What Is The Maximum Safe Humidity Level For Your Home?

Your home must maintain a certain level of humidity for comfort and health reasons. The easiest way to test this humidity level is through the use of a psychrometer. The following table shows the maximum safe humidity levels for a home heated to 70 degrees F. Lower humidity levels are required for higher indoor temperatures.

Outside Air Temperature (°F)	Recommended Maximum Indoor Humidity For a Household Heated to 70°F
-20° or below	Not over 15%
-20° to -10°	Not over 20%
-10° to 0°	Not over 25%
0° to 10°	Not over 30%
10° to 20°	Not over 35%
20° to 40°	Not over 40%

How Do I Control The Humidity?

Sometimes persistent humidity problems are difficult to solve. You may have to call a qualified expert for advice and direction. They will make recommendations based on an overall evaluation that includes: the number and type of windows, the type of glazing system in house windows, the heating system, type of insulation and vapor barrier, and/or the type of soil and quality of exterior drainage. They may suggest such measures as exterior air vents for your furnace or additional exhaust fans. These measures can get costly and you should go through the following checklist to see how you may be able to solve your high humidity levels.

Seven Ways To Reduce Household Humidity Levels

1. *Shut off all household humidifier units (including the furnace humidifier).*

2. *Ventilate regularly. Air out the entire house for a few minutes each day. Ventilate kitchen, laundry and bathrooms during use.*

3. *Run exhaust fans longer and more often.*

4. *Open the fireplace damper.*

5. *Be sure attic and basement crawl space louvers are large enough and open.*

6. *Add a basement dehumidifier.*

7. *Adequately vent humidity producers such as clothes dryers and all gas burners to the outdoors.*

Controlling Condensation

Polaris
Technologies

Controlling Condensation

Definitions:

Humidity *is a term used to describe water moisture suspended in air. Humidity occurs naturally and varies with temperature.*

Condensation *is a formation of water that occurs on or around an object. It is caused when warm moist air (humidity) comes in contact with a cold surface.*

Warm air can "hold" more moisture than cold air. When warm air comes in contact with a cold surface, the warm air can no longer retain its moisture. Small water droplets will begin forming on the cold surface (fogging). If the surface is cold enough, these droplets will freeze creating a white frosty glaze (frosting)

If the water remains a liquid, the small droplets will begin to form larger drops. On a tilted or vertical surface these drops will eventually roll off into the surrounding environment. This run off is the real problem created by condensation. It can stain wood, remove wallpaper, and deteriorate plaster and drywall. Damage to these surfaces may lead to expensive repairs.

Fogging
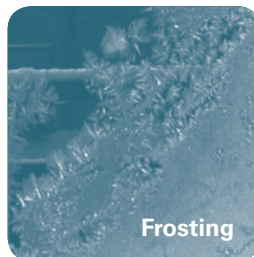
Frosting

My New Windows Have Condensation. My Old Windows Didn't.

You probably replaced your old windows because they were drafty. Slight gaps and cracks around the sashes and frames allowed air to travel freely between the outside and inside. This air movement actually prevented condensation in two ways. Primarily, the warm moist air was able to escape from the house without resting on a cold surface. Secondly, enough cold air was allowed to enter the home to create a thick blanket of cold air across the window. This layer was thick enough to prevent the warm moist air from touching the cold window surface.

Your new windows improve the energy efficiency of your home, lower your energy bills, and add to your comfort by blocking air movement through your windows. Blocking this movement however may raise the humidity levels in your home causing condensation.

My New Windows Are Causing Condensation.

New windows do not cause condensation. Condensation is created from high indoor humidity and low outdoor temperatures. Since we cannot control the outside temperature, our only hope of curing or eliminating condensation is to control the indoor humidity.

In today's modern building and construction, we continually search for a "tighter" home that retains our winter heat and summer cooling. Vapor barriers, high performance doors and windows, tile, and plastic wall coverings all conspire to keep whatever air is inside...inside. By building an energy efficient home, we create other problems that may need special attention. One of these problems is the control of moisture (humidity) in the air. The "tighter" the home, the less likely moisture will escape.

What Causes High Indoor Humidity Levels?

Simply said, moisture is caused by everyday living. Dishwashers, clothes washers, furnaces, humidifiers, cooking, and showering are all major contributors to humidity. Cooking for a family of four releases 4.5 lbs. of moisture daily into the air. Each shower adds 1/2 lb. of water, weekly laundry 30 lbs., and human occupancy 6 to 8 lbs. Some studies show that a family of four can easily release more than 18 gallons of water per week into a typical household.

Exterior Condensation

Exterior condensation on glass can occur at any time, especially in warm, humid climates where the interior temperatures are cooler than outdoor conditions. Condensation on the outdoor surface of an insulating unit is not an indication that the glass or insulating glass unit is defective.

Condensation on the exterior of windows occurs primarily in the morning when days are warm and humid, but nights are cool. When the temperature of the exterior surface of the glass is cooled below the dew point of the outside air, moisture forms on the exterior side of the glass. Then, as the day warms, the glass temperature rises above the dew point and the moisture evaporates back into the air.

Three main conditions promote exterior condensation:
• High outdoor humidity
• Very limited or no wind
• Clear night sky

While unsightly, there is not much that can be done to prohibit exterior condensation. One suggestion that may help reduce the incidence of exterior condensation would be to trim back outdoor shrubbery near the glass to promote better air circulation near the window.