

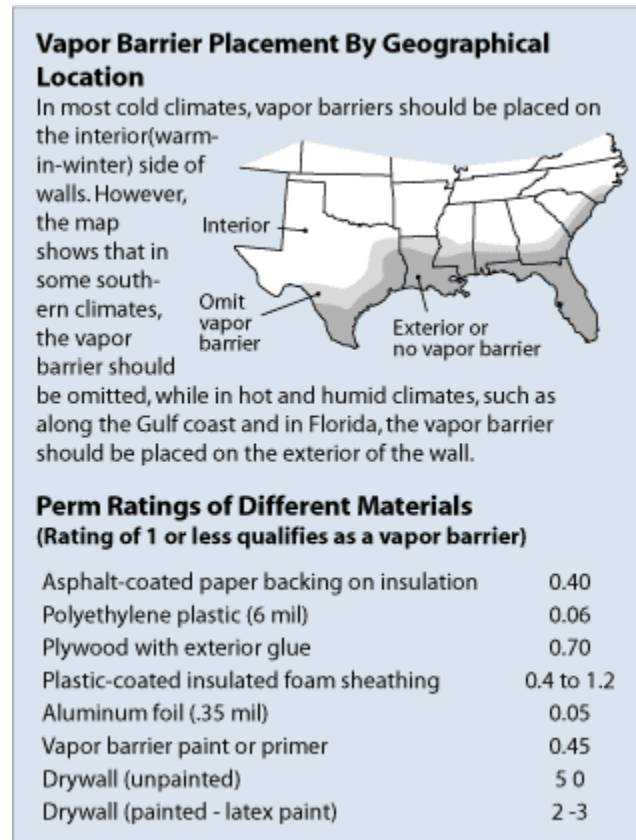
U.S. Department of Energy - Energy Efficiency and Renewable Energy Energy Savers

Moisture Control in Walls

It is a myth that installing vapor barriers is the most important step for controlling moisture in walls. Vapor barriers only retard moisture due to diffusion, while most moisture enters walls either through fluid capillary action or as water vapor through air leaks.

All climates require these moisture control steps:

- Install a polyethylene ground cover on the earth floor of houses with crawl spaces and slope the ground away from the foundations of all houses.
- Install a continuous vapor barrier, if your climate needs one (see map on this page) that has a perm rating of less than one.
- Place a termite shield, sill gaskets, or other vapor-impermeable membrane on the top of the foundation wall. This action will prevent moisture from wicking into the framed wall from the concrete foundation wall by capillary action.



Preventing Rain Penetration

Causes of rain leaks through exterior walls include improper installation of the following:

- Siding materials
- Poor-quality flashing
- Weatherstripping or caulking around joints in the building exterior (such as windows, doors, and bottom plates).

Wind-driven rain can also penetrate the exterior finish.

To enhance protection against rain penetration, create a drainage plane within the wall system of the home.

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Association of the Wall and Ceiling Industry

Reading List

- *Weather-Resistive Barriers* ([PDF 223 KB](#)). (October 2000). DOE/GO-102000-0769. U.S. Department of Energy.
- Frane, D. (September 2002). "Waterproofing Basement Walls," *Journal of Light Construction* (20:12) pp. 89-94.
- "Betsy and Joe's Excellent Wall System." (September 1996). *Energy Design Update*. (16:9); pp. 14-15.
- "The Effect of Vapor Retarders on Wall Drying Time." (September 1996). *Energy Design Update*(16:9); p. 9.
- Fissette, P. (December 1995). "Making Walls Watertight." *The Journal of Light Construction* (14:3); pp. 35-38.

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