

PROVIDING A
FULL BUILDING
**ENVELOPE
SYSTEM**

VAPOR AND GAS BARRIERS CRITICAL BUILDING PROTECTION



W. R. MEADOWS®

SEALTIGHT®

A Family Company Since 1926
QUALITY...SERVICE...INTEGRITY

The importance of a proven vapor and/or gas barrier.



Uncontrolled water vapor through concrete slabs has cost building owners, designers and contractors billions of dollars. This moisture infiltration into structures contributes to the proliferation of mold, mildew and fungus that can lead to flooring system failures, including adhesive failures, warping, blistering and staining. In addition, water vapor migration carrying alkali can cause structural failure of the concrete when reinforcing steel is present.

Issues Directly Related to Flooring System Failures

- Many flooring systems used today form vapor barriers on top of concrete slabs and therefore trap water and alkali between the flooring system and the slab.
- 1999 federal mandate on VOC emissions created the need and use of water-based flooring adhesives.
- Excessive moisture content of slabs leads to adhesive failures, warping, blistering, and staining.
- Elevated PH levels due to water vapor driving alkali to the surface of concrete slabs cause failures of flooring adhesives and epoxy systems when the PH level exceeds the PH tolerance of the material.

Underslab Vapor Barriers

The use of underslab vapor barriers is the best method and most economical solution for controlling water vapor migration through concrete slabs. The issue of admixtures and topically applied materials does not address the issue that concrete cracks or the potential for elevated PH levels.

ASTM E1993 and ASTM E1745 are the two industry standards for vapor barriers and retarders under concrete slabs in contact with soil. Note that typical polyethylene film does not meet the requirements of these standards.

Why Use a Gas Barrier?

In addition to the concern for moisture protection, other below-grade contaminants have been identified as being major issues when it comes to occupant health and safety. Radon, a naturally occurring gas has been identified as being the second leading cause of lung cancer, and methane, produced from decomposition of organic material from natural sources and human activities, can cause asphyxiation, and in higher concentrations, combustion. Also, with continued construction in densely populated areas, development has become essential on brownfield sites, bringing into play other types of contaminants in the form of hydrocarbons. The proper specification and installation of a gas barrier will help mitigate these concerns.

Ideal application for W. R. MEADOWS vapor and gas barriers

- Industrial plants
- Warehouses
- Storage silos
- Sewage plants
- Refineries
- Civic centers
- Chemical processing facilities
- Sports arenas
- Stadiums
- Hospitals
- Airports
- Museums
- Food processing
- Brownfield sites



ASTM E1993-98

Standard Specification for Bituminous Water Vapor Retarders Used in Concrete with Soil or Granular Fill Under Concrete Slabs.

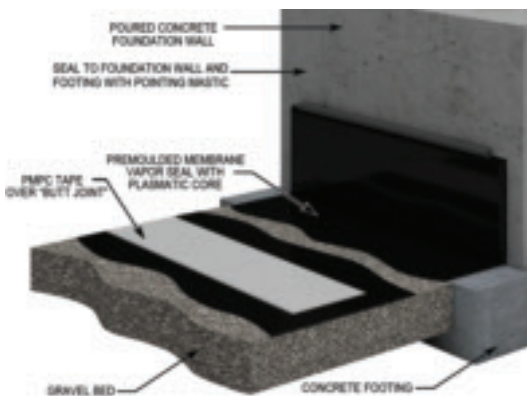
These products are typically specified and used in applications where the best available protection from damaging moisture is warranted. The 1993 specification materials are also the toughest available membranes, able to best resist the rigors of placing and finishing of the concrete slab. These materials are designed for the ultimate in water vapor permeance and strength. The perm rating requirement for this standard is 0.002 perms or less. In addition, these materials are designed to be extremely durable with tensile strengths over 140 lbs. lb./in.² and puncture resistance of 90 lbs. force.

ASTM E1745-17

Standard Specification for Plastic Vapor Retarders in Contact with Soil Under Concrete Slabs.

