Condensation

Your Guide to Common Household Condensation

Alside®

UNDERSTANDING CONDENSATION

Excessive Humidity in a Home

Common household condensation or "sweating" on windows is caused by excess humidity or water vapor in a home. When water vapor in the air comes in contact with a cold surface such as a mirror or window glass, it turns into water droplets called condensation. All homes have occasional condensation, such as a little fogging on the windows, but this is no cause for concern.

On the other hand, excessive window condensation, frost, peeling paint, or moisture spots on ceilings and walls can be signs of potentially damaging humidity levels in your home. We tend to notice condensation on windows and mirrors first because moisture doesn't penetrate these surfaces. Yet they are not the problem, simply the indicators that you need to reduce the indoor humidity of your home.

DISPELLING THE MYTH . . . WINDOWS DO NOT CAUSE CONDENSATION

You may be wondering why your new energy-efficient replacement windows show more condensation than your old drafty ones. Your old windows allowed air to flow between the inside of your home and the outdoors. Your new windows create a tight seal between your home and the outside. Excess moisture is unable to escape, and condensation becomes visible. Windows do not cause condensation, but they are often one of the first signs of excessive humidity in the air.

WHERE DOES INDOOR HUMIDITY COME FROM?

All air contains a certain amount of moisture, even indoors. And there are many common things that generate indoor humidity, such as your heating system, humidifiers, cooking and showers. In fact, every activity that involves water, even mopping the floors, contributes moisture to the air.

The climate can also contribute to condensation. For example, on cold winter days the moisture in the warm, interior air of your home can condense on the typically colder glass surfaces of your windows and patio doors.

It is normal to experience condensation at the start of each heating season. During the humid summer months your home absorbs moisture and then perspires when you turn on the heat. This is only temporary. After the first few weeks of heating your home should dry out, reducing – if not eliminating – condensation.

The same scenario occurs during remodeling or building projects. Due to the high levels of moisture in wood, plaster and other building materials, your home will temporarily sweat during the first few weeks of the heating season.

Another factor in the condensation equation is progress. With today's high-performance insulation, moisture-barrier materials and airtight construction, we all enjoy a more thermally efficient home – one that blocks the cold out, yet traps the moisture in, producing higher humidity levels and more condensation.

REDUCING HUMIDITY IS THE KEY

The best way to reduce condensation is to eliminate excessive humidity. The following table illustrates the recommended maximum indoor relative humidity based upon varying outdoor air temperatures with an indoor air temperature of 70˚F.[1]

Outdoor Air Temperature	*Indoor Relative Humidity (%RH)*
20° to 40˚F	≤ 40%
10° to 20˚F	≤ 35%
0° to 10˚F	≤ 30%
-10° to 0˚F	≤ 25%
-20° to -10˚F	≤ 20%
Below -20˚F	≤ 15%

(Indoor humidity can be measured with a humidistat or psychrometer.)

By managing excessive humidity in your home you may very well eliminate most, if not all, of your condensation problems.

SIX SIMPLE SOLUTIONS FOR CONTROLLING INDOOR HUMIDITY

1. Make sure all sources of ventilation to the outside are functional and use kitchen, bathroom and laundry room exhaust fans during and after humidity-producing activities to vent excess moisture.
2. Air out your home periodically. Opening windows for just a few minutes a day lets the stale, moist air escape and the fresh, dry air enter.
3. Check your humidifier settings. Use the humidity comfort levels provided in the table above to correctly set and balance the humidity in your home.
4. Be sure that all louvers in the attic or basement are open and large enough. You can even open your fireplace dampers to allow excess moisture to escape.
5. If you have a large number of house plants, try to concentrate them in one area and be careful not to over water.
6. If troublesome condensation persists, see your heating contractor about an outside air intake for your furnace, venting of gas burning heaters and appliances, or installation of ventilating fans.

Condensation can be very difficult to solve. There are many factors that affect condensation, such as the number and type of windows in your home, the heating system, the type of insulation and vapor barrier, and even the type of soil and quality of drainage. If you still have condensation problems after following the simple preventative steps mentioned in this guide, you may need to consult a professional heating contractor or other qualified expert.

Windows qualify for the ENERGY STAR® label when they meet or exceed the established guidelines for energy efficiency. This recognition is granted to only the most advanced, energy-efficient products on the market.

Alside offers a variety of ENERGY STAR-certified products. Please consult your window professional to help you choose an energy-efficient glass package to meet the ENERGY STAR requirements for your home and climate zone.

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 [1]www.fgiaonline.org/resources/homeowner-resources/understanding-indoor-condensation/ (accessed 1-14-26). Printed in USA 01/26 2.5M/OP 75-2817-01

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