UNDERSEAL® PRM™

Product Data Sheet

Sheet Waterproofing Membrane

PRODUCT NAME

Underseal® PRM™

MANUFACTURER

Polyguard Products, Inc.
Ennis, TX 75119
(214) 515-5000
www.polyguard.com

PRODUCT DESCRIPTION

BASIC USES

Underseal® PRM™ (**P**uncture **R**esistant **M**embrane) is used on concrete foundation walls, mud slabs, sills and spandrel beams, tunnels, plaza decks, parking garages and related applications where waterproofing is critical. Polyguard PRM™ may also be used on wood, concrete masonry (CMU) structures and Insulated Concrete Forms (ICF).

Balconies: Please consult Polyguard Balconyguard™ Data Sheet and details for description and installation instructions.

PRODUCT FEATURES

- Factory bonding assures 65-mil uniform thickness.
- Wide membrane width allows for fast and easy application, with reduced seams on continuous flat surfaces.
- Detail Tape is available for trim corners, construction joints, and other applications.
- Release film does not tear like paper release.
- Extended selvage edge provides asphalt-to-asphalt adhesion at the seam.

COMPOSTITION & MATERIALS

PRM™ is a strong, self-adhering sheet membrane consisting of a double-thick, high-strength, cross-laminated polyethylene backing laminated to a thick layer of rubberized-asphalt compound. Total membrane thickness is factory controlled at 65 mils. PRM adheres tightly and permanently to concrete. The backing forms a continuous barrier to water and moisture vapor entry.

Use PRM for ambient and substrate surface temperatures of 25°F (-4°C) and rising.

TECHNICAL DATA

See physical properties table.

INSTALLATION

SURFACE PREPARATION

- Prior to starting work, verify all horizontal surfaces to be waterproofed slope towards drainage, or refer to balcony details for zero-slope applications. This material is not designed to be applied in areas where water will pond.
- A smooth, monolithic concrete surface is required. Provide a Concrete Surface Profile (CSP) 1 thru 3. Broomed surfaces are not recommended.
- Concrete should be dry, frost free, and cured a minimum of seven days prior to application of Polyguard membrane and Liquid Adhesive.
- Surface must be free of voids, spalled areas, sharp projections, and loose aggregate.
- Do not use concrete-curing compounds containing oil, wax, or pigments.
- Form release agents must be the self-dissipating type which will not transfer to the membrane.
- Surface defects; such as cracks, holes, or cavities; should be filled and finished flush with a Portland cement grout or concrete.
- Finish below-grade (except footings), and the top of projecting ledge surfaces, to a beveled or rounded edge.
- Concrete masonry walls or brick require a well-adhered parge coat before application of membrane. Striking off joints flush with surface is also required.
- Clean all surfaces to remove debris, dust, and loose stones before application begins. DO NOT apply system to frozen concrete.

Penetration/Inside Corner/Fillet/Detail Liquid Membrane

LM-95 LIQUID MEMBRANE: Two-component pail
DETAIL SEALANT PW™: Single-component tube or pail.

- Apply fillets formed by Detail Sealant PW, LM-95 Liquid Membrane, latex modified cement mortar or epoxy mortar at the base of foundation walls, footings, and inside corners. Provide a 3/4" fillet face.
- DO NOT use wood or fiber cant strips.
- DO NOT prime underneath Detail Sealant PW or LM-95 Liquid Membrane when applied to concrete.
- Cover all inside corners and the base of the foundation wall to footing joint using a 12-inch wide strip of Polyguard Detail Tape centered along the axis. Press or roll firmly to achieve a complete seal. Detail Sealant PW or LM-95 Liquid Membrane may be substituted for the initial 12-inch wide strip of Detail Tape on inside corners by applying a minimum of 90 mils, 3/4" fillet (cant) 6" vertically and horizontally away from the fillet (cant).
- Treat drains and projections with Detail Tape and PRM™ for a distance of 6" away from drain or projection. Seal all terminations with Detail Sealant PW or LM-95 Liquid Membrane.
- Complete detail work prior to mixing LM-95 Liquid Membrane. Pot life of this product is approximately 60 minutes after mixing at 70°F (21°C). Detail Sealant PW can also be used, allowing a minimum 2 hours to cure prior to waterproofing membrane application.

