

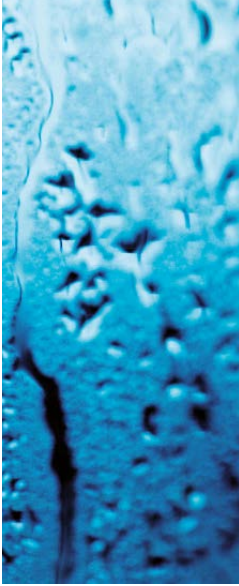


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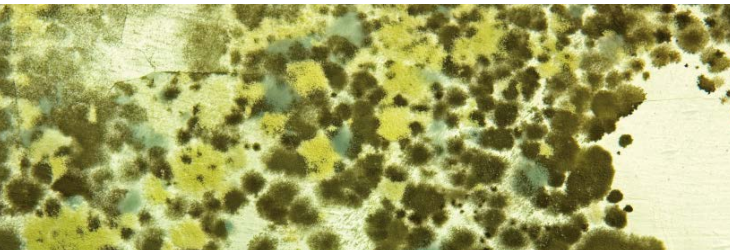
**HOW TO PREVENT
CONDENSATION
MOULD
AND DAMP
IN YOUR HOME**



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This booklet aims to guide you through the practical ways to reduce condensation and dampness within your property

Condensation is found where water vapour in the air inside the house condenses on a cold surface. It shows itself as mist or water droplets on windows, mirrors, glasses, tiling, and toilet cisterns.

A wall can have such a cold surface that it attracts moisture to it, this can happen under the following conditions:

- The wall may only be a 4 inch brick wall referred to as single skin, as it is only 1 brick width thick. This is sometimes found in older properties where the old outside toilet or coal house has been incorporated into the main house.
- Walls on rear extensions are often more exposed, hence colder, so are at higher risk
- The room may be insufficiently heated or not heated at all
- The property is subject to an over production of moisture, and is not adequately ventilated
- The wall may be north facing and not benefit from the warmth of the sun
- The property may have a guttering or pipe leak making some part of the wall colder and wetter.

Water Vapour

(The condensate)

Water vapour is created by everyday living and activities in the home such as breathing, perspiring, washing, bathing, cooking, drying clothes and burning fuel. The more people that live in the house and the more of these activities are taking place, the more likely you are to have condensation.

The average family (2 Adults and 2 children) produce in excess of 20 pints of moisture everyday, some of the ways you can reduce this are:

- Keep lids on saucepans when cooking, ensuring the door to the kitchen is closed.
- Always use the cooker hood or other extractor if fitted. If these are not available, partially open a window for ventilation. Also check that the cooker hood extracts the air to the outside through a vent in the outside wall. Some extractors are filters and only recycle the air.

A photograph of laundry, including white and pink items, hanging on a clothesline against a clear blue sky. The items are slightly out of focus, emphasizing the text overlay.

How to prevent condensation, damp and mould

- Dry clothes outside or make sure your tumble dryer is properly vented through a hose of some kind that pipes the warm moist air outside. Remember that if you simply hang a hose out of an open window the moist air may blow back into the room and having the window open too long may also be over cooling the room. Drying clothes indoors can more than double the amount of moisture in the property within a very short period of time, avoid it at all costs!
- When having a bath run the cold water into the bath first followed by the hot to reduce the incidence of steam.
- Keep the bathroom door closed, and open the window partially for at least an hour or until the beads of moisture have dissipated from the windows. If an extractor fan is fitted, close the window and keep the fan running for about an hour.
- Do not use liquid paraffin or bottled gas room heaters. These produce 8 pints of water vapour for every gallon of fuel burned.

Water Vapour

Moist air needs ventilation to escape. As the air circulates through the house it is drawn outside through the windows, doors, vents, extractor fans, airbricks, and chimneys and is replaced by fresh air.

If this exchange of air is poor or prevented, the air in the home becomes saturated and water vapour will condense on the nearest cold surface.

The following steps can be taken to allow fresh air to circulate around the home:

- As previously stated open windows in the bathroom after a bath or shower for at least 1 hour, or better still use an extractor fan with the window closed again for about an hour or until the moisture has disappeared.
- Extractor fans must be fit for purpose; a bathroom fan should have an extract rate of 80 litres per second and a kitchen 60 litres per second.
- Modern plastic windows usually allow you to secure them in a slightly open position with a locking catch. If not ventilate through the windows whenever you are at home.



