

Prevention of Condensation and Mould Growth

(Recommendations, questions & answers)

It is well known that in recent years some houses and flats have suffered from condensation. Walls and ceilings, and sometimes floors become damp and sometimes discolored and unpleasant as a result of mould growing on the surfaces.

Why does condensation occur?

Condensation occurs when warm moist air meets a cold surface. The risk of condensation therefore depends upon how moist the air is and how cold the surfaces of rooms are. Both of these depend to some extent on how a building is used.

When does condensation occur?

Condensation occurs usually in winter because the building structure is cold and because windows are opened less and moist air cannot escape.

Where does condensation occur?

Condensation which you can see often occurs for short periods in bathrooms and kitchens because of the steamy atmosphere and quite frequently for longer periods in unheated bedrooms, it can also occur on occasions in cupboards, corners of rooms where ventilation and movement of air are restricted. Besides condensation on visible surfaces, damage can occur to materials which are out of sight for example from condensation in roofs.

What is important?

Three things are particularly important:

- a) To prevent very moist air spreading to other rooms from Kitchen and Bathrooms, or from where clothes may be put to dry.
- b) To provide some ventilation to all rooms so that moist air can escape
- c) to use the heating reasonably.

The following notes give advice on how you, the home owner, can prevent serious condensation in your home:

Reduce moisture content of room air

- a) Good ventilation of Kitchens when washing or drying clothes or cooking is essential. If there is an electric extractor fan use it when cooking or washing clothes, particularly whenever the windows show any signs of misting. Leave the fan on until the misting has cleared.
- b) If there is not an extractor fan, open a window but keep the door closed as much as possible.
- c) After bathing or showering keep the bathroom window open and shut the door for long enough to dry off the room.
- d) In other rooms, provide some ventilation. In old houses a lot of ventilation occurs through fireplaces, flues and draughty windows. In modern flats and houses sufficient ventilation does not occur unless a window or ventilator is open for a reasonable time each day and for nearly all the time a room is in use. Too much ventilation in cold weather is uncomfortable and wastes heat. All that is needed is a very slightly opened window or ventilator.

Where there is a choice open the upper part, such as a top hung window. About 10 mm opening will usually be sufficient.

e) Avoid the use of portable paraffin or flue less gas heaters as far as possible. Each litre of oil used produces the equivalent of about a litre of liquid water in the form of water vapour. If these heaters must be used make sure the room they are in is well ventilated.

f) If condensation occurs in a room which has a heating appliance with a flu, the heating installation should be checked as the condensation may have appeared because the appliance flue has become blocked.

g) Do not use unventilated airing cupboards for clothes drying.

h) If washing is put to dry, for example in a bathroom or kitchen, open a window or turn on the extractor fan enough to ventilate the room. Do not leave the door open or moist air will spread to other rooms where it may cause trouble.

Provide reasonable heating

a) Try to make sure all rooms are at least partially heated. Condensation most often occurs in unheated rooms.

b) To prevent condensation, the heat has to keep room surfaces reasonably warm. It takes a long time for a cold building structure to warm up so it is far better to have a small amount of heat for a long period of time, than a lot of heat for a short period of time.

c) Houses and flats left unoccupied and unheated during the day get very cold. Whenever possible, it is best to keep the heating on, even if left at a low level.

d) In houses, the rooms above a heated living room benefit to some extent from heat rising through the floor. In bungalows and in most flats this does not happen. Some rooms are especially cold because they have a lot of outside walls or loose heat through a roof as well as walls. Such rooms are most likely to have condensation and some heating is therefore necessary. Even in a well-insulated house and with reasonable ventilation it is likely to be necessary during cold weather to maintain all rooms at not less than 10°C in order to avoid condensation.

When living rooms are in use their temperature should be raised to about 20 °C

Mould Growth

Any sign of mould growth is an indication of the presence of moisture and if caused by condensation gives warning that heating, structural insulation or ventilation, or all three, may require improvement.

New Buildings

New buildings often take a long time before they are fully dried out. While this is happening they need extra heat and ventilation. At least during the first winter of use many houses and flats require more heat than they need in subsequent winters. Allowance should be made for this. It is important that wet construction should be free to dry out.

Effect of increased ventilation on fuel burning appliances

If an occupier proposes to fix an extractor fan or otherwise change the ventilation in a room containing a gas or solid fuel appliance, he should obtain advice from the installer of the appliance about the risks of toxic fumes.