Priming

Stir Liquid Adhesive before use.

- 650 LT Liquid Adhesive, 650 WB Liquid Adhesive, or California Sealant provides a tacky adhesive surface.
- 650 LT Liquid Adhesive or California Sealant should be applied over the entire surface at a rate of 250-300 square feet per gallon. 650 WB Liquid Adhesive should be applied over the entire surface at a rate of 350-400 square feet per gallon.
- Re-prime if membrane is not applied to the Liquid Adhesive within the same working day.
- Use brush or short nap lamb's wool roller for Liquid Adhesive application.
- Liquid Adhesive must be tacky to touch, but not wet, prior to application of PRM™.
- Metal surfaces may require Liquid Adhesive to obtain bond of membrane to substrate.
- Field test to determine adhesion to substrate(s) prior to PRM application.
- Do not use 650 WB Liquid Adhesive on bitumen seams.

- Tack or cure for these products is totally dependent on relative humidity, ambient temperature, and substrate surface temperature.

Sheet Membrane
Apply PRM™ in any width up to 48-inches. Side laps must be a minimum of 2-1/2 inches. Staggered end laps should be a minimum of 6- inches.

When applying PRM™ on vertical walls, a determined effort must be made to assure complete adhesion of membrane to the primed surface. Use heavy hand pressure while smoothing out the membrane surface as it is applied. Roll installed membrane with a hand roller to ensure complete bond.

On horizontal surfaces, apply membrane from low-to-high pitch for maximum drainage. Use a minimum 75 lb. linoleum roller to roll membrane immediately after application, with special attention at overlaps and "T-Joints". Seal all end laps with Detail Sealant PW™ or LM-95 Liquid Membrane.

When vertical walls to be waterproofed are more than 8-feet high, apply PRM™ in sections no longer than 8-feet, starting from the lower foundation base and rising to the top with the 6-inches overlap, shingling down on each ply of membrane. Apply PRM on the horizontal footing and terminate with Detail Sealant PW or LM-95 Liquid Membrane. If the footing is smooth and otherwise properly prepared, it is acceptable to extend the PRM down the exterior face of the footing and terminate with Detail Sealant PW or LM-95 Liquid Membrane. Follow these measures for membrane termination when bottom of interior floor height is:

- Even to 6": Apply PRM™ across the top of footer and terminate on vertical face of footer, sealing terminal edge with Detail Sealant PW™ or LM-95 Liquid Membrane. For a poured-in-place footer, terminate the membrane within 3" of outer edge and finish with a termination (term) bar. Seal term bar, fasteners and terminal edge of membrane with Detail Sealant PW or LM-95 Liquid Membrane.
- 6" – 12": Terminate PRM™ on top of footer a minimum of 12 inches, and seal with Detail Sealant PW or LM-95 Liquid Membrane. Vertical face terminations are preferred.
- 12–inches or higher: Terminate PRM™ at vertical-to-horizontal juncture and seal with Detail Sealant PW or LM-95 Liquid Membrane.

If terminated on the vertical surface, use a reglet, counter flashing, or termination (term) bar. Firmly press the terminated edge with a hand roller, and protect with a troweled bead of Detail Sealant PW™ or LM-95 Liquid Membrane.

Properly seal static cracks more than 1/16-inch wide on horizontal or vertical substrate surfaces in accordance with the sealant manufacturer's instruction, then apply a 12-inch wide strip of PRM™.

Seal cold joints, T-Joints, and evident working cracks, with joint fillers, water-stop, or sealant. Place a 12-inch strip of Polyguard Detail Tape centered directly over and along the crack. Overlay the 12-inch strip with the PRM™ field application, providing double strength at the area of movement.

