

POLYGUARD UNDERSEAL™

SPLIT SLAB WATERPROOFING MEMBRANE

Membrane with Built-In Protection Course
(Formerly known as Underseal™ XT 851 Split Slab)



PRODUCT FEATURES:

BASIC USES: *Underseal™ Split Slab Membrane* is used as a waterproofing membrane/vapor retarder that virtually eliminates water and vapor transmission through concrete slabs. *Split Slab Membrane* is applied to *horizontal* slab applications such as parking garages, plaza decks, plywood decks and related applications where waterproofing is critical.

DESCRIPTION: *Split Slab Membrane* is a strong, self-adhering sheet membrane with a 20 mil thick high strength polyethylene backing laminated to a 55 mil thick layer of rubberized asphalt waterproofing compound. *Split Slab Membrane* adheres tightly and permanently to concrete to provide a continuous barrier to water intrusion. Total membrane thickness is factory controlled at **75 mils**.

ATTRIBUTES: *Split Slab Membrane* allows for concrete topping slab installation **without the need for a separate protection course in most applications**. *Split Slab Membrane* also acts as a barrier to termites and toxic contaminants as well as methane and radon gas vapors.

LIMITATIONS: *Split Slab Membrane* can only be used on horizontal surfaces. It is **not** recommended for vertical applications. However, occasionally it may be used vertically, consult Polyguard for vertical recommendations. *Split Slab Membrane* should only be installed when temperatures are 40°F (4.44°C) and rising, please consult Polyguard for information concerning cooler temperatures. This membrane should always be installed when the weather is dry. Do not install when it is raining or when freezing precipitation is occurring.

Split Slab Membrane is not recommended as a pond or tank liner except when applied between two concrete slabs. For detailing use the *Underseal™ Seal Tape*.

REFERENCES: *Split Slab Membrane* qualifies under LEED IAQ Credit 5 - Indoor Chemical and Pollutant Source Control (below grade toxin barrier/reduced pesticide usage). SS3 - Brownfield redevelopment (can be used for pesticide contaminated sites). Can be considered for ID-1 - Innovation in design.

Underseal™ is protected by U.S. Patent No. 7,488,523

Polyguard

This Information is based on our best knowledge, but POLYGUARD cannot guarantee the results to be obtained.

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PACKAGING:

ROLL SIZE	ROLL SIZE	ROLL/CTN	SQ.FT. / CTN	LBS. /CTN	CTNS / PALLET
Underseal™ Split Slab Membrane	50" x 48'	1	200	75	Bulk/25
Underseal™ Seal Tape	12" x 50'	4	200	75	25

SAFETY: **Polyguard** liquid adhesives, mastics and liquid membrane products can contain varying amounts of solvents and other substances which could be hazardous if not handled safely. Hazards can include breathing vapors, flammability, skin irritation, and toxicity. It is important that users obtain from **Polyguard** current Material Safety Data Sheets, and follow with care all safety instructions related to the products. Of particular importance is the presence of adequate ventilation, and the absence of excessive heat, flame, or sparks in areas where the products are stored, handled, or applied. **CLOSE CONTAINER AFTER EACH USE. KEEP OUT OF REACH OF CHILDREN.**

PRODUCT PLACEMENT:

PREPARATION: Structural Concrete must be cured for 7 days, minimum. Lightweight structural concrete is more porous and retains more moisture so a 14 day cure is a must. Lightweight insulated concrete is **not** an acceptable substrate for this membrane system. Application of the waterproofing before the adequate concrete curing may cause concrete outgassing resulting in unacceptable blistering of the membrane.

Concrete slabs must be smooth and monolithic. Broom surfaces are not recommended. Surfaces must be free of voids, spalled areas, sharp projections, loose aggregate and form release agents. Concrete compounds containing oil, wax or pigments should not be used. Form releases must be self dissipating type which will not transfer to the concrete. Surface holes or cavities (honeycombs) should be filled and finished flush with non-shrink grout or concrete. **NEVER** apply Polyguard products to frozen concrete.

INSTALLATION:

Vertical and horizontal inside corner detailing - Corners must be clean and smooth. All vertical and horizontal inside corners must first have a 3/4" (19mm) face fillet/cant of **Polyguard LM-95 Liquid Membrane or Polyguard Detail Sealant** prior to application of **Split Slab Membrane** (do not prime surfaces to receive LM-95 prior to application). Allow **Polyguard Detail Sealant** to cure 24 hours prior to application of membrane. Preparatory surface work should be completed prior to mixing **Polyguard LM-95 Liquid Membrane**. Pot life of this product is approximately 60 minutes after mixing at 70°F (21°C). **DO NOT use wood or fiber cant strips.** All inside and outside corners must be also treated with a 12" (305mm) wide strip of **Underseal™ Seal Tape** prior to the installation of the full sheet of **Split Slab Membrane**.

