

DIY NETWORK

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BUILDING HOMES WITH ADVANCED MOISTURE-CONTROL SYSTEMS

From "[Combating Household Mold](#)"
episode CMM-104 -- [More Projects](#) »

The key to preventing mold is to keep moisture away from your home, which is why contractors are now making strides to make sure this happens.

Here are several ways the construction industry is tackling the mold problem:

- **French Drain Piping System** -- This unique drain is installed around the foundation of the house and covered with gravel. Rain water that collects in this area will be channeled to the drain and then to a lower elevation on the property. Unfortunately at this time, the French drain alone won't "completely" take care of excess water. Moisture from the soil can still drive its way through the footer and into the slab up into the block wall. It takes more than a French drain to keep a home totally dry.
- **Polymer-enhanced Asphalt** -- This gooey black stuff is a damp-proofing and waterproofing type of material. It doesn't have to be too thick. As long as water can't get through it, you're foundation will be fine. The purpose of this soupy mixture is to stop the action called "wicking," which means you have a wick and you stick it in water to absorb the moisture. This has the same effect with concrete because it's porous and can absorb water quickly. Most home builders use some sort of damp-proofing material on the block wall, but the polymer-enhanced asphalt is extremely durable and not as likely to crack when the foundation settles -- unlike other materials. This is very new in the building industry, so be sure to ask about it if you're considering a new home.
- **Exterior Fiberglass Insulation Board** -- Before this board is installed, a chemical mixture is applied. This is what helps the adhesion process to the membrane, so a mechanical fastener doesn't have to be used to attach the board. Each piece of insulation is set against the wall and cut for an exact fit. In most homes, insulation is only applied to interior walls. The purpose here is to protect the black asphalt (above) membrane. At the same time the insulation channels water into the French drain.
- **Rigid Foam Board** -- Foam board -- above grade -- is also used on the exterior walls. A rubber flashing (**figure A**) connects the below and above grade sections, and the flashing ensures that water will not slip between the boards as it flows down the side of the house. A similar type of flexible membrane is used to seal the windows.
- **Special Spray Foam** -- This foam is applied to the underside of the roof to prevent condensation on the wood sheathing during cooler months.

The whole system -- including the foam board, window flashing, fiberglass insulation, asphalt membrane, spray foam and French drain -- forms what researchers call an intermediate "drainage plane." The wish is that by working together, all of these components will help to prevent water intrusion into homes.



In this segment of DIY's *Combating Household Mold* workshop, you'll see the new and innovative ways homes can be built with advanced moisture-control systems. For example, here is a French drain system that's being built for a new home in Pittsburgh.



Polymer-enhanced asphalt is a great way to help ensure that a home's foundation can battle moisture problems. This is extremely new in the building industry.



Another great way to combat moisture and eventually mold is to use exterior fiberglass

RESOURCES:**Environmental Protection Agency Information**

Click [here](#) for the EPA's mold guide.

Indoor Air Quality Information Hotline: 800-438-4318

Safe Drinking Water Hotline: 800-426-4791

U. S. Environmental Protection Agency (Headquarters)
Washington, DC 20460
Phone: 202-260-2090
Website: www.epa.gov

Institute for Business & Home Safety Information

For a free (single) copy of the Institute for Business & Home Safety's (IBHS) new water-damage prevention guide ("Is Your Home Protected From Water Damage?"), call toll-free: 866-657-IBHS (4247).

OR

You can also find this guide and all IBHS disaster safety publications by clicking [here](#).
Institute for Business & Home Safety
Tampa, FL 33617
Phone: 813-286-3400
Fax: 813-286-9960
Website: www.ibhs.org

Moisture Audit (Jim LaRue)

Moisture expert Jim LaRue created a "moisture audit," which is available by clicking [here](#).

What Every Home Owner Needs to Know About Mold and What to Do About It

Model: 0071412905
Author: Vicki Lankarge
(March 28, 2003)

To order this title from Amazon, click [here](#).

McGraw-Hill Companies
New York, NY 10020
Phone: 212-512-2000
Email: webmaster@mcgraw-hill.com

My House is Killing Me! The Home Guide for Families with Allergies and Asthma

Model: 0801867304
Author: Jeffery C. May
(October, 2001)

To order this title from Amazon, click [here](#).

John Hopkins University Press

insulation board that has been treated with a chemical spray, seen [here](#). The purpose of these exterior fiberglass boards is to protect the black asphalt spray.



Figure A

The Healthy House: How to Buy One, How to Build One, How to Cure a Sick One, 4th Edition

Model: 0963715690

Author: John Bower

(November, 2000)

To order this title from Amazon, click [here](#).

Building Science Corporation Information (Mold Research)

Building Science Corp. is a Boston based architecture and building science consulting firm that is one of the leading providers of moisture and mold research information.

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Information private

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- [Moisture Assessment of Your Home](#)
- [Building Homes with Advanced Moisture-Control Systems](#)