LINABOND®

Structural Polymer™ Pipeline Seam Material

PRODUCT DESCRIPTION

Linabond Structural Polymer Pipeline Seam Material is a plural component high-strength, extremely acid resistant hybrid urethane which is used for the seam overlay area of our PVC liner in our Linabond Structural Polymer Co-Lining™ Systems. It provides a gas tight chemical bond between the overlapping PVC liner sheets. PVC sheets must be activated with our Linabond Crosslink Activator (CLA-2 -see product Data Sheets). The activated surface must be tack free before application of the seam material. It is easy to apply, cures quickly and has excellent resistance to acid and sulfides. It is very strong, and will crosslink with our Crosslink Activators for a superior chemical bond to our PVC Liners. In effect, it becomes an extremely tough, chemically resistant “gasket” be-tween the PVC liner sheets. Both pot life and cure time are relatively short to allow structures to be lined while in service or returned to service quickly.

USES

It is primarily intended for the seam overlay of our PVC liner when it is used with our Linabond Structural Polymer Co-Lining™ Systems. It provides a gas tight chemical bond between the overlap-ping PVC liner sheets. It is also used for terminations in some applications for both the Linabond Mastic System and Linabond Structural Polymer System due to its high strength and chemical resistance.

APPLICATION

Linabond Structural Polymer Pipeline Seam Material must be applied by mechanically proportioning the material with a plural component caulking gun or pump through an appropriate application tool. PVC must be activated to achieve cross-linking. Pot life is very short, so mechanical proportioning and application are necessary.

TYPICAL CURE

Linabond Structural Polymer Pipeline Seam Material cures sufficiently for immersion in wastewater in approximately 20 minutes. It can be tooled for a period of from about 3 to about 5 minutes after it eaves the static mixer. This is necessary because of the time restraints inherent in work-ing in a live sewer which must be returned to service in 20 to 30 minutes. Full cure is highly dependent upon the temperature in the structure. Heat curing is often used to attain maximum strength of Linabond Structural Polymer materials in a short time period.

PHYSICAL PROPERTIES

Viscosity centipoise side A	3000 cps
Viscosity centipoise side B	2500 cps
Solids (by wt.)	97%
Specific Gravity side A	96
Specific Gravity side B	1.1
Flash Point	550 F.
Mix Ratio	1 to 1
Initial Cure Time	20 to 30 minutes
Tensile, ASTM D638	13,300 psi
Elongation, ASTM D638	2.7%

The values shown are typical and are not recommended for specification purposes unless practical tolerances or limitations are established with our laboratory. Representations made are believed to be valid; however, seller makes no warranty of any kind concerning the use of this product.

STORAGE AND TRANSPORTATION

All packaging includes a dry nitrogen blanket in the head space above the liquid. This blanket supplies an inert environment, free of atmospheric moisture to prevent surface skinning of the product. Material should be stored inside and storage temperature should be above 70 degrees F. Shelf life will be approximately one year in unopened containers under these conditions.

During transportation, care should be exercised to avoid puncturing the product containers. Also, storage containers and/or trailers should not be left n desert heat above 120 degrees Fahrenheit for more than 3 months during shipment, nor should it be exposed to temperatures below freezing for more than 3 months.

Please read MSDS sheet before use. This material is intended for professional use only. Use with adequate eye, skin and respiratory protection and always provide adequate ventilation in closed areas. Respirators should be approved for organic vapors. Keep vapor concentration below TLV limits. Chemical resistant gloves and eye protection are highly recommended. A face shield should always be worn when working directly overhead.

These materials are intended for use only by applicators trained and competent in the use of plural component materials and equipment.

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(U.S. Patents #4,792,493 #5,268,392 &
#5,389,692 with others pending - U.S. and