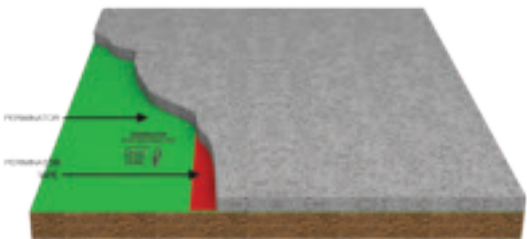
The primary requirement for this standard is that the material be manufactured from plastic materials. In order to meet the requirements of this standard, materials typically need to be manufactured using virgin materials. While there are some polyethylene materials that meet this requirement, these products require fiber reinforcement to meet the tensile strength and puncture resistance requirements of the standard. The most economical material is polyolefin, which meets the requirements of the standard without the need for reinforcement. The perm rating requirement for products that meet this standard is 0.1 perms. In addition, this standard has three classes that deal with tensile strengths and puncture resistance.

The W. R. MEADOWS Family of Vapor/Gas Barriers



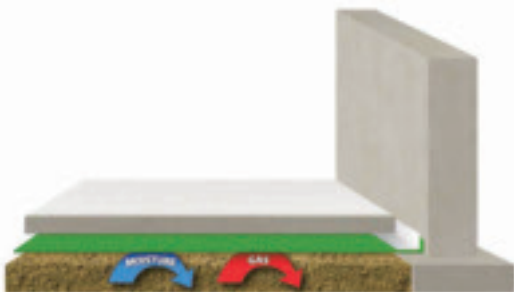
PREMOULDED MEMBRANE VAPOR SEAL WITH PLASMATIC CORE (PMPC)

is a seven-ply, weather-coated, permanently bonded, semi-flexible bituminous material, in combination with an exclusive PLASMATIC CORE, suspended mid-point in the bituminous core. PMPC provides a positive, easy-to-install, economical, true vaporproofing and waterproofing system for horizontal applications. It offers a perm rating of less than 0.002 perms, the lowest in the industry.



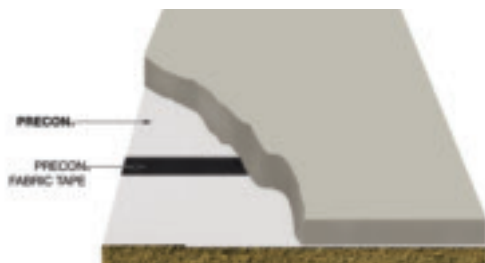
PERMINATOR

underslab vapor barrier is manufactured using a blend of virgin polyolefins. Tougher than normal polyethylene, PERMINATOR is a highly effective, economical choice for helping to reduce the penetration of moisture and water vapor through the slab into the structure, thereby helping to reduce fungus, mildew and mold growth. These vapor barriers also help reduce radon gas from entering the structure. PERMINATOR is available in 15 mil and 10 mil thicknesses. Also available in a 15-mil formulation that has even greater puncture resistance: PERMINATOR HP (high puncture).



PERMINATOR EVOH

provides superior resistance to gas and moisture transmission. This highly resilient underslab gas barrier is designed to restrict gas and moisture transmission. It is also highly resistant to radon, methane, and other VOC vapors. Its seven-layer protection is tough enough to resist puncture during and after installation.



PRECON

is a composite sheet membrane comprised of a non-woven fabric, elastomeric membrane, and W. R. MEADOWS' exclusive, patented PLASMATIC CORE (U.S. Patent No. 7,179,761). The PLASMATIC CORE is a seven-layer matrix designed for toughness and provides the lowest water vapor transmission (WVT) rating on the market. Once concrete is poured against PRECON and the concrete cures, a mechanical bond forms that secures the concrete to the membrane.

PERMINATOR 10 MIL

PERMINATOR underslab vapor barrier is advanced polyolefin-based resin/chemical technology. It provides a highly effective, economical choice for helping to reduce the penetration of moisture and water vapor through the slab into the structure, thereby helping to reduce fungus, mildew, and mold growth. PERMINATOR also helps reduce radon gas from entering the structure, and with new resin technology, allows dramatically greater puncture resistance while maintaining one of the lowest perm ratings in the market.

