LINABOND®

LM-102
Structural Polymer™

PRODUCT DESCRIPTION

Linabond LM-102 Structural Polymer is a chemical resistant two component polyurethane material which functions as a sealant, an anchoring mechanism and backup protection for our original Structural Polymer Co-Lining™ System. It is most commonly used under our Vinylthane PVC liner material to form our patented Co-Lining™ system. Linabond LM-102 Structural Polymer has significant advantages, such as spray application capability, better chemical resistance, higher strength and higher adhesion, over our original (20-year-old LM-100) polyurethane foundation for our Vinylthane Co-Lining™ System, which has been used somewhat extensively by Los Angeles City and County for many years. This material was developed for use over rebuilt or moderately corroded surfaces. It should be used over profiles of no more than 1/4 inch to be cost effective and to avoid application difficulties (It becomes difficult to hold more than 250 mils on an overhead or 500 mils on a vertical surface, creating waste and unnecessary cleanup. Making it thicker would increase labor.). It is very flexible and tough, which makes it ideal where motion could be a problem. Adhesion to primed concrete often exceeds the strength of the concrete itself, and it cross-links readily with Linabond PVC liner, when activated with our Crosslink Activator. It may be used with some other types of PVC materials but not with all types, so it is a good idea to either stick with our PVC or call us to check on compatibility. Our Linabond PVC has been developed and tested over many years to be the ideal surface membrane for use as a Co-Lining™ (we pioneered and patented Co-Linings™). When cured, this combination of coating and lining system provides an extremely effective protective membrane, offering the best properties of both coatings and extruded plastic linings while sidestepping the disadvantages of both.

APPLICATION

Linabond LM-102 Structural Polymer is usually applied directly to the primed steel or concrete surface up to 2 hours (@ 70 degrees F.) prior to the application of our Vinylthane PVC liner material. (PVC must be applied while the material is wet enough to write in it.) It provides a very flexible, tough second line of defense behind the PVC liner and prevents lateral migration in the event of a puncture to the liner. It is applied with hand tools or spray equipment (please call for advice on spraying). Mixing is very important, as with most multiple component materials, and Linabond LM-102 Structural Polymer must be mixed for about one minute prior to application with the appropriate sized drill motor and mixer blade (heavy mixers are not necessary or desirable). The material can be proportioned through an appropriately sized static mixer and plural component pump (again, call for recommendations). They can speed up production and eliminate some labor on larger projects if used properly.

CURE TIME

Linabond LM-102 Structural Polymer cures to a tough rubber in 16 to 72 hours depending on the temperature. At 90 degrees F., the cure time would be @12-16 hours while at 55 degrees F. it would be @72 hours. The material should not be applied below 55 degrees F. Structures should be heated in colder climates, to approximately 60 to 80 degrees during application and for at least a day after application for curing. At 60 degrees, 3 days will probably be necessary to attain typical minimum peel requirements of most specifications.

LINABOND, INC.
1161 Avenida Acaso
Camarillo, CA 93012 (805) 484-7373

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

TYPICAL PROPERTIES

Performance Properties Non-flow(typical)

Hardness, Shore A >65

Nonvolatile content>97%

Adhesion, ASTM C794.....>40pli

Tensile, ASTM D412.....>600psi

Elongation, ASTM D412.....>275%

Maximum Usable Temperature.....80 degrees F

Minimum Usable Temperature.....40 degrees F

Cure time.....16 to 72 hours dependent on temperature

The values shown are typical and practical tolerances or limitations should be established with our laboratory for specification purposes.

STORAGE AND TRANSPORTATION

Storage temperature should be 70°. Store away from open flame and avoid freezing temperatures. During transportation, care should be exercised to avoid puncturing the product containers. Also, storage containers and/or trailers should not be left in 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.

