

# “CONDENSATION”



## **What is condensation?**

Condensation is caused when moisture held in warmer air meets a cold surface like a window or wall and condenses into water droplets. If this happens regularly, mould may start to grow. This usually appears on cold outside walls and surfaces and in areas where the air does not circulate well.

## **Why do you get condensation?**

The air we breathe can hold varying amounts of water vapour, depending on its temperature. If warm moist air is cooled by a cold surface, such as a window or external wall, it is then no longer able to hold the same amount of water vapour. The airborne moisture turns into droplets of water and collects on the cold surface. This is called condensation.

## **When is it a problem?**

Every home gets condensation at some time – usually when lots of moisture and steam are being produced – for example, at bath times, when a main meal is being cooked or when clothes are being washed. It is quite normal to find your bedroom windows misted up in the morning after a cold night.

## How Much moisture can be produced in your home in a day?

Two people active for one day		3 pints
Cooking and boiling a kettle		6 pints
Having a bath or shower		2 pints
Washing clothes		1 pint
Drying clothes		9 pints
Using a paraffin or bottled gas heater		3 pints
<b>Total amount of moisture produced in your home in one day</b>		<b>24 pints</b>

## Are you sure its condensation?

Condensation is surface dampness. It mainly occurs on cold walls indoors, particularly in corners or behind furniture where the air is static, and other cold surfaces such as tiles, around window openings, and cold water supply pipes and under sinks and basins.

Condensation is usually at its worst during the winter. It often results in black mould growing on walls and other surfaces.



## What is the difference between Dampness and Condensation?

Dampness occurs when a fault in the basic structure of the building lets in water from the outside. There are basically two types of damp:

- **Penetrating damp**

Penetrating damp occurs if water is coming in through the walls or roof, for example, under a loose roof tile or through cracks on the outside wall of the house. The usual signs are pale brown or straw coloured staining, a musty smell and wet patches on the walls or ceilings after rain.



- **Rising damp**

Rising damp occurs if there is a problem with the damp proof course which is a barrier built into floors and walls to stop moisture rising through the house from the ground. The usual evidence of rising damp is a 'tide mark' on the walls which shows how high the dampness has risen. There can also be a musty smell. It is prudent to carry out a Calcium Carbide Test (often known as a Speedy' test) to confirm rising damp is the definite cause, as it is possible for high levels of condensation to form at the base of walls, giving the appearance of rising damp.



### **What can you do about condensation?**

The four main ways to deal with condensation are:

- Produce less water vapour or steam in your home.
- Don't let the water vapour and steam that is produced spread all round the house.
- Keep your home ventilated, but don't over ventilate. Keep your home warm.

To deal with a condensation problem effectively you will need to do all four.

#### **1. Produce less water vapour.**



**Cooking:**

The amount of condensation depends on how much water vapour is in the air. Many everyday activities add to the water vapour level in your home, but their effect can be kept to a minimum.



- Cover pans when you are cooking. Don't leave kettles and pans boiling longer than necessary.

### **Drying clothes**

- Hang washing outside to dry whenever you can.
- If you have a tumble dryer make sure its selfcondensing\* or vented to the outside. Follow the manufacturers instructions regarding room ventilation, even if you have a 'condenser' type dryer - these still need correct ventilation to work effectively.



\*Condensing dryers vary considerably in their efficiency and in some cases can exacerbate the problem of condensation

### **Bathing**

Keep the bathroom door shut and the room well heated and ventilated.



### **Paraffin and some types of gas heaters.**

- Avoid using these type of heaters – they are one of the main causes of major condensation problems.
- One gallon of water is produced by one gallon of gas or paraffin burning.

Paraffin heaters, portable bottled gas heaters and fixed flue less gas heaters all produce heat but at the same time they also put a lot of water vapour into the air. Paraffin and bottled gas heater can also be dangerous and very expensive to run. They can cost as much as, or even more than, heating using peak rate electricity.

## **2. Don't let it spread**

### **Confine wet air to just a few rooms.**

- Your bathroom and kitchen are 'wet rooms' = keep these doors shut so that the wet air can't spread to the rest of the home.

- Especially when you are washing, cooking or taking a shower or bath, keep the doors shut.
- At the same time make sure your bathroom or kitchen are well ventilated so the water can escape outside.
- This is even more important if some rooms are very cold.

### **3. Keep your home ventilated**

#### **Let wet air out**

- The best way to remove water vapour is by providing adequate ventilation. Nobody likes drafts, but some ventilation is vital.
- Keep a small window ajar or trickle ventilator open, in each occupied room, but make sure your home is still secure. Many types of modern windows have a lockable 'night vent' position built in to the latch mechanism.
- Open the windows to let the water vapour out, especially when your doing the washing or cooking.
- Windows near the ceiling are more effective at letting the water vapour out than ones lower down.

### **4. Keep your home warm**

Heating your home can help solve a condensation problem, but only if its used in addition to the other three steps already described. However, first of all it needs to be dry heat, such as central heating or gas fires. Not paraffin or portable heaters.



Secondly, simply heating your home will tend to warm the air. Warmer air holds more water vapour, so this means there will be more to condense out onto cold surfaces. This is more likely to be a problem if you only put the heating on for an hour in the morning and an hour at night. In this case the air is warmed, and the fabric itself stays cold, so there is more chance of warm moist air being in contact with cold surfaces.

The best approach to heating in order to reduce condensation, assuming you have taken the other three steps is to heat your home at a low level for a long time. Keep the heating on, but set it to provide the minimum of background heating. This will warm the whole building and keep it warm, so there are no cold surfaces.

#### **Dealing with mould growth.**

The best way of tackling mould growth is to reduce condensation levels and prevent it from growing in the first place. Dampness from condensation often causes the growth of black

mould on walls and other cold surfaces such as tiles. Mould and mildew can also grow on furnishings, curtains and even clothes in wardrobes. It may first appear in corners or behind wardrobes, but it can spread across entire walls. Mould on washable surfaces is best dealt with by wiping down with a proprietary mould treatment or a weak bleach solution.. It can be washed out of fabrics, but may leave stains and spoil colours

### **What else can I do?**

#### **Install a humidistat extractor fan.**

Humidistat fans should be sited in kitchens and bathrooms and will automatically operate at a pre-set humidity level to assist with the required air changes. They help to remove the moisture at source and are useful where cross ventilation via open windows or trickle ventilation has not fully eradicated the problem.

#### **What about de humidifiers?**

De-humidifiers may cost approximately £200-£300 to buy and must be emptied every day. They are useful for drying damp buildings out, for example after leak damage, or for specific rooms. De-humidifiers are no substitute for the vital, no-cost measures of reducing the amount of water vapour put into the air and keeping rooms well ventilated.