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Dial-U-TELETIP  
also  
Radio Broadcast Script  
(New Life for Your Home)  
"Vapor Barriers"

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Humidity, or water vapor, is created by everyday living. An average family can produce several gallons of moisture every day, in normal activity of cooking, laundry, showers, and breathing. Steam is the most visible example of water vapor.

Before the rising energy prices, water vapor was discarded from houses by opening windows or doors, leaving numerous drafts unplugged, and running bathroom or kitchen exhaust fans for long periods. Heated air was also discarded in large amounts, since heating fuels were low-priced. Walls and ceilings had small amounts of insulation, which could dry out easily over the summer if it did happen to buildup moisture in the winter.

Times have changed. Heated air is too expensive to throw out in large amounts. Walls and ceilings have heavier layers of insulation, which cannot dry out if they become wet. Water vapor itself can now be recycled into useful heat. With these developments, it has become important to ensure that your home has an unbroken vapor barrier.

Plastic sheeting is used in new homes and certain remodelling projects, to prevent water vapor from working its way too far into insulation. Since temperature within the insulation is dropping towards the outdoor side,

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water vapor will condense into water at a certain point if it is allowed to get to that point. For most of Minnesota, water vapor should not be permitted to go more than half way through the insulation. In northern Minnesota, it must not be allowed to go more than one-third of the way. Thus, one-half to two-thirds of the insulation must be outside the vapor barrier. Or all the insulation may be outside the vapor barrier. In older homes, a good quality paint, properly applied to interior surfaces will do the job. Surfaces should be prepared by patching all cracks or holes, with reinforcement as necessary. Cracks between two different materials, such as wood trim and plaster, should be sealed with a permanently elastic caulking. Specially formulated paints with high vapor resistance are available. Vinyl wall coverings are also effective.

A "vapor barrier" is not only a material or paint, but it is a complete closing off of ways that moisture can bleed into insulation. In an old or new home, all penetrations into walls or ceilings must be tightly sealed. During construction, electrical outlets and switch boxes can be sealed with plastic or spray sealant. In existing homes, a foam rubber gasket compressed behind the cover plate will provide a vapor seal and prevent drafts. Pipes and wires leading into attics should be caulked where they penetrate the ceiling, even if they are hidden within walls. Otherwise, vapor can rise inside an interior wall and move into your attic.

Cracks along the edges of window and door casings, ceiling moulding, and baseboard should be sealed. Use extra care in high moisture areas such as bathrooms. Attic doors should be weatherstripped or caulked. When you need to enter, caulking can be cut.

For further tips on vapor barriers, call your county office for a pamphlet titled "First, Seal Your House". For tips on recycling water vapor into useful heat, ask for TELETIP # 503 , "Humidity in Minnesota Homes" or TELETIP # 504 , "Air-to-Air Heat Exchangers".

A final note is needed: In a tightly weatherized home, be sure your furnace has a supply of air for combustion. A 3 or 4 inch outside air duct should be installed to provide direct air to the burners. The duct may have a dip or loop to control excess air, but should end up about one foot away from the furnace burner. Consult your local building inspector for further advice.