



W. R. MEADOWS.

SEALIGHT

DATA SHEET NO. 7100-312

PREMOULDED MEMBRANE® VAPOR SEAL WITH PLASMATIC® CORE (PMPC) Vapourproofing/Waterproofing Membrane

DESCRIPTION

PREMOULDED MEMBRANE VAPOR SEAL WITH PLASMATIC CORE (PMPC) is a patented seven-ply, weather-coated, permanently bonded, semi-flexible vapourproofing/waterproofing membrane. It is composed of an exclusive PLASMATIC CORE suspended mid-point between two layers of a homogeneous, bituminous material, and then sealed under heat and pressure between liners of asphalt-impregnated felt and a glass-mat liner. An asphalt weather coat is applied to the glass-mat liner and covered with a polyethylene anti-stick sheet.

PMPC provides a positive, easy-to-install, economical, true vapourproofing and waterproofing system for horizontal applications. Properly applied, it stops moisture migration in footings, concrete floors, and structural slabs. PREMOULDED MEMBRANE VAPOUR SEAL WITH PLASMATIC CORE is both waterproof and vapourproof.

It offers a perm rating of less than 0.002 perms, the lowest in the industry. The product is the ultimate when a true vapour seal is required. Among its unique features is the built-in protection course which resists jobsite puncturing and the abrasive action of concrete placement. PMPC conforms to ASTM E 1993-98. The exclusive PLASMATIC CORE adds flexibility, greater tensile strength, puncture resistance, and excellent handling characteristics. PMPC helps meet and maintain the maximum slab moisture transfer rate of 1.45 kg/100 m²/24 hours (3 lb./1000 ft.²/24 hours), allowed by the flooring industry specifications.

Representative United States patent: USPN 7,179,761. (See also www.wrmeadows.com/patents for further patent/intellectual property information.)

USES

PMPC, when properly applied, is designed to stop moisture migration (liquid or vapour) in footings, concrete floor slabs, and structural slabs, which greatly reduces fungus, mildew, and mould. It is especially useful under slabs overlaid with wood, tile, epoxy, and urethane coatings, carpeting, and resilient or seamless flooring systems, since it helps prevent warping and buckling caused by moisture migration. PMPC also greatly reduces radon gas from entering the structure.

FEATURES/BENEFITS

- Offers a virtually impermeable vapourproofing system with a perm rating of less than 0.002 perms, the lowest in the industry.
As the only true vapour barrier for horizontal applications, it is both waterproof and vapourproof.
Provides excellent tensile strength and puncture resistance.
Helps prevent warping, buckling, or delamination of subsequent flooring systems.
Conforms to ASTM E 1993-98 specification.
Greatly reduces fungus, mildew, and mold
Greatly reduces radon gas from entering the structure.
Helps meet and maintain the maximum slab moisture transfer rate of 1.45 kg/100 m²/24 hours (3 lb./1000 ft.²/24 hours), as allowed by the flooring industry specifications

SPECIFICATIONS

ASTM E 1993-98\*

\*Standard Specification for Bituminous Water Vapour Retarders used in Contact with Soil or Granular Fill under Concrete Slabs.

PACKAGING

Table with 3 columns: WIDTH, LENGTH, WEIGHT. Row 1: Sheets 1.22 m (48"), 2.44 m (8'), 27.22 kg/9.29 m² (60 lbs./100 ft.²)

STORAGE

Handling of PMPC is not critical because of its strength; however, it is advisable to stack the material on smooth ground or a wood platform in storage or at the excavation site. This will eliminate the possibility of the material deforming or warping.

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## TECHNICAL DATA

PRODUCT	WATER VAPOUR PERMEANCE RATING ASTM E 1249	TENSILE STRENGTH ASTM E 154, Section 9	PUNCTURE RESISTANCE ASTM E 154
	PERMS	N/MM (LB. FORCE/INCH)	N (GRAMS) (LB. FORCE)
PREMOULDED MEMBRANE VAPOR SEAL WITH PLASMATIC CORE	0.0011	27.3 (156)	663 (149)

All technical data is typical information, but may vary due to testing methods, conditions, and operators.

### THE ULTIMATE VAPOUR BARRIER TO ELIMINATE COSTLY MOISTURE DAMAGE

Over 80% of the moisture entering a structure originates in the site. It moves from the grade into the structure both as a liquid (capillary) and as a gas (vapour). The only effective way to eliminate the costly problems of excessive moisture migration is to completely isolate the structure from the site during original construction with the installation of a true vapour seal membrane that is both waterproof and vapourproof. Material that is vapourproof is completely waterproof; however, not everything that is waterproof is vapourproof. PREMOULDED MEMBRANE VAPOR SEAL WITH PLASMATIC CORE is both waterproof and vapourproof.

While tremendously strong, even the best concrete is porous. Uncontrolled vapour will move through it, causing dank musty smells, rust, and condensation, damage to mechanical equipment, cracked plaster, chipped paint, efflorescence, warped floors, etc. The installation of a true vapour seal under the concrete floor slabs will stop moisture migration.

