

CONDENSATION DATASHEET

What causes condensation ?

Moisture is created all the time within a property through normal human activities; washing, bathing, drying of clothes, cooking and even simply by breathing.

The moisture created is absorbed into the air but the air is only able to retain a limited amount of moisture, dependent upon its temperature – the warmer the air, the more moisture it can hold and the colder the air the less it can hold.

If warm moist air is cooled, perhaps by coming into contact with cold surfaces in a room (single glazed windows or outside walls), it is forced to give up moisture which then appears as dampness on the cold surface and is called 'condensation'..

If condensation occurs frequently in the same place so that surfaces or contents are damp for lengthy periods, this will allow mould to grow on the surfaces and sometimes on the clothes, linen and leather ware of the occupants.

The problem normally occurs only during the winter months when windows tend to be kept closed,
this prevents hot moist air from leaving the building, which raises the humidity of the internal atmosphere.

How can condensation be reduced ?

Easily !! Just reduce the amount of moist air in the property...it really is as simple as that.

This is done in three ways...

1) Stop the moisture from happening in the first place.

Keep the bathroom door closed during and after bathing so that moist air (steam) does not move into the living areas. When cooking, keep any kitchen door closed and always use lids on pans to keep steam to a minimum.

Restricting the amount of moisture is the single most effective way of reducing condensation.

2) Allow the air to hold more moisture.

Warm air holds more moisture than cold air, so keep the air at a reasonable temperature so it can absorb moisture.

During winter months there may be a temptation to heat only those rooms actually occupied but this will encourage condensation in the unheated rooms. Most condensation occurs when steam, released by bathing and cooking, comes into contact with colder air or surfaces – you can help prevent this by keeping the air in all rooms reasonably warm.

A small domestic de-humidifier will remove much of the excess moisture from the air. The device is emptied perhaps once every one or two days and the water taken from the air is simply poured away.

3) **Move any moist air from inside the property to the outside.**

Occupants should allow the moist air inside the property to be replaced by dryer air from the outside. In other words, the property should be regularly ventilated.

In practice, this means leaving the windows open for a short period each day; ideally, windows at opposite ends of the property should be opened simultaneously in order to encourage a through flow of air through the property.

Don't be misled if it's raining outside; even in a downpour the air is much dryer outside than inside a steam-filled bathroom or kitchen...get rid of that moist air before it forms condensation on the walls, or your clothes!

Reduce condensation...it's easy !

...To help you further, here is some more information...

Department for Environment, Food and Rural Affairs Condensation Datasheet

Note: Condensation can look like rising damp. Because warm air rises, a wall is cooler at low level, which is where water may condense: a not uncommon (but expensive) mistake.

- 1) 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 discoloured and unpleasant as a result of mould growing on the surfaces.

- 2) **Why condensation occurs:** 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.
- 3) **When condensation occurs:** Condensation occurs usually in winter, because the building structure is cold and because windows are opened less and moist air cannot escape.
- 4) **Where condensation occurs:** Condensation which you can see occurs often for short periods in bathrooms and kitchens because of the steamy atmosphere, and quite frequently for long periods in unheated bedrooms, also sometimes in cupboards or 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 in roofs.
- 5) **What is important:** Three things are particularly important:
 - a. To prevent very moist air spreading to other rooms from kitchens and bathrooms or from where wet clothes may have been put to dry.
 - b. To provide some ventilation to all rooms so that moist air can escape.
 - c. To use the heating reasonably so as to keep the air reasonably warm.

The following notes give advice on how you can help to prevent serious condensation in your home.

- 6) **Reduce moisture content of room air.**
 - a. Good ventilation of kitchens when washing/drying clothes or cooking is essential. If there is an electric extractor fan, use it when cooking or washing clothes and particularly whenever the windows show any signs of misting. Leave the fan on until the misting is cleared.
 - b. If there is not an extractor, open kitchen windows but keep the door closed as much as possible.
 - c. After bathing, 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 fireplace flues and draughty windows. In modern flats and houses, particularly those with PVCu windows, 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 slightly opened window or ventilator. Where there is a choice, open the upper part, such as a top-hung window. About a 10mm opening will usually be sufficient.

- e. Avoid the use of portable paraffin or flueless gas heaters. 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 that the room they are in is kept well ventilated.
- f. If condensation occurs in a room that has gas, oil or solid fuel heating appliances **with a flue**, the heating installation should be checked immediately as the condensation may have appeared because the appliance flue has become blocked...this can be very dangerous.
- g. Do not use unventilated airing cupboards for drying clothes.
- h. If washing is put to dry, for example in a bathroom or kitchen, open a window or turn the extractor fan on enough to ventilate the room. Do not leave the door open or moist air will spread to other room where it may cause condensation.

7) **Provide reasonable heating:**

- a. Try to make sure that all rooms are at least partially heated. Condensation most often occurs in unheated bedrooms and on cold outside walls, particularly on corners.

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

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