- PERMINATOR 10 mil vapor barrier/retarder is tough enough to withstand normal construction jobsite conditions and traffic. It will not crack, puncture, snag, split, or easily tear.
- PERMINATOR 10 mil rolls fast and smoothly over level tamped soil or compacted fill.
- PERMINATOR 10 mil helps meet and maintain the maximum slab moisture transfer rate of 3 lb./1000 ft.²/24 hours (1.45 kg/100 m²/24 hours), as allowed by flooring industry specifications.
- PERMINATOR 10 mil is furnished in 200' (61 m) long rolls.
- PERMINATOR 10 mil's 15' wide rolls require fewer seams in application. Installation is quick and easy. All joints/seams, both side to end, should be overlapped 6" (152.4 mm) and taped using 4" (101.6 mm) wide PERMINATOR TAPE.



PERMINATOR 15 MIL

Proprietary technology enables PERMINATOR 15 mil to significantly exceed the requirements of ASTM E 1745 (0.1 perms), as well as the recommendation of ACI 302.2R which states a vapor barrier with a perm rating of 0.01 perms or less should be installed in areas where the requirements of ASTM E 1745 are not sufficient to protect the floor. It provides the lowest vapor permeance along with puncture resistance that is more than 45% tougher than required by ASTM E 1745.

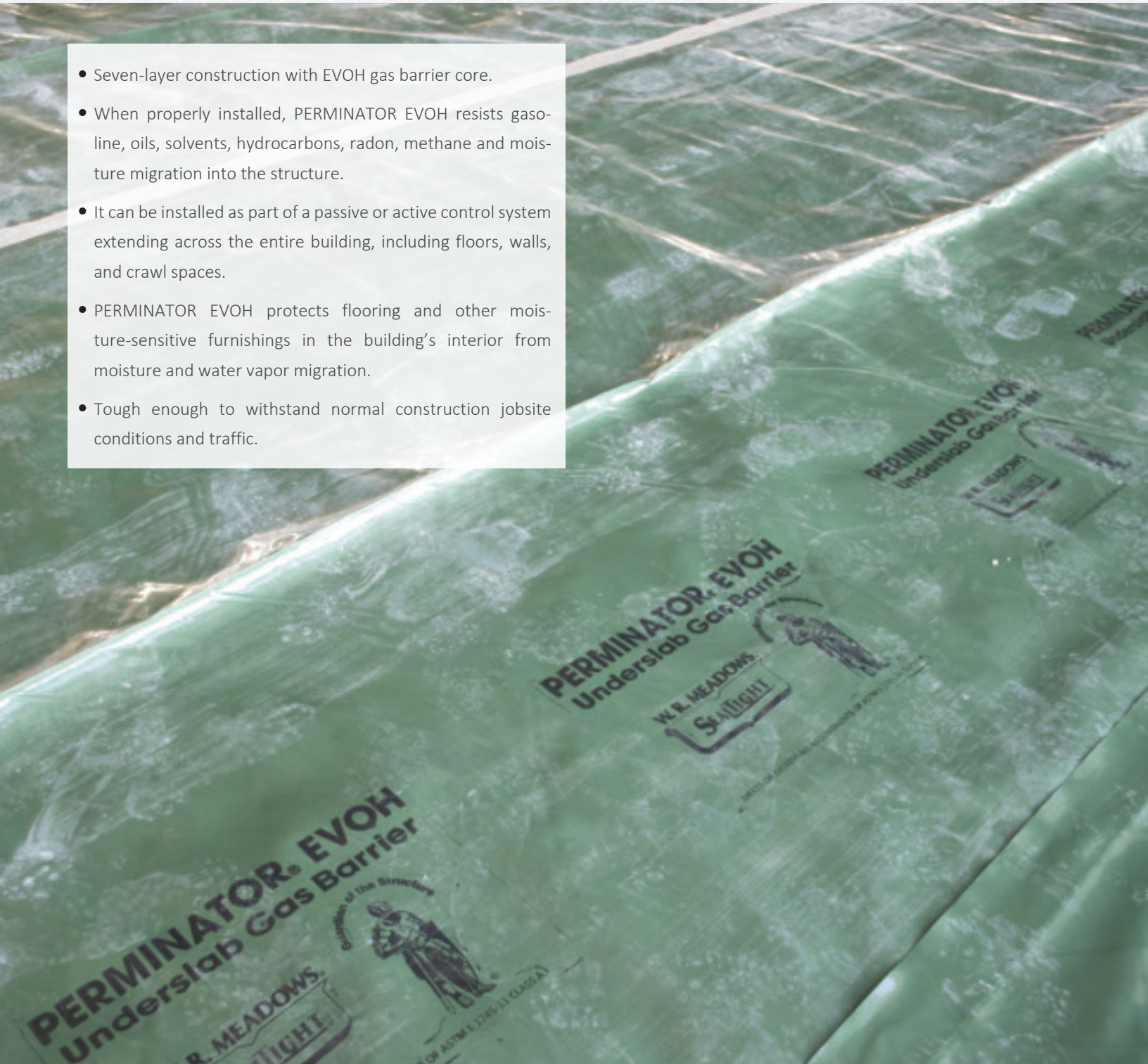
- It takes more than low permeance to protect your building from the ingress of water vapor. You also need a vapor barrier that's tough enough to stand up to the rigors of the jobsite without puncturing or tearing. PERMINATOR 15 delivers both.
- W. R. MEADOWS backs PERMINATOR 15 technology with independent test results. (Test results along with samples, data sheets, promotional literature and more is available upon request.)
- PERMINATOR 15 mil also furnished in 200' (61 mil) long rolls.
- PERMINATOR 15 mil 12' wide rolls require fewer seams in application. The larger roll size also means less tape required and less labor.
- One of the lowest perm ratings in the industry - plus superior puncture resistance - makes PERMINATOR 15 the choice for better protection.