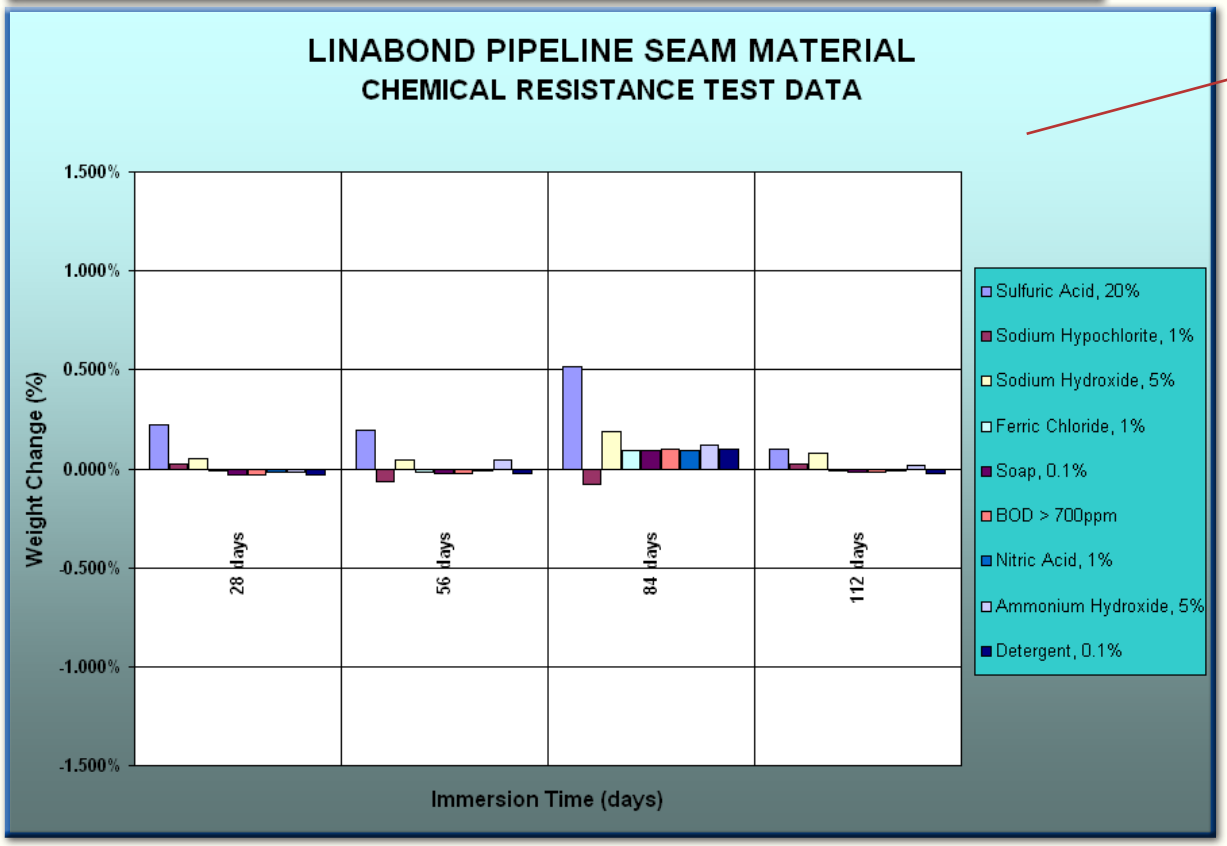
Structural Polymer™ Pipeline Seam Material

CHEMICAL RESISTANCE TEST DATA - PERCENT WEIGHT CHANGE

CHEMICAL BATH	DAYS IMMERSED				
	28	56	84	112	Requirements*
Sulfuric Acid, 20%	0.22%	0.20%	0.52%	0.10%	(+/-) 1.5 %
Sodium Hypochlorite, 1%	0.02%	-0.07%	-0.08%	0.03%	(+/-) 1.5 %
Sodium Hydroxide, 5%	0.05%	0.04%	0.19%	0.08%	(+/-) 1.5 %
Ferric Chloride, 1%	-0.01%	-0.01%	0.09%	-0.01%	(+/-) 1.5 %
Soap, 0.1%	-0.03%	-0.02%	0.09%	-0.02%	(+/-) 1.5 %
BOD > 700ppm	-0.03%	-0.02%	0.10%	-0.02%	(+/-) 1.5 %
Nitric Acid, 1%	-0.02%	-0.01%	0.10%	-0.01%	(+/-) 1.5 %
Ammonium Hydroxide, 5%	-0.02%	0.04%	0.12%	0.02%	(+/-) 1.5 %
Detergent, 0.1%	-0.03%	-0.02%	0.10%	-0.02%	(+/-) 1.5 %

Notes: * As per Standard Specifications for Public Construction (Greenbook), Section 210-2, Requirements for Protective Plastic Liners.

The tables to the left show the results of the chemical resistance tests which were conducted on the Linabond® Structural Polymer™ Pipeline Seam Material, according to the Standard Specifications for Public Construction (Greenbook), Section 210-2; Requirements for Protective Plastic Liners. As you can see, the material far exceeds the requirements for constant immersion in wastewater, based on an expected 50 year design life.



This bar chart provides a graphical illustration of the effects of specific chemicals on the Linabond® Structural Polymer™ Pipeline Seam Material. The entire white area of the chart represents the allowable range per the Green Book, indicating that the material has quite a considerable safety margin. It is highly unlikely that anything which is ever likely to be found in a wastewater structure will have a significant effect on this material.