



The location of condensation on the glass

When attempting to reduce the degree of condensation it is important to note on which surface of the glass it forms; its location indicates the cause, and so points to the solution.

Internally

Condensation on the room side surface of the inner glass means that the temperature of the glass surface is too low given the water vapour content of the atmosphere in the room. This is most likely to occur on the surface of single glazed windows but can happen on double or triple glazed windows if the room isn't heated.

Within the cavity

Condensation within the cavity of a hermetically sealed double glazed unit or Insulating Glass Unit (IGU) denotes a failure of the seal.

Where the double glazing is achieved by the installation of secondary glazing, condensation on the cavity surface of the outer glass generally (but not invariably) indicates leakage from moist air from the room into the cavity. However, the reader should note that it is not possible to hermetically seal secondary windows; therefore some migration of air from the room into the cavity is to be expected. Condensation can occur occasionally on the cavity surface of the inner glass when the sun is shining on the window. This means that something in the air space itself, such as an unsealed wooden separator or desiccant, contains moisture. It should be noted, however, that this source can also be responsible for condensation on the cavity surface of the outer glass.

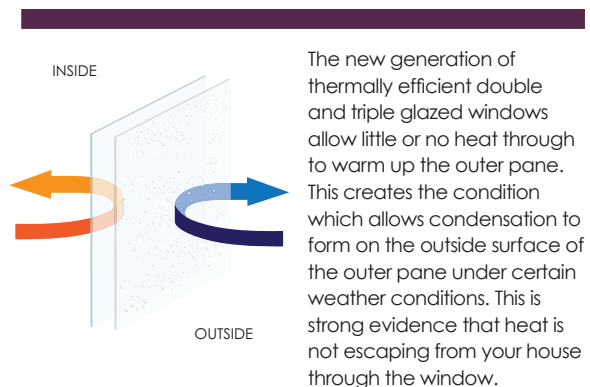
Externally

Condensation forms on the outside surface of glass when its temperature drops below the outdoor dew point temperature.

Windows manufactured with a double or triple glazed unit containing energy efficient low-emissivity glass have enhanced thermal insulation properties thanks to a high performance transparent coating that reflects heat from radiators or fires back into the room.

As a result the outer pane of glass does not get warmed by heat escaping from inside the building through the glass and remains cooler in comparison to less thermally efficient windows.

External condensation only occurs in certain climatic conditions – a variable combination of high relative humidity and clear cold conditions normally experienced in spring and autumn.



How to reduce the condensation

It is important to remove excess moisture by ventilating rooms. A room can be ventilated without making draughts or causing it to become cold. One way to do this is to open the window slightly or use the trickle vent if fitted. By opening windows or ventilating your home it may appear that you are losing some heat, but what you are actually doing is allowing warm moisture laden air to escape and permitting cool dry air to enter your home. Dry cool air is actually cheaper to heat than warm moist air.

A) When formed on the room side surface of the inner glass

- I. Provide natural ventilation through an opening section of the window, through a proprietary ventilating unit, or through an airbrick.
- II. Where there is no open fire, or where existing flues have been blocked off (and cannot be unblocked), ensure that wall vents are fitted and kept clear.
- III. Open at least one window in each room for some part of the day to permit a change of air.
- IV. Ensure permanent ventilation of all rooms where gas and oil heaters are used.

NOTE: This is a statutory requirement which will be monitored by the heating engineer.
- V. Fix hoods over cookers and other equipment producing steam, and ventilate them to the outside air.
- VI. Ensure that bathrooms and kitchens are ventilated in accordance with National Standards.

- VII. Draught proof internal doors and keep them closed, to prevent transfer of air with high water vapour content from the main moisture producing rooms – kitchens, bathrooms, and drying rooms. It should be borne in mind that water vapour does not remain in the room where it is first generated, but tends to migrate all over the house because:
 - a. The air pressure in the original room may be higher than elsewhere, and so the moist air will be forced out into rooms with a lower pressure, and
 - b. Air movement will carry it through the house.
- VIII. Increase slightly the air temperature within the house.
- IX. In cold weather, keep some form of heating on permanently in the house.
- X. Wherever practicable, fix radiators under windows to maintain the temperature of the inner glass at a reasonable level.