

MemBrain™ The SMART Vapor Retarder

1. PRODUCT NAME

CertainTeed MemBrain™ Smart Vapor Retarder. Patent number US 6,808,772 B2. Other patents pending.

2. MANUFACTURER

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3. PRODUCT DESCRIPTION

Basic Use: CertainTeed MemBrain Smart Vapor Retarder is a vapor retarder sheeting intended for use with unfaced, vapor permeable mass insulation (fiber glass and mineral wool) in wall and ceiling cavities.

Benefits: MemBrain Smart Vapor Retarder is a polyamide film that

changes its permeability with the ambient humidity condition. 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. With a high resistance to water vapor in winter, MemBrain reacts to relative humidity by altering pore size, allowing water vapor to pass through it. When conditions change and relative humidity increases above 60%, the pores in the material expand and its permeability increases. This transformation permits drying to occur, in either direction, through the process of vapor diffusion. Thus, its lowered resistance value supports the drying process, therefore decreasing moisture accumulation within the construction and potential moisture damage.



This product can be used in place of traditional vapor retarders with unfaced fiber glass insulation to provide an insulation system that is ideal in some of the more severe climate condition areas in terms of both temperature and humidity. In addition, MemBrain may be installed as an interior air barrier system combined with recommended tapes and sealants.

Composition and Materials: MemBrain Smart Vapor Retarder is formed by blowing a 2-mil thick film of polyamide (Nylon).

Limitations: MemBrain Smart Vapor Retarder is recommended for use in

TABLE 1

PRODUCT SIZES							
Product Size (nom. ft.)	Nominal Web Width (in.)	Actual Web Width (in.)	Coverage (square ft.)	Box Length (in.)	Roll Wgt. (lbs.) with box and core	Rolls per Pallet*	Weight per Pallet (lbs.)
8	96	100	800	28.3	11.1	45	545
9	108	112	900	31.5	12.5	45	608
10	120	124	1000	34.5	13.7	40	593
12	144	148	1200	41.0	17.0	30	55
PRODUCT SIZES – METRIC							
Product Size (nom. m)	Nominal Web Width (mm)	Actual Web Width (mm)	Coverage (square m)	Box Length (mm)	Roll Wgt. (kg) with box and core	Rolls per Pallet*	Weight per Pallet (kg)
2.44	2438	2540	74.3	718	5.0	45	247
2.74	2743	2845	83.6	800	5.7	45	276
3.05	3048	3150	92.9	876	6.2	40	269
3.66	3658	3759	111.5	1041	7.71	30	252

*48" (1219 mm) maximum pallet height.

heating and mixed climates. The product is not suited for cooling climates with high outdoor humidities. MemBrain is not suitable in buildings with exceptionally high, constant indoor humidity levels, such as swimming pools and spas. This product should also not be used with specialty-conditioned spaces with relative humidities intentionally greater than 50%. Use of MemBrain is not recommended where residential humidification systems are set at relative humidities greater than 50%. MemBrain's performance in rooms with short peaks of high humidity, such as bathrooms and kitchens, will not be affected because of the buffering action of interior finishes.

Do not use low permeance interior finishes such as vinyl wallpaper or vapor retarding paints with MemBrain. The drying benefits of MemBrain will diminish with the use of low permeance finishes. MemBrain has not been tested for use with wet spray insulation systems and is not recommended at this time. MemBrain should not be used as a vapor barrier between concrete sub floors and flooring materials, or as a ground cover in basements and crawl spaces. This product is not recommended for applications having direct or indirect (reflected) ultraviolet light exposure due to solar or electrical sources. Special care should be taken when working with an open flame. Check local practice and/or building codes for use of vapor retarders. To avoid danger of suffocation, keep this and all plastic film away from babies and small children.

Sizes: This product is manufactured in nominal widths to cover interior walls that are 8, 9, 10 and 12 feet high. The material is folded and rolled to create rolls containing 100 linear feet of product. Available standard sizes are listed in Table 1.

4. TECHNICAL DATA

Applicable Standards:

- Model Building Codes:
 - BOCA, ICBO, SBCCI and ICC
 - National Building code of Canada 2005
 - Articles 9.25.4.2(1), (2) and (3)
 - Articles 9.25.3.1, 9.25.3.2 and 9.25.3.3 CCMC Evaluation Report #13278-B
- Material Standards:
 - ASTM C 665
 - Section 7.4, Water-Vapor Permeance
 - ASTM E 96

Fire Resistance:

- Fire Hazard Classification:
 - ASTM E 84
 - Surface burning characteristics
 - Max. Flame Spread Index: 20
 - Max. Smoke Developed Index: 55

Physical/Chemical Properties:

- Water Vapor Permeance:
 - ≤ 1.0 perm (57ng/Pa•s•m²) (ASTM E 96, Desiccant method)
 - > 10 perms (570ng/Pa•s•m²) (ASTM E 96, Water method)
- Fungi Resistance:
 - No growth (ASTM C 1338)
- Corrosivity:
 - No unusual aspect of corrosion such as pitting, cracking and adhesive cure inhibition (ASTM C 665)

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

5. INSTALLATION

For most areas, vapor retarders should be installed on the warm-in-winter side of the insulation (toward the interior). For some warm and humid areas, the vapor retarder should be installed towards the

exterior of the building envelope. MemBrain is not intended to be used as an exterior vapor retarder. Check local practice and/or building codes.

Installation in wood framing: Same as polyethylene sheeting.

Please see MemBrain Smart Vapor Retarder Installation Instructions For Wood Framing (30-28-083) and MemBrain Smart Vapor Retarder Installation Instructions For Steel Framing (30-28-089).

Installation as an Air Barrier System: MemBrain may be installed as a continuous interior air barrier system. Please see MemBrain Air Barrier Installation for Wood Framing (30-28-137).

6. AVAILABILITY AND COST

Manufactured and sold throughout the United States. For availability and cost, contact your local contractor, retailer or distributor, or call CertainTeed Sales Support Group in Valley Forge, PA at 800-233-8990.

7. WARRANTY

This product is covered by a limited one-year warranty against manufacturer's defects.

8. MAINTENANCE

Not required.

9. TECHNICAL SERVICES

Technical assistance can be obtained from either the local CertainTeed sales representative, or by calling CertainTeed Sales Support Group in Valley Forge, PA at 800-233-8990.

10. FILING SYSTEMS

Additional product information is available upon request.



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