PRM™ does not function as an expansion joint material, only as a waterproofing cover for expansion joint materials. All expansion joints should be properly sealed with joint fillers or an expansion joint as primary waterproofing. Then apply an 8" inverted piece of PRM centered over and across the joint, followed by a 12" strip adhered directly over joint. Full width PRM should follow. Construction joints, control joints, and cold joints should be sealed with joint fillers and Detail Tape, then apply PRM over the joint.

INSPECTION AND REPAIRS
Visually inspect the membrane for tears, punctures, air blisters and "fishmouths"; prior to water tests, placement of protection board, and backfilling. Make repairs by removing all damaged membrane so only well-bonded PRM™ remains. Re-prime any exposed concrete. After Liquid Adhesive is tacky to touch, apply a new sheet of membrane over the concrete, extending 6-inches overlap onto previously-applied PRM. Care should be taken to obtain good adhesion between membrane used for repairs and originally-applied PRM. Seal edges with Detail Sealant PW™.

Slit all "fishmouths," overlap the pieces, place patch over area, and roll in place. Puncture air blisters, expel the air, prime, and cover with patch. Extend the patch material minimum 6 inches in all directions beyond the repair area, then seal the patch edges with Detail Sealant PW.

MEMBRANE TERMINATION
Termination (Term) Bar is required with the PRM™. Apply Detail Sealant PW™ or LM-95 Liquid Membrane to all terminations. Detail Sealant PW™ should be allowed to cure 2 hours when used under the PRM.

MEMBRANE DRAINAGE BOARDS
If drainage is required, use Polyflow® 15 or 15P Drainage Board for vertical surfaces or Polyflow® 18 for horizontal surfaces to expedite water dispersion. Consult Polyguard for specific recommendations.

Drainage Systems
Perimeter drainage system should be Totalflow™ with appropriate connectors/outlets.

Backfill Requirements
No waiting is required before backfilling. Backfill material should be select fill:

- free of large dirt clods, rock, tree roots, and debris.
- a type readily compactable upon deposit.
- be compacted per project specifications in 12-inch lifts.
- installed in lifts.
- not have a high water content that would cause the soil to shrink upon drying.

Use mechanical compaction in horizontal layers to achieve these results.

Topping Systems Requirements
On horizontal areas Polyguard recommends a flood test or appropriate leak detection methods.

STORAGE AND HANDLING
Material Handling
Membrane and accessories should be unloaded and stored carefully. Protect cartons and containers from weather, sparks, flames, excessive heat, cold, and lack of ventilation. DO NOT stack membrane material higher than 5-feet vertically, nor double stack pallets. Store cartons on pallets and cover to prevent water damage. For best results, store membrane above 50°F (10°C) prior to application.

PRECAUTIONS

- The Liquid Adhesive is an industrial coating and would be harmful or fatal if swallowed. It is marked as red label from the stand-point of flash point.
- Prohibit flames, sparks, welding, and smoking during application.
- Refer to product label for handling, using and storage precautions.
- Solvents could be irritating to the eyes; flush with water and contact physician.

- Avoid prolonged contact with skin and breathing of vapor or spray mist from liquid adhesive. In confined areas, use adequate forced ventilation, fresh-air masks, explosion-proof equipment, and clean clothing.
- Avoid solvent contact with light bulbs or other high temperature surfaces.

Ultraviolet Protection
PRM™ is adversely affected by ultraviolet light. Cover the waterproofing system as soon as possible; DO NOT leave exposed to sunlight for over 30 days.

SAFETY
SDS documents for all Polyguard products can be obtained at our website www.polyguard.com. Call Polyguard Products, Inc. at (214) 515-5000 with questions.

WARRANTY
We, the manufacturer, warrant only that this product is free of defects, since many factors which affect the results obtained from this product are beyond our control; such as weather, workmanship, equipment utilized and prior condition of the substrate. We will replace, at no charge, proven defective product within twelve (12) months of purchase, provided it has been applied in accordance with our written directions for uses we recommended as suitable for this product. Proof of purchase must be provided. A five (5) year material or system warranty may be available upon request. Contact Polyguard Products, Inc. for further details.