A true vapour seal must also be durable and tough enough to withstand normal handling, foot traffic, aggregate impact, and backfill abrasion. One tear or a few pinholes will destroy the entire purpose of the installation. Plastic films, laminated film, paper combinations, reinforced building papers, and saturated roofing felts are semi-permeable at best, and will permit the passage of air (vapour) through them. Additional information on the hydrologic cycle may be found in W. R. MEADOWS Controlling Moisture Migration catalog (available upon request).

PMPC offers the construction industry a positive, easy-to-install, economical, true vapourproofing system solution.

### MAINTAIN ENERGY EFFICIENCY

Wet insulating materials lose much of their R factor performance characteristics, reducing the energy efficiency of the structure. W. R. MEADOWS thermal and moisture products play a key role in *maintaining* the structure's energy efficiency and aiding in the integrity of other structural systems, such as insulation.

## APPLICATION

**Estimating ...** When estimating the amount of PMPC required, figure the actual area plus 20% for overlap.

**Cutting ...** PMPC can be cut with a roofer's or linoleum knife, using a straight edge.

**Bending ...** Normally to facilitate bending at a change in plane, such as at corners or footings, a 2x4 can be used to make the bend. In cold weather conditions, lightly heat the bending area and make the bend.

**Pointing ...** Pointing with POINTING MASTIC from W. R. MEADOWS should be done wherever an edge is exposed to prevent water from traveling under a sheet.

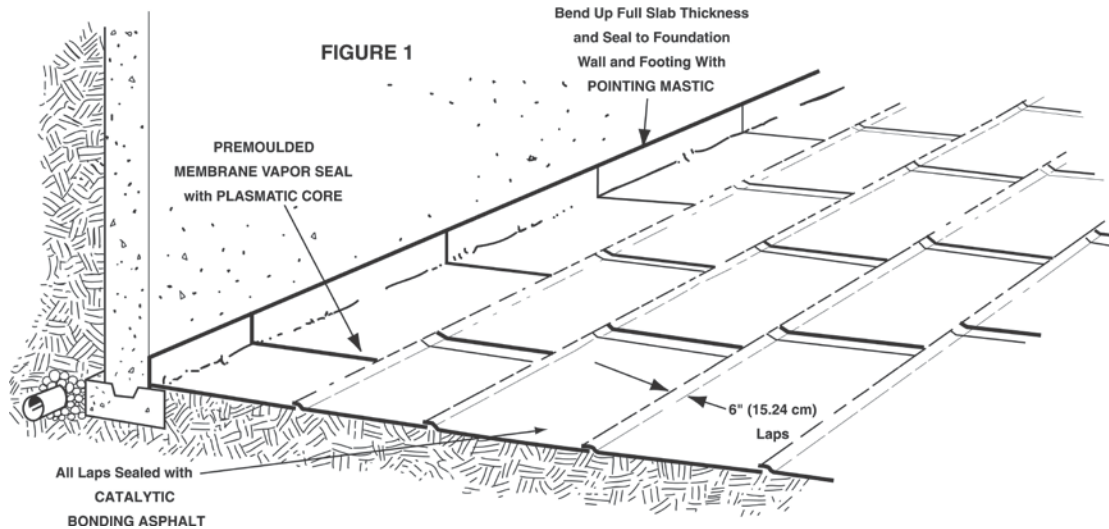
**Horizontal Installation (On- or Below-Grade) ...** By installing PMPC on the ground prior to placing the concrete floor, moisture will be prevented from coming through the floor slab. For sub-grade preparation prior to placement of PMPC, please see ACI 302.1R-04: Chapter 4, Section 4.1.4 – Base Material.

**Above-Grade ...** In addition to the horizontal on- or below-grade application, PMPC can be placed on the intermediate structural slab, forming a "sandwich slab" installation. As a result, moisture is prevented from filtering downward, from mechanical floors dedicated to heating and air conditioning equipment. This helps prevent damage to lower floor levels.

**THE “DUTCH LAP” METHOD**

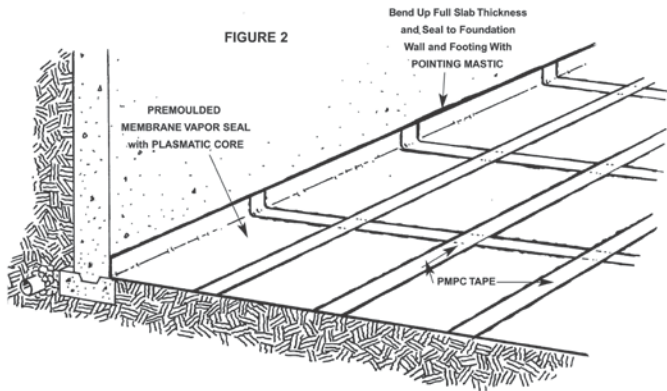
Figure 1: The “Dutch Lap” method of applying PMPC to on or below-grade horizontal areas. After removing the polyfilm at the 15.24 cm (6”) overlap areas, seal all laps with CATALYTIC BONDING ASPHALT or HYDRALASTIC 836. Pressure roll or “walk-in” all laps to assure complete adhesion.