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

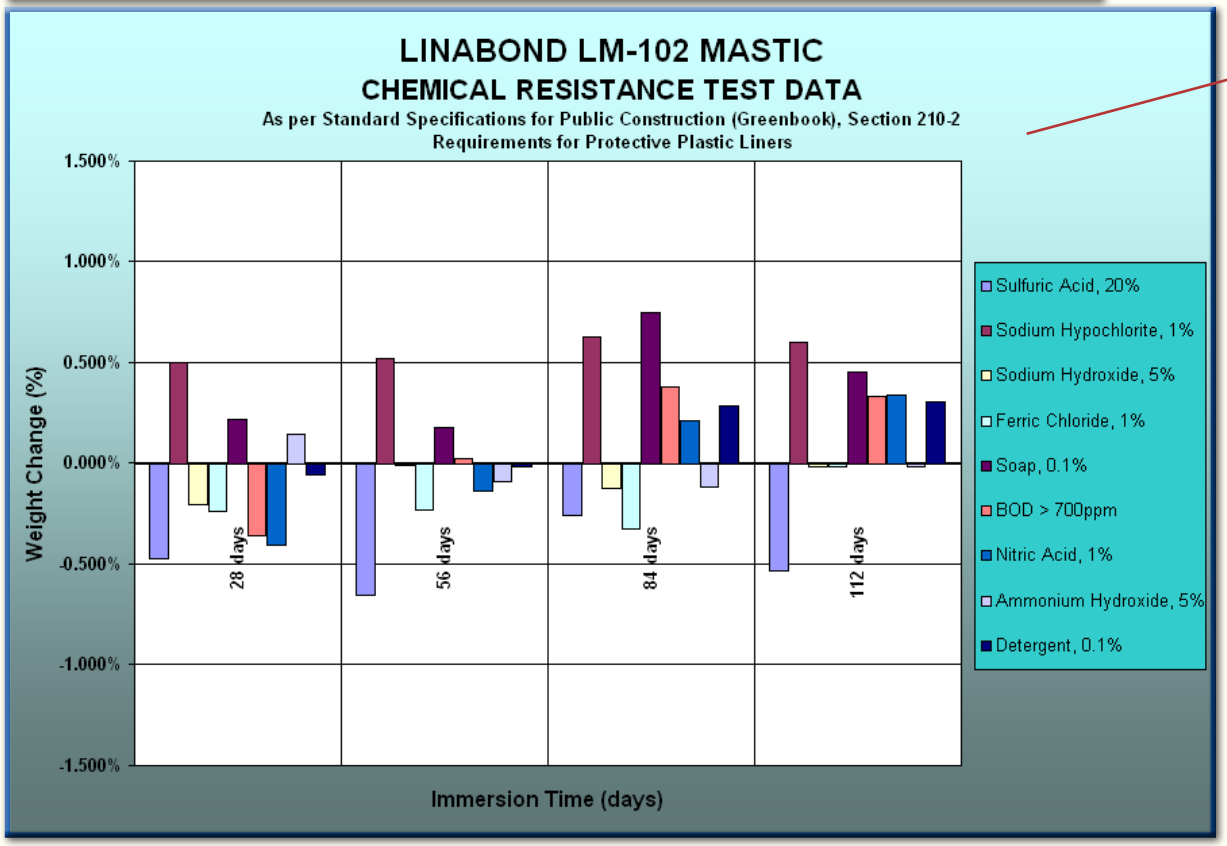
LM-102 Structural Polymer™

CHEMICAL RESISTANCE TEST DATA - PERCENT WEIGHT CHANGE

CHEMICAL BATH	DAYS IMMERSED				
	28	56	84	112	Requirements*
Sulfuric Acid, 20%	-0.47%	-0.65%	-0.26%	-0.53%	(+/-) 1.5 %
Sodium Hypochlorite, 1%	0.50%	0.52%	0.63%	0.60%	(+/-) 1.5 %
Sodium Hydroxide, 5%	-0.20%	-0.01%	-0.12%	-0.02%	(+/-) 1.5 %
Ferric Chloride, 1%	-0.24%	-0.23%	-0.33%	-0.02%	(+/-) 1.5 %
Soap, 0.1%	0.22%	0.18%	0.75%	0.45%	(+/-) 1.5 %
BOD > 700ppm	-0.36%	0.03%	0.38%	0.33%	(+/-) 1.5 %
Nitric Acid, 1%	-0.40%	-0.14%	0.21%	0.34%	(+/-) 1.5 %
Ammonium Hydroxide, 5%	0.14%	-0.09%	-0.12%	-0.02%	(+/-) 1.5 %
Detergent, 0.1%	-0.05%	-0.02%	0.29%	0.30%	(+/-) 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® LM-102 Structural Polymer™ 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® LM-102 Structural Polymer™ 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.

LINABOND, INC.: 1161 Avenida Acaso, Camarillo, CA 93012 Phone: 805 484 7373 Fax: 805 484 5799