

# **MEMBRAIN™**

*The SMART Vapor Retarder*

*The unique vapor retarder that breathes to allow moisture to escape and lowers the risk of moisture-related problems in building envelopes.*

**Reduce your risk and liability due to moisture condensation in your walls.**

**Introducing MemBrain™ - The Smart Vapor Retarder from CertainTeed.**

**Improving on the best, only from CertainTeed.**

Already known as a leading producer of dependable, quality insulation, CertainTeed is now introducing its newest scientific innovation. MemBrain™, The Smart Vapor Retarder, is a polyamide film that changes its permeability with ambient humidity conditions. The product's permeance is 1 perm or less when tested in accordance with ASTM E 96, dry cup method, and increases to greater than 10 perms using the wet cup method. This process allows closed building envelope systems to increase their drying potential with seasonal climatic changes.

**Reduce the risk of legal action due to excess moisture in your building.**

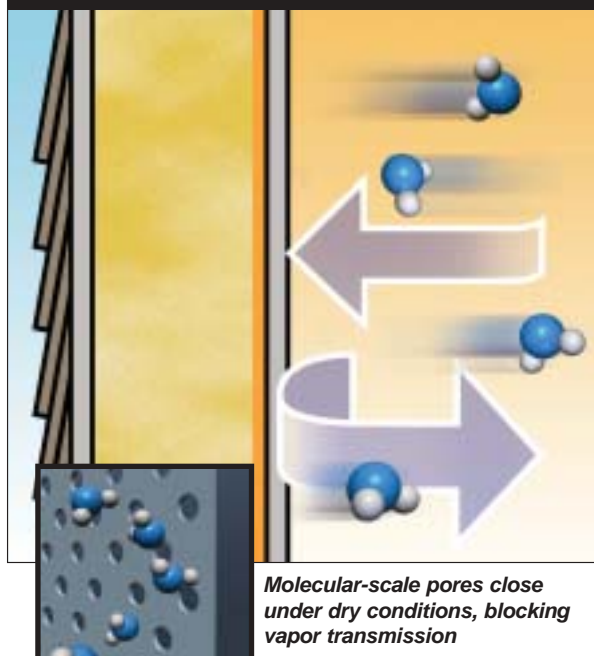
Insulated buildings need protection against moisture diffusion into the construction in order to keep water vapor from areas where it can condense. Vapor retarders have been used for decades to protect the wooden parts in the roof or wall from moisture damage by minimizing the diffusion of moisture in areas where it can create problems. MemBrain, a unique new concept only from CertainTeed, will revolutionize your thinking about vapor retarders and set your mind at ease about legal claims against your construction due to trapped moisture in your homes.

CertainTeed's MemBrain Smart Vapor Retarder increases its permeability when the relative humidity increases, allowing moisture to pass through the system.

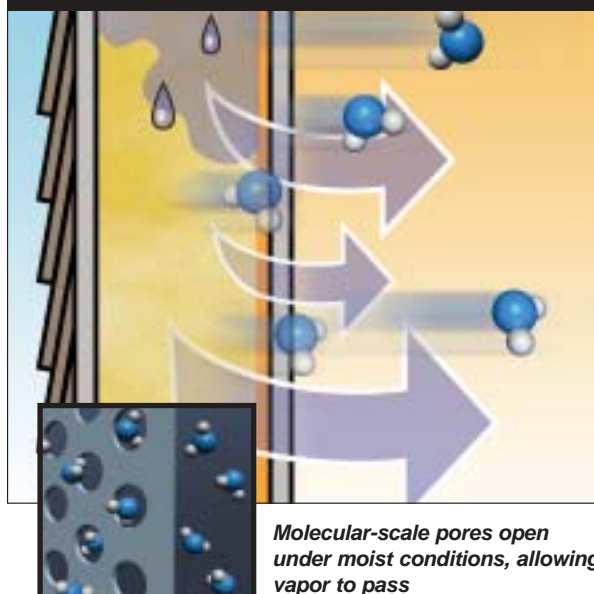
When moisture does penetrate the construction, it can condense on cold surfaces and accumulate in the wall cavity. When enough moisture has accumulated, moisture damage can result in mold growth and rot can take place.

