications range from manholes and lift stations within the collection systems to tankage, structural steel, digesters, clarifiers, and secondary containment at treatment plants.

Installation of SewerGard® No. 210X is easily completed using airless or plural component spray equipment.

Touch up or small repairs can be completed using a trowel, brush, or roller.

CHARACTERISTICS

- ☐ Can be applied to surface dry, saturated concrete (SSD).
- ☐ Color: SewerGard Beige for greater light reflection.
- ☐ Cured lining will prevent inflow & infiltration
- ☐ Elongation (ASTM D638) is 12.9%
- ☐ High Strength 15,500 psi.
- ☐ Resistant to hydrogen sulfide, sulfuric acid, MIC and treatment chemicals.
- ☐ Smooth finish - aids wash down and prevents debris accumulation.
- ☐ Typical installed thickness is 125 mils
- ☐ User friendly by airless spray or plural component spray equipment.
- ☐ Zero VOC's, 100% solids

AREA PREPARATION

Temperature of Working Area

For optimum conditions, maintain a constant temperature of 60º-85ºF on air and substrate during application, and cure. Keep substrate at 60º-80ºF for at least 48 hours prior to application. The temperature and material must be at least 5ºF above the dew point.

At temperatures below 60ºF, the application becomes more difficult and curing is prolonged.

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. If temperatures are rising, it may be necessary to postpone the application and apply during cooler hours. It may be necessary to utilitize a primer to mitigate offgassing.

Surface Preparation

Metal - Abrasive blast to a minimum 2.5 mil profile employing SSPC-SP5 White Metal Blast for immersion and SSPC-SP10 for other service conditions.

All welds must be continuous, free of flux and have a smooth rounded radius without any sharp edges or ground flat in accordance with SSPC/NACE Standard Practices.

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.

For All Concrete Surfaces
Surfaces should be made free of oil, grease, and other contaminants that may inhibit bond. This can be achieved by chemical cleaning. Abrasive blast or high-pressure water blast concrete to remove laitance and obtain uniform surface texture exposing fine aggregate resembling sandpaper.Restore the substrate as needed to provide an appropriate bonding surface.

New & Old Concrete - Surface should be floated free of ridges or depressions and all voids shall be filled with an appropriate Sauereisen RestoKrete™ underlayment product. Mechanical methods should be utilized to remove old paints, protective coatings, and deteriorated concrete. This can be achieved by chemical cleaning. The choice of underlayment will depend on the severity of the voids to be filled.

Stop active water leaks with Sauereisen Insta-Plug™ No. F-180 or Hydroactive Urethane Grout No. F-370 prior to the coating installation. To asure material compatability, all voids should be filled with Sauereisen RestoKrete™ Substrate-Resurfacer No. F-121, Sauereisen RestoKrete™ Epoxy Modified Cement Mortar No. 208 or RestoKrete™ Filler Compound No. 209.

Consult Sauereisen for proper substrate restoration materials recommendation.

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

MIXING

Application by Airless Spray
For optimum conditions, maintain a constant temperature of 60º-85ºF on air and substrate.during application and cure. Keep substrate at 60º-80ºF for at least 48 hours prior to application.

Packaging consists of premeasured unitized containers of hardener Part A and resin Part B.

Remix Part A by shaking can for 30 seconds and Part B by mechanical means for 2 minutes before combining. Completely empty contents of hardener Part A into resin Part B. Using a slow speed 1/2 inch drill motor affixed with a "Jiffy" type blade, mix three to five minutes until thoroughly blended and material temperature is a minimum of 65ºF.

INSTALLATION

Airless Spray Application:
SewerGard® No. 210X may be spray applied up to a thickness of 65 mils per coat. Installation by airless spray should be done with a 50% overlap in a "cross hatch" pattern to reduce the possibility of pinholes and to assure complete coverage. At temperatures above 85ºF, the material working time decreases. Recoat window is up to 24 hours at 70ºF as long as the material is capable of supporting itself.

The following equipment is typically used for spray application:

Airless Spray Pumps - SewerGard® No. 210X may be sprayed with a minimum 56:1 piston-primed, single stage airless pump such as the model formerly manufactured by Graco. Alternative equipment such as the Graco 56:1 King Piston Primed Airless, Model 236-477 is also suitable. The current specification is the Graco Xtreme Sprayer X60 - MDL#X60-DH4. Remove all filters including the filter from the surge tank.