Membrane Installation - All surfaces to receive the **Split Slab Membrane** or the **Seal Tape** must be primed with **650 LT Liquid Adhesive, California Sealant, or Shur-Tac Waterbase Liquid Adhesive** at a minimum rate of 250 - 350 sq. ft. per gallon (6-8.5 m²/l). **650 LT Liquid Adhesive or California Sealant** must only be applied with a lambs wool roller or brush. **Shur-Tac Waterbase Liquid Adhesive** can be applied with either short nap roller, brush or approved sprayer. Primed surfaces must be reprimed if the substrate is allowed to become dirty or if membrane is not applied within the same working day. The **650 LT Liquid Adhesive or California Sealant** must be tacky to touch prior to application of membrane. Membrane should be installed starting at low side and working to the high point in a shingle technique. Side laps should be a minimum of 2 ½ inches and end laps a minimum of 6 inches. The entire membrane surface should be firmly rolled immediately with a linoleum roller weighing approximately 75 lbs. This insures excellent adhesion and minimizes air pockets between the substrate and membrane. Prior to slab pour all standing water must be removed from the membrane. Substrate condition and porosity may effect actual coverage rate of **650 LT Liquid Adhesive, California Sealant or Shur-Tac Waterbase Liquid Adhesive**.

Drain detailing - Drains should be bi-level for drainage capability at the surface and at the membrane level. Clamping rings and weep holes should also be at the membrane level. **Split Slab Membrane** must be applied from low to high pitch for maximum drainage. Use a linoleum roller weighing approximately 75 lbs. to roll membrane immediately after application, with special attention at overlaps and "T-Joints". Seal all permanently exposed end laps with **Polyguard 650 Mastic** at the end of each day.

Pipe penetrations - If annular space of pipe through opening is ½" or less **Polyguard LM-95 Liquid Membrane or Polyguard Detail Sealant** may be used to seal penetrations. Allow **Polyguard Detail Sealant** to cure 24 hours. If the annular space of pipes through openings exceed ½" a backer rod and approved sealant must be used to fill opening. **Split Slab Membrane** should be applied to extend at least 4" beyond the opening.

Note: If pipes or penetrations are in tight clusters and a more flowable detailing liquid is required LM-95 should be used, contact Polyguard for more details.

Cold Joints, T-Joints and evident working cracks – These joints should be properly sealed with approved joint fillers, waterstop or sealant. Cracks wider than 1/16th of an inch must be pre-treated with a 12" (305mm) wide strip of **Underseal™ Seal Tape**. Control joints must be filled with **Polyguard LM-95 Liquid Membrane or Polyguard Detail Sealant**. Allow **Polyguard Detail Sealant** to cure for 24 hours. and allowed to cure for 24 hours before the 12" (305mm) wide pre-strip.

Expansion joints and control joints – These joints should be properly sealed with joint fillers, waterstop or sealant. An inverted 8" (203 mm) wide strip, covered by a 12" (305 mm) wide strip of **Seal Tape** should be placed directly over the joint, before the final application of **Split Slab Membrane**. If over ½" of movement is designed, an appropriate expansion joint system must be specified. Contact your local Polyguard Representative for recommendations.

Visually inspect membrane for tears, punctures, air blisters and "fishmouths" before covering. Make repairs by removing all damaged membrane so that only well bonded membrane remains. Reprime any exposed concrete. After **650 LT Liquid Adhesive or California Sealant** is tacky, apply a new sheet of the appropriate membrane extending at least 6" (152 mm) onto

previously applied membrane. **Split Slab Membrane** should be used for large area patches where the original membrane has been removed. Use the **Seal Tape** for small patch areas where the original **Split Slab Membrane** is in place but has been damaged. Slit all "fishmouths", overlap the pieces, place a patch of **Seal Tape** over area and roll membrane with a linoleum roller to obtain good adhesion between membrane used for repairs and originally applied membrane. Seal all edges of patch with **Polyguard 650 Mastic**.

Polyguard 650 Mastic should be applied to all completed horizontal terminations. **Polyguard 650 Mastic** should **NEVER** be applied underneath **Polyguard Membranes**.

After the waterproofing application is complete and inspected for any problems the area may be flood tested with 2" (51 mm) head of water for a 24 hour period. However, check for approval that the structure will withstand the load of the flood test before proceeding.