Water vapor can move from outside in or inside out as it tries to move from areas of high vapor pressure to areas of lower vapor pressure.

*During the heating season when average relative humidities in insulated cavities are typically low, MemBrain works as a vapor retarder.*



*During the cooling season when average relative humidities in insulated cavities are typically high, MemBrain changes its permeance to increase the systems drying potential.*





## Proven reliable, now available to you.

CertainTeed's unique, patented water vapor retarding system already has a proven track record overseas. MemBrain was first introduced in Europe more than seven years ago and has been widely accepted as the leading choice in vapor retarders in challenging applications.

## Long-term peace of mind for the price.

MemBrain will cost you more than polyethylene sheeting. Even though MemBrain costs you a little more now, it will pay for itself many times over in greater customer satisfaction and long-term peace of mind for you due to reduced risk and liability as a result of moisture condensation.

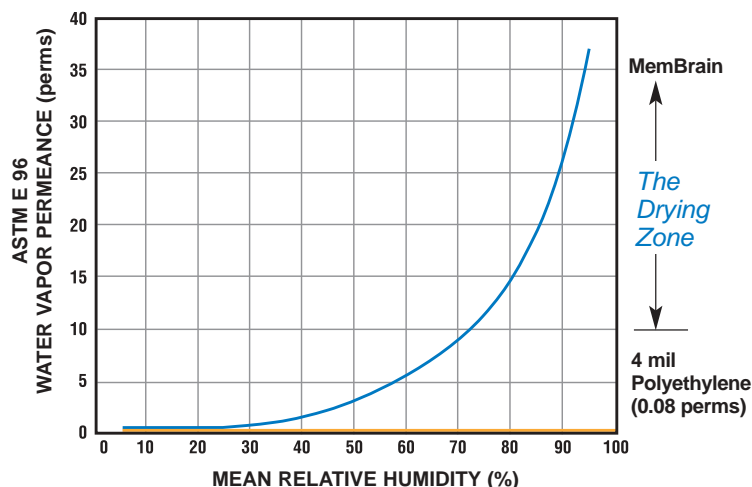
## A delicate balance: better than polyethylene.

A traditional vapor retarder such as polyethylene not only retards moisture penetration, but also retards the drying potential when the season changes. This can lead to moisture accumulation that may not be able to dry out, especially if the building envelope exterior has materials of low permeance. The amount of moisture that can get into a construction assembly should always be less than the amount of moisture that can leave it.

Polyethylene is currently used as a vapor retarder in certain areas. While it has been preferred for its ability to resist vapor movement into wall construction, it also has the drawback of reducing the potential for summertime drying. In the summer, exterior areas warmed by the sun can often be warmer and more humid than the interior, thereby creating a reverse vapor drive into the interior. Due to MemBrain's ability to vary its structure under higher relative humidity conditions, the vapor retarder becomes more permeable, allowing moisture to pass through. This transformation permits drying to occur through the process of vapor diffusion.

With current concerns about mold and moisture, MemBrain can be used in place of traditional vapor retarders with unfaced or loose-fill fiber glass insulation. The result is an insulation system that provides a strong vapor retarder during periods of low humidity, yet allows the construction to breathe during periods of high humidity. MemBrain has not been tested for use with wetspray insulation systems and is not recommended at this time.

MemBrain permeance increases with humidity



## Breathable walls: MemBrain changes its physical structure.

MemBrain looks similar to polyethylene, but is actually a nylon-based material. It has unusually high tensile strength where a 2-mil sheet has equivalent strength to a 6-mil sheet of polyethylene. In addition, MemBrain is not adversely affected by organic pollutants and gases. The most unique quality of MemBrain is its ability to change its water vapor permeance. MemBrain allows water vapor to pass through when humidity is high either from seasonal change or moisture intrusion. When humidity is low, MemBrain blocks the passage of moisture so that it will not condense on cold surfaces within the construction cavity.



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CertainTeed was the first fiber glass insulation manufacturer to have all its manufacturing plants, R&D center and corporate headquarters registered to ISO 9001-2000 standards.