Other pumps may be suitable, depending on the job site requirements.

Water Trap: - must be placed on the air line at least 50' from the air compressor.

Gun - Graco XTR-7 or equivalent. Remove all filters from gun before application.

Gun tip - Use Tip Housing Part No. XHD-001 with Graco Reversa Tips MDL No. XHD with orfices of 0.019 to 0.025 inch tip works best. Alternative brand tips may be suitable.

Material hose - 6' whip end, 1/4" i.d.; working pressure 5,000 psi, 16,000 psi burst.

Material hose - 0-50' overall, 3/8" i.d.; working pressure 4,000 psi, 16,000 psi burst.

Air compressor - 180 ft^3 per minute at 100 psi, minimum.

Application by Plural Component:

Temperature of Working Area
For optimum conditions, maintain a constant temperature of 60º-85ºF on air and substrate.during application, and cure. Keep substrate at 60º-80ºF for at least 48 hours prior to application. The temperature and material must be at least 5ºF above the dew point.

Premix Hardener Part A and Resin Part B seperately before using.

Plural Component Spray Applications:

Mix Ratio (By Volume)
1 Part A-(Hardener) : 3 Parts B-(Resin).

Recommended equipment for plural component spray of Sauereisen SewerGard® No. 210X include variable ratio pumps or fixed ratio pumps 3 : 1 (fixed ratio) or variable ratio pumps with minimum ratio of 56 : 1, with recirculation and heating capabilities. It may be necessary to utilize heated hose lines and hoppers.

For plural component spray applications heating the resin and hardener to the following temperature is required. Preheating the material is also recommended.

Part A (Hardener) -	80-100ºF
Part B (Resin) -	115 -125ºF

Please consult Sauereisen for information and equipment required for spraying via plural component.

FILM THICKNESS

SauereisenSewerGard® No. 210X is a 100% solids epoxy with zero shrinkage. The dry film thickness (DFT) is expected to be the same as the wet film thickness (WFT). The typical recommended thickness is 125 mils in 2 equal coats to assure proper coverage and quality assurance. Greater thickness can be achieved by additional coats within 24 hours.

Note: The application thickness and the number of coats required to achieve the specified thickness may vary with surface conditions, application method and exposure.
Consult Sauereisen for details

COVERAGE

Maximum recommended thickness is 65 mils per coat

No. 210X: 12.8ft^2 per gallon at 125 mils

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

SETTING/CURING

Working Time: (For Airless Spay)
30 minutes @ 70^{0}F

Re-Coat Time:
Up to 24 hours @ 70^{0}F

Chemical Exposure:
17 hours @ 70^{0}F

After No. 210X has sufficiently cured, a holiday detector should be utilized to ensure a continuous pinhole-free lining. Consult a Sauereisen representative for details.

SHELF LIFE

Sauereisen SewerGard® No. 210X has a shelf life of one year. Store in unopened, tightly sealed containers in a dry location at 70ºF. Avoid freezing. If there is doubt as to the quality of the materials, consult a Sauereisen representative.

PACKAGING

Sauereisen SewerGard® No. 210X is packaged in a 1-Gallon unit, a 3- Gallon (Regular) unit and a 15-Gallon (Large) unit. Bulk Unit (200 Gallons) available by request.

Unit Size

Gallon Unit: = 1 Gallon
Part A - Hardener is packaged in a 1-gallon can.
Part B - Resin is packaged in a 2-gallon plastic pail.

Regular Unit: = 3 gallons
Part A - Hardener is packaged in a 1-gallon can.
Part B - Resin is packaged in a 5-gallon plastic pail.

Large Unit: = 15 gallons
Part A - Hardener is packaged in a 5-gallon (partial-filled) plastic pail.
Part B - Resin is packaged in three / 5 gallon (partial-filled) plastic pails.

Bulk Unit = 200 Gallons
Part A - Hardener is packaged in a partially filled 55-gallon metal drum
Part B - Resin is packaged in 3 partially filled metal drums

CLEAN-UP

All equipment should be cleaned with MEK before material cures.

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 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.**

LEGAL NOTICE

SAUEREISEN ...since 1899
160 Gamma Drive
Pittsburgh, PA 15238-2989 USA
Phone 412/963-0303 Fax 412/963-7620
www.sauereisen.com