- The worst time for condensation is through the night. Therefore, if you can maintain some ventilation, along with some heat output if possible, you will really minimise the problem and maybe even eliminate it completely.
- Consider having trickle vents fitted in the window frames.
- Consider extra air bricks in the external wall to allow additional under floor ventilation if you have suspended timber floors, but do not over do it, have no more than 3 – 4 air bricks of size 9" x 3" in any one large room area. If there are too many this will make the internal walls colder and increase condensation.
- Avoid over filling wardrobes, cupboards and chests of drawers as this will also allow air to stagnate.
- A dehumidifier is a good way of reducing the moisture levels in the property in the short term but is not a long term solution to the problem. These work best in well heated homes.
- Do not allow air to stagnate, make sure you open your curtains during the day, move beds and furniture at least 6" (150mm) away from the outside wall, leaving a gap for air to circulate. Ideally try to avoid butting furniture up against the outside walls at all.
- Provide heat to the affected rooms. In damp cupboards, an electric green house heater can provide enough warmth to prevent mould growth. A light being left on in the cupboard similarly can do the same, but make sure there is nothing flammable in the cupboard that may come into contact with the bulb.

It is essential that if you are experiencing high levels of condensation that you not only heat the property for a good length of time (2 - 4 hours minimum, even if you are not there) but you also ventilate to allow the warm air to help the moisture evaporate and travel out of the property.

Heating...

Heating – External Walls and the Dew Point

Heating is one of the key elements in reducing condensation within your property, warm air can hold far more moisture than cold air, so if your house is adequately heated, you are less likely to suffer from condensation.

Warm air cooling in the night will still result in condensation, especially during the winter months. Most of this moisture will evaporate if heating comes on in the morning and if windows are opened to ventilate the room.

If condensation is found on the external wall surfaces then it is important to understand why, and what measure can be taken to reduce or prevent it.

Why is this happening?

The walls act as a thermal or heat store, and absorb a certain level of heat, the amount of heat that is stored will depend on the density and weight of the fabric of the building materials, and the level and time period it has been heated for.

As the outside temperature drops, heat is lost from the inside to the outside.

If this heat is not replaced quickly enough, the walls will continue cooling down until they reach their 'dew point temperature' at this point you will see condensation begin to occur.

The more condensation that forms, the colder the wall becomes and in turn the more condensation occurs over again until something you do changes this cycle and stops it.

If you suffer from condensation you will probably notice some of the following:

- There may be moisture on the external walls
- Your clothes, bedding, curtains and house in general will feel cold and damp, and there will be a musty smell in the room. You may notice a fungal fur (mould) appearing on clothes in a wardrobe, this occurs particularly on organic material, such as leather shoes, handbags etc.
- It takes a long time before your heating begins to take effect, your walls stay cold to the touch and you will not feel as warm as you should, particularly if you spend most of the day in your home.
- Your fuel bills may increase substantially.

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Maintain a good level of heating within the property

- Ensure that the heating is warming the house evenly, especially the ground floor which is more prone to condensation damp problems.
- Run the heating for periods of at least 3 hours, if the condensation is chronic then try and leave the heating on constantly but at a temperature of at least 18oc, especially if you are at home all day.
- Do not put the heating on for short periods of time (one hour or less), this will actually ensure that the problem becomes worse. The air absorbs water vapour more quickly than the walls can warm up. When the heating is turned off, the air cools rapidly and condensation increases and cools the walls further.
- Put the heating on for 3 hours or more at a time, and set the timer to come on at around 4-5 am (when the air is at its coldest), and to go off an hour after you have left the house if applicable.
- During the day set the heating to come on at least an hour before you come home, and to go off at least an hour after you go to bed.
- Do not over-ventilate the property by leaving windows wide open all day during cold weather as your walls will lose all their stored heat.
- If you have not got a room thermostat or thermostatic radiator valves then consider getting them installed by a registered engineer.
- If your home is well insulated, try leaving the heating on 24 hours a day. This may prove to be no more expensive than the way you are currently using your heating. Every time you turn your heating on everything absorbs the heat; the carpets, the beds, the sofa, the clothes in your wardrobe and the fabric of the building. Once everything has warmed up, all the heating has to do is keep them and the internal air topped up. You should be able to reduce your settings on room and radiator thermostats. Remember you must still ventilate the property effectively, to get the balance correct.



