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Vapor Retarder Paints

Consumer Update: Insulation Effectiveness Bulletin

Vapor barrier paints are tested using the same ASTM testing procedures that qualify all vapor retarders [including poly]. Our Vapor Barrier 260 has been on the market for well over 10 years and is an FHA recognized vapor retarder.

-Frank Magdits, Benjamin Moore Technical Product Manager

No Poly?!

Build a home without polyethylene? It seems almost sacrilegious to some. Yet, over the last 40 years, thousands of cellulose-insulated homes have been built *without vapor retarders*.

The main transport mechanism for moisture movement is mass air movement, not diffusion as was once believed. The moisture simply piggybacks its way into the wall cavity (or ceiling) with the flow of air. Cellulose insulation is much denser and resists air movement, effectively short-circuiting this method of moisture movement.

[Please note: this article does not apply to fiberglass insulation. Fiberglass manufacturers realize that their products permit easy air movement and recommend using vapor retarders.]

A Hard Habit to Break

Using new methods or materials - no matter how superior - requires change. And change is often difficult.

Vapor retarders are a prime example. Decades of building science and thousands of actual homes testify to the fact that cellulose insulation without a vapor retarder is an excellent wall assembly. Even the building codes are beginning to recognize this.

In most cases, building inspectors and builders have followed the recom-

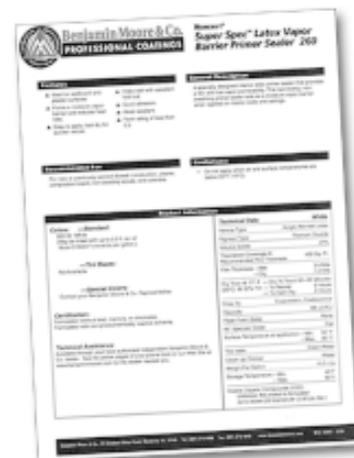
mendations of the national Cellulose Insulation Manufacturers Association and major manufacturers like Applegate Insulation that cellulose be installed without a vapor retarder. However, for those who can't quite kick the vapor retarder habit, poly isn't the only answer. There are more vapor retarders available than ever before.

Perm Less Than One

By definition, a vapor retarder is a material with a water vapor permeance, or "perm", of less than 1.0 when tested in accordance with ASTM E 96 "Standard Test Methods for Water Vapor Transmission of Materials". (The lower the perm rating the greater the resistance to vapor diffusion.) There are several commonly used building materials that have a perm rating of less than 1.0 (see Vapor Retarders table below).

Why Vapor Retarder Paints?

Even though vapor retarders are not recommended with cellulose, they are occasionally mandated. If a vapor retarder is required, it should be installed efficiently and cost-effectively. Vapor retarder paints are available from most major paint manufacturers and cost about the same as standard primer, sometimes even less. Unlike poly, there is no additional labor cost since vapor retarder paint simply replaces the primer coat. It



Specifications Sheet for Benjamin Moore Super Spec Latex Vapor Barrier Primer Sealer 260. (Perm rating less than 0.5.)

has the added advantage of complete coverage without seams or gaps.

Remember, the Cellulose Insulation Manufacturers Association and major manufacturers like Applegate *recommend that cellulose be installed without a vapor retarder*. But if a vapor retarder will be installed despite these recommendations, a vapor retarder paint is an excellent option.

For more information about vapor retarder paints, recommended cellulose installation procedures, or for additional copies, please call 800-627-7536 or email appleinsul@aol.com

Sources

¹ The National Association of Home Builders has recommended face stapling when using kraft paper as the vapor retarder.

² National Institute of Standards and Technology (NIST) research has shown that the perm rating of kraft facing varies from 1.0 to 7.5. (As the relative humidity increases, kraft facing becomes more permeable.) The NIST testing that revealed the failure of kraft facing simulated conditions in real homes.

Vapor Retarders

Material	Perm Rating	Test Method
Foil backed drywall	Less than 1.0	ASTM E 96
Kraft paper facing ¹	varies ²	ASTM E 96
Vapor retarder paint	Less than 1.0	ASTM E 96
Polyethylene	Less than 1.0	ASTM E 96
Wallpaper (vinyl)	Less than 1.0	ASTM E 96