

PLS-650 Fiberglass Reinforced Cured-in-Place Lining System

Description

PerpetuWall™ is a cured-in-place composite liner system comprised of fiberglass cloth and a two-component, solvent-free 100% solids, ultra high build epoxy mastic designed to protect from corrosion and stop transmission of fluids also known as infiltration or exfiltration. PerpetuWall™ forms a monolithic liner that completely bonds and conforms to the host structure regardless of shape and size. The liner can be used as the primary protection barrier for structures or as part of a secondary containment system. PerpetuWall™ is designed for use with concrete and masonry structures, but can also be used on timber, metal, and plastic structures.

Typical Uses

New or existing structures where waterproofing is required, or areas where exposure to concentrated acids or other caustic materials may be expected, such as:

- Manholes
- Lift Stations
- Clarifiers
- Digesters
- Tanks
- Large Diameter Pipes
- Chemical Troughs
- Wastewater Facilities
- Secondary Containment
- Floors and Walls
- Waterproofing for concrete, metal, and wood

Physical Properties

Hardness	ASTM D-2240	72 Shore D
Tensile strength	ASTM D-638	29,200 PSI
Compressive strength	ASTM D-695	16,800 PSI
Flexural strength	ASTM D-790	34,300 PSI
Ultimate Elongation	ASTM D-638	4.50%
Bond (Concrete)	ASTM D-4541	Substrate Failure
Flexural modulus	ASTM D-790	1,590,000 PSI
Shear Strength	ASTM D-2344	4,060 PSI
Heat Distortion	ASTM D-648	220°F

VOCs: None

Cure Time: Approx. 4 hours at 70°F

Typical Installation Thickness: 125-180 mils

Color: Grey

Packaging

Epoxy Component : See PLS-614, PLS-613, & PLS-616 Product Data Sheets

Fiberglass Component: Rolls 3' x 170' (510 Sq. Ft.)

Coverage

Approx 12 Sq. Ft At 125 mils, see PLS-614 & PLS-613 PDS

Thinning

Do not thin, see PLS-614 & PLS-613 Product Data Sheets

Components

Epoxy (PLS-614 or PLS-613) and Fiberglass Cloth (PLS-811)

Cure Time

Tack-free in approx. 4 hours at 70°F. Complete cure 4 days

Application

Surface Preparation - Concrete & Masonry: Prior to application surface must be free of any existing coatings, surface treatments, surface contaminants, loose materials, and weak materials. Host structure must be structurally sound. All active and potential infiltration must be stopped. Surface shall be cleaned with a 4,000 PSI pressure wash to remove any surface contaminants. Where pressure washing is insufficient to remove surface contaminants, abrasive blasting shall be used. After abrasive blasting the surface should be cleaned again with a 4,000 PSI pressure wash. Surface shall be resurfaced with an approved cement (PLS-507 recommended) to create a smooth surface free of divots, voids, or similar surface defects. It is recommended to remove all stairs and unnecessary fixtures.

Surface Preparation - Steel: Prior to application surface must be free of any existing coatings, surface treatments, surface contaminants, and rust. Host structure must be structurally sound. All active and potential infiltration must be stopped. Surface shall be cleaned with abrasive blasting to a SSPC-SP 10/NACE No.2 "Near-White Blast". It is recommended to remove all unnecessary fixtures.

Mixing - Hand Application: Epoxy components shall be combined within a clean disposable bucket and mixed using a joint compound mixing blade until it forms a uniform gray color. No streaks or striations should be visible. See PLS-614 & PLS-613 Product Data Sheets.

Mixing - Spray: Epoxy components shall be pumped through static mixer before being sprayed. Sizing of mixer should be matched with spray equipment to produce a uniformly mixed material at its output. See PLS-614 & PLS-613 Product Data Sheets.

Application (cont.)

Pot Life: Approximately 30 minutes at 70°F

Application: After resurfacing, it is recommended to wait a minimum of 12 hrs before beginning application, after using an approved resurfacing material. The surface may be saturated, but must be dry to the touch to prevent water from hindering adhesion. At all times a wet or prepped edge must be maintained. The first layer of epoxy shall be hand troweled or sprayed at approximately 80 mils directly onto prepared surface of the structure. Next fiberglass cloth shall be pressed into the first layer of epoxy. The fiberglass cloth shall not peel or slump when placed on the surface and remain free of wrinkles. The first layer of epoxy must be larger than the piece of fiberglass cloth being installed. The size of cloth used is at the discretion of the applicator. After the application of the fiberglass, a second layer of epoxy shall be applied. The combined thickness shall be 125 mils or more. The top layer of epoxy shall completely encapsulate the fiberglass. This process is to be continued until the entire surface is completely lined. An overlap of 2 inches is required at all fiberglass cloth joints, and fiberglass shall be placed with the upper layer of the joint upstream of water flows. Lining shall extend from 2 inches above the bottom of the manhole frame down to the water line or invert in manholes. The invert may be lined as requested if flow can be stopped or bypassed for application when specified. For other structures liner shall extend 3 inches beyond any joints in specified application area. More layers of fiberglass can be used if required or specified. Substrate shall be between 32°F and 140°F.

Curing: Once the liner has cured sufficiently to resist the flow of water / effluent it may be exposed as necessary. Liner will continue to cure underwater. This delay is required to prevent flow from removing the top layer of epoxy.

Re-coat: Application is best when completed in one application. Additional epoxy can only be applied to a wet or tacky epoxy. Once this window passes the surface must be ground to a rough surface before re-coating, in order to insure proper bonding.

Clean Up: Cleaning of tools can be performed using acetone, MEK, Xylene, or similar solvents. To clean skin soap and water is recommended. Please read Safety Data Sheets for more health and safety information.

Shelf Life and Storage

Epoxy Component : See PLS-614, PLS-613, & PLS-616 Product Data Sheets

Fiberglass Component: 10 years, Must be kept clean and dry. Do not store exposed to direct sunlight or extreme temperatures.

Safety

Follow all local and national safety regulations. Always use appropriate industry safety techniques and equipment. Read and follow the safety information listed in the Safety Data Sheets. Do not use if you do not understand or can not comply with information provided on Safety Data Sheets, do not use this product. Contact us to obtain Safety Data Sheets.

Warranty

Protective Liner Systems, Inc. warrants its products to be free of manufacturing defects. Furthermore, Protective Liner Systems, Inc. warrants the **PerpetuWall™** Composite Lining System to stop groundwater infiltration and further deterioration of the surfaces that are lined, in normal service conditions of wastewater collection systems, for a period of five (5) years from date of installation when installed by a Certified Applicator. In all cases the applicator is responsible for labor and supporting materials. This warranty is limited to the replacement of the defective material and for a period equal to the performance warranty.

Information contained on this data sheet may change at any time. Protective Liner Systems, Inc. is not responsible for direct or indirect damages as a result changes to this data sheet and reserves the right to make such changes at anytime without prior notification.
