

Understanding  
Condensation  
in your home.



SIMONTON  
WINDOWS®



# Balancing Humidity for Comfort and Condensation

Controlling the amount of moisture in the air, or humidity, is the most effective way to reduce condensation. The amount of moisture in the air is indicated by the “relative humidity” of the air. Relative humidity is the percentage of moisture in the air compared to the maximum amount it can hold. For instance, when it is raining or very foggy outside, the outdoor relative humidity would be 100%. Temperature also effects how much moisture air can hold. At 100% relative humidity, air at 60 degrees will hold three times as much water vapor as air at 30 degrees Fahrenheit. As temperatures drop during the winter, the air can not hold as much moisture as before and condensation will occur unless the relative humidity level is lowered.

The chart illustrates the maximum recommended levels of moisture in interior air for different outside temperatures. You can check the relative humidity levels in your home using a hygrometer, an electronic humidity gauge or a sling psychrometer. Follow instructions carefully, because a reading in the middle of a room will yield a different result than a reading taken near windows. Once you’ve determined the humidity level in your home you can take appropriate actions.

You can check the relative humidity levels in your home using a hygrometer.



## Maximum Recommended Humidity Levels

Based on engineering studies conducted at The University of Minnesota Laboratories.

Outside Air Temperature	Inside Relative Humidity
-20° F or Below	Not Over 15%
-20°F to -10°F	Not Over 20%
-10°F to -0°F	Not Over 25%
0°F to 10°F	Not Over 30%
10°F to 20°F	Not Over 35%
20°F to 40°F	Not Over 40%

- Based on engineering studies 70°F conducted at the University Laboratories
- Relative humidity above these are not recommended at the low outside temperatures indicated, unless special provisions are taken in building construction
- If higher relative humidity levels are required because of special interior environmental conditions, the window manufacturer should be consulted



# What Can I Do to Help with condensation?

Most everyday activities produce water vapor. A five minute shower releases about ½ pint of water vapor, cooking dinner on a gas stove can produce 2½ pints of water vapor and the breathing and perspiration of a family of four can produce approximately ½ pint per hour.\* Although it's an uphill battle, there are a few things you can do to help control moisture levels in your home.

- Use kitchen and bathroom exhaust fans.
- If you have a humidifier, set it to correct outside temperature.
- Properly vent clothes dryers, gas appliances, stoves, etc.
- Make sure attic, basement and crawl spaces are well ventilated and free from obstructions.
- Don't store firewood inside; freshly cut wood can consist of up to 45% water, while well-seasoned firewood can have a 20-25% moisture content that can be released in your home.\*\*
- Open a window in the bathroom.
- Open curtains and blinds to allow more air circulation around windows.



\* Source: Moisture Sources Associated with Potential Damage in Cold Climate Housing (1988)

\*\* <http://www.csaia.org/HomeownerResources/ChimneySafetyInfo/HowToSelectFirewood/tabid/115/Default.aspx>



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