TECHNICAL SERVICES
Technical assistance, information and Polyguard's products are available through a nationwide network of distributors and architectural representatives, or contact
Polyguard Products, Inc.
P.O. Box 755, Ennis, TX 75120-0755
Sales: (615) 217-6061•Tech Support: (214) 515-5000
Email: archtech@polyguard.com
Website: www.polyguard.com

PROPERTY	TEST METHOD	TYPICAL VALUE
FILM COLOR		White
MEMBRANE THICKNESS	ASTM D 1000	65 mils
LOW TEMPERATURE FLEXIBILITY	ASTM D 146 180° bend over 1" mandrel at -25°F.	No effect
RESISTANCE TO HYDROSTATIC HEAD (MINIMUM)	ASTM D 5385	231 ft.
ELONGATION - ULTIMATE FAILURE OF RUBBERIZED ASPHALT	ASTM D 412	> 850%
TENSILE STRENGTH OF 1" WIDTH	ASTM D 412 Modified Die C	5000 PSI
CRACK CYCLING	ASTM C 836 Tested @-15°F	No effect
PUNCTURE RESISTANCE, MINIMUM	ASTM E 154 Membrane using 1" (24mm) Rod	127 lbs.
PEEL ADHESION TO CONCRETE	ASTM D 903	17 lb/in. width
LAP PEEL ADHESION	ASTM D 1876 Modified[1]	8.0 lb/in width
PERMEANCE TO WATER VAPOR TRANSMISSION	ASTM E 96 Method B	0.01 US grains/ft²/in HGF
WATER ABSORPTION (MAXIMUM)	ASTM D 570	.1%
RESISTANCE TO PERMEANCE BY METHANE GAS	ASTM D 1434 Tested using 99.99% purity methane	6.3 x 10 $^{-7}$ ft³/(ft³ •hr • psi)
RESISTANCE TO RADIOACTIVE RADON GAS	Radon Reduction Technology Laboratory % reduction in radon gas diffusion	97.10%
RESISTANCE TO FUNGI IN SOIL	GSA-PBS 07115 (16 weeks)	No effect

PACKAGING	*PART NUMBER*	*UNIT SIZE*
Polyguard PRM™	851	49" x 49' roll
Required Accessories:		
DETAIL TAPE	650L12	4 – 12" x 50' rolls/ctn
650 LT LIQUID ADHESIVE	650-5 LIQ ADH 5 GA	5-gallon pail
650 LT LIQUID ADHESIVE	650-5 LIQ ADH 1 GA	4 – 1 gal pails/ctn
650 WB LIQUID ADHESIVE	650-5 WB ADH	5-gallon pail
650 WB LIQUID ADHESIVE	650-1 WB ADH	4 – 1 gal pails/ctn
CALIFORNIA SEALANT	CALSEAL5	5-gallon pail
DETAIL SEALANT PW™	DETAIL SEALANT PW – SAU 20 OZ	20 sausages/ctn
DETAIL SEALANT PW™	DETAIL SEALANT PW – 3 GAL	3-gallon pail
LM-95	LM952	2-gallon pail
Possible Accessories:		
LM-85 SSL	LM85-2 SSL	2-gallon pail
LM-85 SSL	LM85-5 SSL	5-gallon pail
Drainage Accessories:		
POLYFLOW® 10	POLYFLOW10	4' x 50' roll
POLYFLOW® 10P	POLYFLOW10P	4' x 50' roll
POLYFLOW® 15	POLYFLOW15	4' x 50' roll
POLYFLOW® 15P	POLYFLOW15P	4' x 50' roll
POLYFLOW® 18	POLYFLOW18	4' x 50' roll
TOTALFLOW™	TOTAL FLOW	24" x 50' roll
TOTALFLOW™ END OUTLET (4")	OUTLET4-UNIV	N/A
TOTALFLOW™ TEE OUTLET (4")	TEE4-UNIV	N/A
QUICK GRIP ADHESIVE	QGADH30	30# canister