# SL-310

## Thick-Film Structural Lining System

## Description

Advanced FRP Systems' **SL-310** is an easy-to-apply, 100% solids epoxy coating system. It was engineered to rebuild and reinforce badly damaged concrete and steel, providing excellent long term resistance to water and other aggressive chemicals. Spray applied at up to 250 mils in a single coat, this product provide single coat protection for even the toughest conditions.

## Product Advantages

- Zero VOC Coating system
- Reinforced with fibers for maximum strength
- Outstanding adhesion to concrete, steel, masonry, wood and composites
- Ships DOT Non-Corrosive
- Single coat, spray applied applications for efficient, economical repairs
- Moisture Tolerant epoxy
- Cures at temperatures as low as 45 °F

## Suggested Application

Long-term structural rehabilitation and corrosion resistant lining system designed for buried pipes, water lines, sewer pipes, corrugated pipes, drainage lines, penstock, water tanks and circulating water lines.

## Performance Data

| | Test Method | Results |
|---|---|---|
| **Coefficient of Linear Thermal Exp.** | ASTM E831 | 6.34 x $10^{-6}$ in/in °F |
| **Tensile Strength** | ASTM D3039 | Actual Value: 27,000 psi<br>Design Value: 24,300 psi |
| **Young's Modulus** | ASTM D3039 | Actual Value: 3,600 ksi<br>Design Value: 3,240 ksi |
| **Poisson's Ratio** | ASTM D3039 | 0.101 |
| **Lap Shear** | ASTM D3165 | 4,150 psi |
| **Sheer Modulus** | ASTM D5379 | 390,500 psi |
| **Flexural Strength** | ASTM D790 | Actual Value: 31,200 psi<br>Design Value: 28,080 psi |
| **Compressive Strength** | ASTM D695 | Actual Value: 19,750 psi<br>Design Value: 17,750 psi |
| **Elongation at Break** | ASTM D3039 | 7.5% |

## Product Characteristics

**Finish:** High Gloss

**Color:** Red or Grey

**Volume Solids:** 100%

**Mix Ratio (by wt.):** 3:1

**Mix Ratio (by vol.):** 2:1

**Density:** 1.32 g/mL

**Approx. Coverage:** 20 sqft/gallon at 80 mils

**Maximum Film Build:** 250 mils

**Working Time:** 60 minutes at 75 °F

**Application Temperatures:** 45 - 105 °F

**SL-310** is sold in ½, 1, 2, and 4 gallon units. Other unit sizes may be available. **Sold FOB Weymouth, MA**

## Cure Schedule

| **Cures for Application** | **50 °F (10 °C)** | **75 °F (24 °C)** | **100 °F (38 °C)** |
|---|---|---|---|
| Dry to Touch | 14 hours | 8 hours | 4 hours |
| Dry Hard | 36 hours | 24 hours | 12 hours |
| Overcoat Window | 14 - 168 hours | 8 - 120 hours | 4 - 72 hours |

| **Cures for Service** | **50 °F (10 °C)** | **75 °F (24 °C)** | **100 °F (38 °C)** |
|---|---|---|---|
| Atmospheric | 36 hours | 24 hours | 12 hours |
| Water Immersion | 48 hours | 36 hours | 24 hours |
| Full Chemical Resistance | 168 hours | 120 hours | 72 hours |

***Contact Advanced FRP Systems for elevated temperature post-cure information. Elevated temperature cures will increase chemical resistance and reduce return to service time.***

## Application Information

***All Advanced FRP Systems products should be installed by a certified applicator or with direct oversight by Advanced FRP Systems, Inc. This data sheet provides general application guidelines for SL-310.***

***Contact Advanced FRP Systems for more information if your project has detailed coating specifications.***

Ensure air and substrate temperatures are between 45-105 °F and relative humidity is below 95%. Follow surface preparation guidelines below prior to coating.

Pour all of Part A – Hardener into Part B – Base and mix with low speed power agitator for 2-3 minutes. Using a paint stick or spatula, thoroughly scrape sides and bottom of unit. Mix with power mixer for an additional 2 minutes. Do not add any solvent or thinner.

**SL-310** is best applied via airless spray equipment. It can be applied with a single or plural component system equipped with inline heating elements. Touchups can be done with a trowel, but to ensure an air pocket free system the majority of the coating should be applied via sprayer. Contact Advanced FRP Systems for more information on sprayer recommendations.

Contractors must be approved and trained by Advanced FRP Systems in order to apply **SL-310** Structural Lining. Please contact Advanced FRP for information on contractor training and approval.

## Surface Preparation

***Steel (Immersion Service):*** Remove all oil and grease from surface with an SSPC-SP 1 Solvent Wipe prior to blasting. Abrasive Blast to an SSPC-SP 10 Near white metal blast with a sharp angular profile of 2 – 3 mils (50 – 75 microns).

***Steel (Atmospheric Corrosion):*** Remove all oil and grease from surface with an SSPC-SP 1 Solvent Wipe. Minimum surface preparation of SSPC-SP 2 Hand Tool Cleaning must be performed. For enhanced performance, an SSPC-SP 6 Commercial Blast Cleaning with an angular surface profile of 1.5+ mils should be used.

***Concrete (Immersion/Secondary Containment):*** Refer to SSPC-SP 13/ NACE 6, Section 4.3.1 or ICRI No. 310.2, CSP 1-3 for concrete preparation guidelines. Surface should be thoroughly cleaned and dry. Concrete and mortar must be cured at least 28 days @ 75 °F. Surface must be free of laitance, concrete dust, dirt, form release, curing aids and other foreign material. **Advanced FRP Sealer 200** may be applied prior to coating at 3-5 mils to increase adhesion and reduce outgassing.

***Concrete (Atmospheric Corrosion):*** Refer to SSPC-SP 13/ NACE 6, Section 4.3.1 or ICRI No. 310.2, CSP 1-3 for concrete preparation guidelines. **Advanced FRP Sealer 200** is not required but recommended for improved adhesion and aesthetics.

***Previously Coated Surfaces:*** Consult with Advanced FRP to ensure previous coating is compatible. If compatible and previous coating is in good condition, remove all loose coating and foreign materials. Brush blast or grind all glossy areas to a uniform dull finish. Remove dust, oil and debris with SSPC-SP 1 Solvent Wipe prior to coating.

## Storage and Shelf Life

**SL-310** must be stored between 45 – 110 °F, out of direct sunlight. If stored in these conditions, the product will have a 24-month shelf life.

## Safety Precautions

Please consult up-to-date Safety Data Sheets (SDS's) prior to use. An SDS should be available on site whenever Advanced FRP products are being used.

## Warranty Information

Advanced FRP Systems, Inc. warrants that our products are free of manufacturing defects in accordance with applicable Advanced FRP quality control parameters. Liability for products proven defective, if any, is limited to replacement of defective product or refund of purchase price as determined by Advanced FRP Systems. Additional warranties and protection are available. Contact Advanced FRP for more information.

## Disclaimer

The information and recommendations set forth upon this data sheet are based on years of laboratory and field analysis. This information is intended to be used as guidance only as many factors affect the performance of polymeric systems. Actual exposure conditions are the best test of suitability and Advanced FRP Systems will generally provide complimentary samples for field testing.

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