

Vapor Barrier

Moisture Management in Buildings

To understand why we use a vapor barrier, we need to understand how water, in its variety of forms is adsorbed and how it moves. Moisture can decrease the effectiveness of insulation, loosen plaster, blister paint and lead to structural damage of your home. Moisture can cause mold to grow which can trigger allergic reactions, asthma, and other respiratory complaints. To control these problems we need to control moisture.

In the United States, we spend billions of dollars each year to fix all varieties of moisture issues. The home performance preferred method to avoid this is to install a vapor barrier to block moisture seeping up from the ground into the crawlspace under your house.

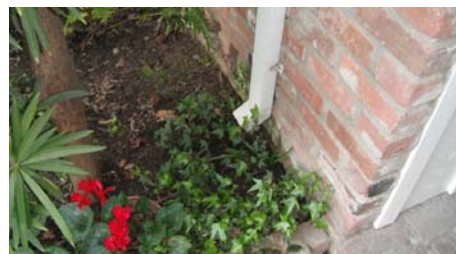


Capillary action: Water migrates up through the various building materials similar to the way water moves through trees. This capillary action draws water from the ground and redistributes it into the building assembly.

In combination with the vapor barrier, the ground next to the home should slope to drain water away from the foundation. To keep water from accumulating around the foundation of the home downspouts need to empty into drainage pipes, carrying bulk water far away from the structure.

Moisture in the air:

Air transports moisture in and out of a structure through air-leakage pathways. Proper air-sealing of these pathways is critical in maintaining a comfortable



healthy environment for occupants inside the home.

Air-sealing:

Identifying and sealing air conduits like plumbing chases, wire holes, interstitial cavities, and holes in the floors, ceilings and walls are just a few of the areas that need to be addressed in order to stop air flow that can carry moisture.

Performing a whole house Energy Retrofit on a home can improve the moisture problem. It is recommended to include a moisture management plan in the scope of work for each energy upgrade project. Without a comprehensive plan, air-sealing can actually trap moisture in the home. It is essential for those performing work on the home to have the knowledge and skills necessary to address moisture when completing a comprehensive retrofit job.

Water in liquid form driven by gravity or air pressure differences can be carried into a building through holes and cracks. Roof leaks, and water around the foundation, along with plumbing leaks can all deposit substantial amounts of water into a structure.

SMUD recognizes all the issues that may be caused by moisture and encourages participating contractors to protect homes by installing vapor barriers where needed. SMUD also provides incentives and rebates for installing vapor barriers.

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**Our mailing address is:**

1000 Broadway, Suite 435, Oakland, CA 94607
1-888-352-2722 (1-888-35CBPCA)
www.CBPCA.org

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