Protection board is **not** required with **Split Slab Membrane**. However, if heavy duty construction traffic is expected or vehicular traffic is possible directly on top of the membrane then **Polyguard 1/8" Asphaltic Protection Board** is required. If drainage composite is required the use of **Polyguard 18 H or 10 HV Drainage Composite** is recommended. Toppings, such as concrete or pavers, may be used to finish the horizontal application.

COVERAGE:

Underseal™ Split Slab Membrane	200 Sq. Ft.
Underseal™ Seal Tape	4 rolls - 200 Sq. Ft. per carton
650 LT Liquid Adhesive or California Sealant	250-350 Sq. Ft. per gallon
Shur-Tac Waterbase Liquid Adhesive	350-400 Sq. Ft. per gallon
650 Mastic	100 L.F./Gal. of 1" wide bead Tubes cover 65 L.F. of ½" bead
LM-95 Liquid Membrane / Polyguard Detail Sealant	Flashing 90 mils - 17 Sq. Ft./Gal. Fillets: 65-75 L.F./Gal. Fillet plus 6" on horizontal: 14 L.F./Gal.
18-H and 10 HV Protection / Drainage Composite	200 Sq. Ft. per roll
1/8" x 3.33' x 6.67' Asphalt Protection Board	22 Sq. Ft. per sheet

MAINTENANCE: No maintenance is required, if installed according to instructions.

OWNER INSTRUCTIONS: This material is offered for sale by POLYGUARD PRODUCTS, INC. only for the expressed purposes as described in this literature. Any use of the products other than taught therein by POLYGUARD PRODUCTS, INC. shall be the responsibility of the purchaser, and POLYGUARD PRODUCTS, INC. does not warrant, nor will be responsible for any misuses of these products.

POLYGUARD PRODUCTS, as described, herein, are for industrial use ONLY. The application procedures should be performed by workmen who are skilled in the application of materials described herein in accordance with manufacturer specifications.

Material Safety Data sheets and precautionary labels should be read and understood by all user supervisory personnel and employees before using. Consult POLYGUARD PRODUCTS, INC. Material Safety Data Sheets and OSHA regulations for additional safety and health information for the products, described herein. Purchaser is responsible for complying with all applicable Federal, State and local laws and regulations covering use of the product, including waste disposal. This is not a Material Safety Data Sheet and is not to be used as such. POLYGUARD PRODUCTS, INC. has prepared separate Material Safety Data Sheets on each product.

WARRANTY: Polyguard Products are warranted to be free of defects in manufacture for five years. Material will be provided at no charge to replace any defective products.

PRODUCT PROPERTIES:

PROPERTY	TEST METHOD	ENGLISH	METRIC
Color		Black/White	
Thickness	ASTM-D-1000	.075 in.	1.90
Low temperature flexibility	ASTM D-146 180° bend over 1" mandrel at -25°F.	No effect	No Effect
Resistance to hydrostatic head, minimum	ASTM D-5385	231 ft.	70 m
Elongation, minimum	ASTM D-412	>850%	>600%
Tensile strength, film minimum	ASTM D-412 (Modified Die C)	2000 psi	13.8 MPa
Crack cycling at -10°F (-23°C), 100 cycles	ASTM C-836 Tested @-15°F	No effect	No effect
Puncture resistance, minimum	ASTM E-154 Membrane using 1" (24mm) Rod Lb. (N)	>120 lbs.	>534
Peel adhesion to concrete	ASTM D-903 Lb/in	10.0	1.75
Lap peel adhesion	ASTM D-1876 (modified ¹)	8.0 lb./in. width	1.4
Permeance to water vapor transmission, maximum	ASTM E-96-B US grains/sq.ft./in. HGF (ng/(Pa x s x m ²))	.01	1.48x10 ⁻⁹
Water absorption, maximum	ASTM D570	0.34%	0.34%
Methane Permeability	ASTM D-1434 tested using 99.99% purity methane ft ³ /(ft ² • hr • psi) (mol/m ² • s • Pa)	6.3 x 10 ⁻⁷	3.5 x 10 ⁻¹³
Resistance to Penetration by Termites	Texas A&M Method percentage of penetration	0.0 %	0.0%
Resistance to Penetration by Pesticides	ASTM F- 2130 percentage of penetration	0.0 %	0.0%
Resistance to Fungi in Soil	GSA-PBS 07115 - 16 Weeks	No effect	No effect

¹ Test is done using smaller sample than recommended and at room temperature