**THE “DUTCH LAP” METHOD**



**THE “BUTT-JOINT” METHOD**

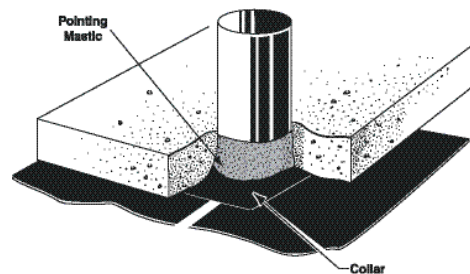
Figure 2: The Butt-Joint method of applying PMPC. After the sheets are tightly butted together, remove the polyfilm from the joint area. After removal of the polyfilm, center the PMPC TAPE over the “butt joints” and roll down with pressure for a positive seal.



**SEALING PROCEDURES**

All protrusions through the concrete slab, such as sewer pipes, water pipes, and utility inlets, must have a positive seal between the protrusion and PMPC. Place a collar of PMPC at least 30.48 cm (12”) larger than the protrusion around the protrusion. Seal in place with PMPC TAPE and point around the protrusion with POINTING MASTIC.

**PROTRUSION DETAIL**



## ACCESSORIES

**CATALYTIC BONDING ASPHALT ...** A non-setting bitumen that provides a seal that will expand and contract without breaking bond. Use to seal horizontal joints and rebar between impaction sheets on footing. Packaging: 18.9 L (5 U.S. Gal.) Pails. Coverage: 18.9 L/92.9 m<sup>2</sup> (5 U.S. Gal./1000 ft.<sup>2</sup> of material.

**HYDRALASTIC 836 ...** HYDRALASTIC 836 is a cold-applied, solvent-free, single-component waterproofing compound. Use to seal laps. Packaging: 18.93 L (5 U.S. Gal.) Pails.

**MEL-PRIME™ ...** Joints in concrete surfaces should be addressed with MEL-PRIME. MEL-PRIME is available in

solvent- and water-based formulations. Packaging: 3.79 L (1 Gal.) Units, 18.9 L (5 Gal.) Pails

**POINTING MASTIC ...** Used for sealing top horizontal terminations or slab protrusions. Packaging: 18.9 L (5 U.S. Gal.) Pails, 857.65 mL (29 oz.) Cartridges.

**PMPC TAPE ...** A sturdy, self-adhering, reinforced tape of polymeric membrane that requires no additional adhesive. Tape is also made using the patented core material giving it superior WVT properties. Provides a simple, easy, and economical method of effectively sealing horizontal and vertical butt joints. Each strip is nominally 152.4 mm (6") wide and 15.24 m (50') long. Has quick-strip release paper for ease of handling and application. Packaging: 6 rolls per carton.

## COVERAGE

ADHESIVE	JOINT METHOD	PER 1000 FT. <sup>2</sup> (92.9 m <sup>2</sup> ) OF MEMBRANE (APPROX.)
CATALYTIC BONDING ASPHALT*	152.4 mm (6") laps	18.93 L (5 U.S. gal.)
HYDRALASTIC 836	Dutch Lap	18.93 L (5 U.S. gal.)
PMPC TAPE**	Butt-Joints/Overlap	126.8 m (416 linear ft.)
POINTING MASTIC***	Detail Strip Edge Terminations	161.0 m/L (2000 linear ft./gal.)
*Based on minimum of 1.59 mm (1/16") film thickness		
**Water Vapour Perm Rating is 0.0011		
***3.18 mm x 25.4 mm x 60.96 m (1/8" x 1" x 200 LF)		

## PRECAUTIONS

PMPC does not negate the need for relief of hydrostatic heads. A complete drain tile system should be placed on the exterior of the footing and, in severe cases, on the interior of the footing as well. If applied to concrete surfaces, repair any spalled areas, fill all voids, and remove sharp protrusions.

Adhesive coverage ratios must be adjusted to compensate for surface irregularities and additional coats may be required to provide proper adhesion. For maximum concrete performance and durability, the floor slab concrete design should provide for the lowest possible slump and yet assure complete hydration of the concrete. Refer to Safety Data Sheet for complete health and safety information.

## MASTERFORMAT NUMBER AND TITLE

07 26 16 – Below-Grade Vapour Retarders

## LEED INFORMATION

May help contribute to LEED credits:

- LTc2: Sensitive Land Protection
- EAp2: Minimum Energy Performance
- EAc2: Optimize Energy Performance
- MRc9: Construction and Demolition Waste Management
- EQc2: Low-Emitting Materials [For Healthcare and Schools (exterior-applied products) ONLY]

For CAD details, most recent data sheet, further LEED information, and SDS, visit [www.wrmeadows.com](http://www.wrmeadows.com).

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