PERMINATOR EVOH

PERMINATOR EVOH is a seven-layer co-extruded barrier manufactured from state-of-the-art polyethylene and EVOH resins. Designed to provide superior resistance to gas and moisture transmission, PERMINATOR EVOH is a highly resilient underslab gas/vapor barrier designed to restrict naturally occurring gases, such as radon, methane, gasoline, solvents, oils, and hydrocarbons, from migrating through the ground and into the concrete slab.

- Seven-layer construction with EVOH gas barrier core.
- When properly installed, PERMINATOR EVOH resists gasoline, oils, solvents, hydrocarbons, radon, methane and moisture migration into the structure.
- It can be installed as part of a passive or active control system extending across the entire building, including floors, walls, and crawl spaces.
- PERMINATOR EVOH protects flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration.
- Tough enough to withstand normal construction jobsite conditions and traffic.



PRECON and PREMOULDED MEMBRANE VAPOR SEAL WITH PLASMATIC CORE (PMPC)





The patented W. R. MEADOWS PLASMATIC CORE, which is used in both our PRECON and PMPC products, is the only technology that truly vaporproofs as well as waterproofs. No other product compares. Important structures, such as schools, high rises, museums, and more are perfect applications for this W. R. MEADOWS product.

- Designed to provide a waterproof seal between the membrane and poured concrete, PRECON is comprised of a non-woven fabric, elastomeric membrane and W. R. MEADOWS' exclusive, patented PLASMATIC CORE (U.S. Patent No.7,179,761).
- The PLASMATIC CORE is a seven-layer matrix designed for toughness and provides the lowest water vapor transmission (WVT) rating on the market.
- PRECON offers a perm rating of less than 0.002 perms and acts as a barrier against termites.
- The use of PRECON will reduce methane and radon gas intrusion. It also forms a mechanical bond between the membrane and the concrete as it cures and will serve as a blindside membrane in vertical applications where access to the positive side is limited.
- Versatile PRECON may also be used for horizontal applications for underslab waterproofing projects, as well as vaporproofing applications.
- PREMOULDED MEMBRANE VAPOR SEAL WITH PLASMATIC CORE (PMPC) is a patented (#US 7,179,761) seven-ply, weather-coated, permanently bonded, semi-flexible vaporproofing / 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 vaporproofing and waterproofing system for horizontal applications. Properly applied, it stops moisture migration in footings, concrete floors, and structural slabs.
- PMPC is both waterproof and vaporproof. It offers a perm rating of less than 0.002 perms, the lowest in the industry. The product is the ultimate when a true vapor 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.