Mould growth

Mould Growth

Mould growth occurs when mould spores found in the air around us germinate on contact with damp surfaces; the mould will show itself as black spots on your wall or window surface.

Products used to remove or prevent undesirable growths, such as mould on external and internal surfaces, require approval under the Control of Pesticides Regulations (COPR) as surface biocides.

Any product used must have the relevant approval under COPR and must be used in accordance with its approval conditions. Details of products approved under COPR can be found on the Health and Safety Executives (HSE) website at:

www.hse.gov.uk/biocides/copr/approvals.htm

There is some general guidance about using biocides/pesticides safely (which you should refer to before using any mould cleaning product) on the Health and Safety Executives (HSE) website at:

www.hse.gov.uk/biocides/using.htm

Ridgewater Energy will not be held responsible for any misuse of products used to prevent mould growth, and recommend the above guidance is followed in every case, and suggest people seek expert advice or professional help with this work whenever possible.

- Avoid vacuuming or brushing off mould when dry as this can cause the spores to become airborne, which can then be inhaled and cause respiratory problems.
- Always mop up any excess water from the windows, sills and frames.
- Dry clean any clothes that have been affected.
- Always follow manufacturers guidelines when using any product'.



Insulation

Insulation

Insulation is very important as it allows the house to warm up and stay warm for a greater period of time.

Loft Insulation

Up to 25% of heat in our homes can be lost through the roof, so check to make sure you have the latest standard of loft insulation, which is now 270mm or 10.5". Also make sure if you have felt behind the tiles, that you have adequate ventilation for the loft space to prevent condensation. There are various types of loft ventilation systems such as tile vents, soffit vents, air bricks in gable end walls, and easy vents that separate the layers of felt to allow fresh air to circulate around the loft.

Note: Soffit vents alone do not always provide sufficient ventilation.

Cavity Wall Insulation

Cavity wall insulation is usually the most effective measure to reduce condensation issues in most properties. This is simply because there is more outside wall area than loft area. Up to 35% of a homes heat loss can occur through the walls, and as it is the area that tends to be affected by condensation the most, and requires more remedial action such as redecoration.

Checks are made by professional installers to make sure the walls are suitable for insulation, the work comes with a 25 year guarantee, and there are many grants available to help with the cost of insulation measures.

Draught proofing

Ensuring draughts are eliminated can also help keep the home warm, unwanted draughts can account for up to 15% of the heat from the home.

Double and Triple glazing cuts down most of the draughts, if you are not double glazed then you can use draught proofing strips or seals on doors, letter boxes, and windows.

You can also seal gaps under the skirting boards using newspaper and sealant, and use flexible sealant in between your floor boards.

Insulating your floor from under the floor boards with mineral fibre, or insulation boards can further insulate and reduce draughts, but ask for specialist advice before doing this.

Please note insulation will not work on it's own you will still need to adequately heat and ventilate the property.

Other causes

Penetration Damp

- Rain penetration: rain can seep through the roof where a tile is damaged, or find a way through the walls if the pointing is bad, or where there are cracks in the wall.
- Leaky drainpipes – if guttering is damaged or blocked then water can saturate walls, doors etc.
- Plumbing defects – damp can appear where minor water leaks occur, usually easy to spot under the sink, basin, radiator, boiler or bath. Sometimes the leak can be concealed under the floor or inside the fabric of the building.

Rising Damp

- This is found exclusively on ground floor walls and is usually due to a faulty damp proof course or the property having no damp proof course at all.

These two types of damp can usually be identified as they often leave a tidemark or watermark on walls, floors and ceilings.

Multi Occupied Properties/ Student Lettings

Condensation issues are far more prevalent in shared houses, with several people all breathing, showering, bathing, cooking and all too often drying clothes indoors and not ventilating the property sufficiently, the issues are very evident.

Typically students have come from a well heated and well insulated property that was looked after by someone else, and did not have to think about condensation, hence should find this guide particularly informative.

For further advice about dealing with condensation, and on heating and insulation and the grants and assistance available please contact Ridgewater Energy on:

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Visit our website:

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Ridgewater Energy has been advising householders and businesses on saving energy for over 20 years.

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