

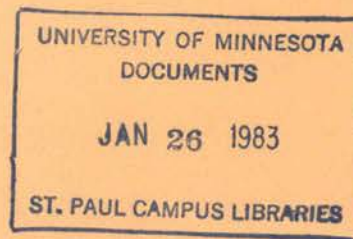
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(TAPE #501)

WINDOW CONDENSATION

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During the winter, windows are the coldest surfaces inside your home. Even if your room temperature is 70 degrees Fahrenheit, a normal window will be 45 to 50 degrees at the glass surface in zero degree weather. Condensation may form on the cold window glass, just like it does on the sides of a cold drinking glass in the summer. The amount of condensation depends on the humidity in the home as well as the coldness of the glass. Lowering room temperature at night may increase condensation.

If all the windows in your house are fogged or dripping for extended periods, you need to reduce the humidity. If only a few windows are showing condensation, it may be that those windows need to be improved.

As a rule, improving your windows is a good way to control condensation because it also saves heat and increases the comfort of your home. The first step is to weatherstrip or seal the window with a temporary caulking. Don't forget the center rail where the two halves of the window meet. Interior cracks along the window frame and sill should be permanently sealed with an elastic caulk to stop interior humidity from seeping indirectly around the windows. The storm window should also be repaired or weatherstripped as needed.

For even better condensation prevention, triple-pane windows are gaining popularity in northern climates. A triple-pane window has two "dead spaces" - those spaces of unmoving air between the panes of glass that provide an insulating effect. Each dead space should be at least one-quarter inch wide, preferably one-half inch. The space can be wider than one-half inch, but not much additional insulating effect will be gained.

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There are several ways to accomplish this triple-glazing. You may be able to "piggyback" old storm window glass onto your wood windows, for a low-cost third glazing. If you replace storm windows, you may wish to save the glass for this purpose.

Another low-cost way to triple glaze is by stretching or mounting clear plastic across the inside window frame. Double-stick tape makes the job easier. Kits with plastic and special tape are available. Test your paint to see if it pulls loose when removing tape. If paint chipping is a problem, you can glue a metal strip on the window or mount special plastic strips with a "zip-lock" groove. With the zip-lock system, the plastic is held tight by a zipper strip that is pressed into the lock strip. In the spring, the zipper is pulled out but the permanent strip remains on the window. Other systems use a magnetic-edged rigid plastic that holds itself to a permanently glued steel strip on the interior window casing.

You can also put a piece of plastic across the exterior of a window. Be sure that the dead space is at least one-half inch. A wood frame or spacers are usually needed. Heavier plastic is needed for outside mounting to withstand the wind and cold - 6 mil poly is recommended.

Other methods for triple glazing are more expensive but more permanent. A wood replacement sash can be custom made to fit your windows, with a factory-installed double pane. With a storm window, you will then have triple-glazing. New pre-assembled window units are available with triple insulating glass. Insulating glass refers to factory-sealed multiple layers of glass. Factory-made glazing panels, with safety edging and weatherstrip, can also be ordered to fit onto your window casing.

Triple glazing will save \$100-\$300 per year in a house with average

window area. It may also save your woodwork from water stains or rot. Triple glazing, with its warmer roomside pane, can allow you to have 30 to 40 percent indoor humidity without condensation problems.

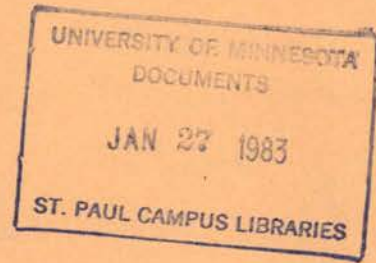
Window drapery or a shade can cause increased window condensation because it blocks indoor warmth from the glass, making the glass surface colder. However, a tightly fitted drapery or shade with fastened-down edges and a vaporproof lining will not increase condensation as much, because the humidity is kept away from the glass.

For other humidity questions, ask for tape #503, "Humidity in Minnesota Homes", or tape #502, "Vapor Barriers".

(TAPE #502)

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,