W. R. MEADOWS manufactures a wide array of accessory and related products for PERMINATOR, PMPC and PRECON. These accessory products make for a complete protective system that combines all elements into a solid, seamless structure.

PERMINATOR Accessories



MEL-ROL LM

MEL-ROL LM is a liquid membrane version of our standard MEL-ROL. In this application, MEL-ROL LM can be used for detailing of stakes, small pipe, and rebar penetrations. For more information on MEL-ROL LM, consult our waterproofing brochure.



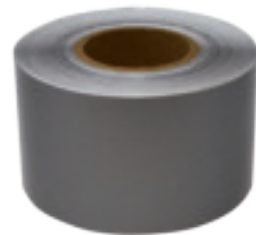
TERMINATION BAR

is provided in 10' (3 m) lengths to attach PERMINATOR to vertical walls as a protection course for vertical wall waterproofing applications.



PERMINATOR TAPE

is a self-adhesive tape for use in sealing seams and attachment to footings, protrusions, etc. It is offered in 4" (10 cm) widths and roll lengths of 180' (55 m). It is packaged twelve rolls per carton. Coverage: One box of tape will adhere approximately 10 rolls of PERMINATOR.



PERMINATOR EVOH TAPE

All joints/seams in PERMINATOR EVOH, both side and end, should be overlapped and taped with PERMINATOR EVOH TAPE.



POINTING MASTIC

may also be used for stakes, small pipe, and rebar penetrations. Cut PERMINATOR just big enough for the penetration. POINTING MASTIC can be applied by caulking gun or trowel.



PERMINATOR BUTYL TAPE

To ensure placement of laps in PERMINATOR EVOH, PERMINATOR BUTYL TAPE should be used underneath the overlap area to hold membrane in place as PERMINATOR EVOH TAPE is applied.

LEED INFO

PMPC, PRECON, and PERMINATOR can contribute to several LEED credits. Both products have been used in LEED-certified projects, and can significantly aid in reaching certification due to the moisture inhibiting characteristics of the products. Visit www.wrmeadows.com to view LEED and green documentation.

Visit our LEED Credit Calculator:
<https://www.wrmeadows.com/calculator>



PMPC Accessories



PMPC TAPE

is a sturdy, self-adhering, reinforced tape of polymeric membrane that requires no additional adhesive. It provides a simple, easy, and economical method of effectively sealing horizontal and vertical butt joints. For easy handling and application, PMPC TAPE features a quick-strip release paper. Each strip is nominally 6" (152.4 mm) wide and 50' (15.24 m) long. Packaged 6 rolls per carton.



POINTING MASTIC

is used for sealing top horizontal terminations or slab protrusions.



MEL-PRIME

Joints in concrete surfaces should be addressed with MEL-PRIME. MEL-PRIME is available in solvent-, water-based, and Northeast U.S. formulations.

PRECON Accessories



MEL-PRIME

should be used to enhance the bond at the selvedge edge when conditions warrant.



MEL-DRAIN

should be used prior to application of PRECON by attaching this rolled matrix drainage system to lagging or soil retention system.



BEM / HYDRALASTIC 836 / MEL-ROL LIQUID MEMBRANE

accessories can be used for sealing end laps, penetrations, and protrusions.

DETAIL FABRIC

is heavy-duty fabric that should be used in all end lap applications to provide a true waterproof and vaporproof seal.



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Visit our site for comprehensive information on waterproofing a building:

- Product Listings
- Product Brochures
- Application Details
- Information Pages
- Installation Instructions
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