

# Condensation

Water or frost on windows is condensation. It is formed when warm moist air comes in contact with cooler dry air. An example of this is when a bathroom mirror “steams up” after a hot shower. Just like that mirror, the inside or outside of your window can sweat or fog because of temperature differentials.



## ARE MY WINDOWS TO BLAME?

Faulty windows do not cause condensation. Glass is usually the first place you notice condensation because glass surfaces have the lowest temperature of any surface in a house.

## THEN WHAT'S THE CAUSE?

The moisture in the air causes condensation. The reason you may observe more condensation in your home is because of modern energy-efficient homebuilding techniques and products.

The insulation and construction materials used today are designed to keep cold air outside. This is especially true of new windows. While energy-efficient designs and weather-stripping keep cold air outside, they also keep warm moist air inside. Older window designs were less efficient and consequently allowed moisture to escape.

If you didn't have as much condensation before replacing your old windows, it's probably because they were drafty. Good windows and insulation all create barriers to the air exchange of a home. When combined with the additional water vapor (moisture) from showers, cooking, or from clothes dryers not vented to the outside, the result is excess moisture and a high relative indoor humidity level.

## HOW CAN CONDENSATION BE REDUCED?

The key lies in controlling the humidity inside your home. During the hot humid summer, your house absorbs moisture. This also applies to a newly constructed or remodeled home, due to the abundance of moisture from the building materials used in construction.

During the beginning of the winter when you start to heat your home, condensation occurs. After a few weeks, your home will begin to dry out, and you'll see less condensation. Opening a window briefly is a quick temporary solution.

### Other solutions that may reduce condensation include:

- Cracking open a window or door daily.
- Opening a window or running exhaust fans longer in the kitchen, bathroom and laundry room.
- Opening drapes and blinds, allowing air to circulate.
- Turning off any humidifying devices in your home.
- Installing and using a dehumidifier.

### If you live in a northern climate, the above steps, as well as the following points, may be relevant:

- Adding storm windows or replacing existing single-pane windows with insulated windows.
- Keeping plants in a sunroom or in rooms that are infrequently used during extreme cold weather. Adding waterproofing protection to basement floors and walls.
- Removing radiator pans until sweating has been eliminated.
- Making sure that open-faced gas heaters are connected to a chimney and using them as little as possible.

## WHEN SHOULD I BE CONCERNED?

If you see condensation between the two layers of glass in an insulated window, the airtight seal has probably been broken, and the glass will need to be replaced.

Moisture spots on the ceiling or walls, peeling paint, rotting wood, delaminating plywood, moisture on exterior walls, and fungus, mold or mildew growth indicate a more serious indoor moisture issue. Please contact a heating and cooling contractor if these issues arise.