

DAMPNESS AND CONDENSATION



Introduction

If you are the occupier of a dwelling and have reason to be bothered by dampness then you owe it to yourself and your family to explore the causes of this dampness and put a stop to it, or at least reduce its impact on your health and enjoyment of your property.

This leaflet explains how you can distinguish between the different types of dampness and the various methods of controlling it.

TYPES OF DAMPNESS

There are four main types of dampness that could affect your home. It is essential that you take the time to identify the true cause of dampness in your property so that you can diagnose the correct solution.

1. Rising Damp

This is caused by water from the ground rising into the home by penetrating or bypassing a defective damp proof course (DPC). The DPC is the line of black material, usually seen between two rows of bricks about 6 inches (150mm) above ground level. Rising damp will only affect basements and ground floor rooms, up to a height of 12 to 18 inches (300mm to 450mm). It will be seen all year round (usually as a 'tide mark' low down on the wall) but is more noticeable in winter. If left untreated it will lead to crumbling wall plaster in that area and lifting wallpaper.

N.B. *Black mould will rarely be seen on rising damp (and then only in the early stages) because this type of dampness carries with it ground salts which are poisonous to black mould.*

2. Penetrating Dampness

This type of dampness will only occur on external walls. It will only appear because of a defect outside the home, such as defective eaves gutters or down pipes, which permits water to pass from the outside to the inside. This type of dampness is far more noticeable following a period of rainfall. The affected area looks and feels damp to the touch.

N.B. *Black mould is rarely seen on penetrating dampness (and then only in the early stages) because the area is usually too wet and the dampness contains salts, picked up from the wall it has just passed through, which are poisonous to black mould.*

3. Defective Plumbing

Leaks from water and waste pipes, especially in bathrooms and kitchens, are relatively common. They can affect both internal and external walls and ceilings. The area looks and feels damp to the touch and remains damp whatever the weather conditions outside. A quick examination of the water (and waste) pipes serving the kitchen and bathroom will usually find the problem.



***N.B.** Black mould will rarely be seen on this type of dampness because the area is usually too wet and the chemicals in a waste water leak will be poisonous to mould.*

4. Condensation

This is by far the most common cause of dampness experienced by householders in the Borough, accounting for over 95% of all enquiries or complaints, concerning dampness, received by the Council. Condensation is caused by water moisture from inside the dwelling coming into contact with a colder surface, such as a window or wall. The resultant water drops (or condensation) may then soak into the wallpaper or paintwork or even plasterwork and attract black mould to grow on its surface.

Condensation mainly occurs during the colder months, whether it is rainy or dry outside, and is usually found in corners and north facing walls, on or near windows; also in areas of little air circulation such as behind wardrobes and beds, especially when they are pushed up against external walls.

***N.B.** Black mould is frequently seen on this type of dampness.*

HOW TO COMBAT DAMPNESS

1. Rising Damp

Once identified, and before calling upon any specialist for advice, it is well worth doing some preliminary investigations yourself. For instance, exterior pathways and soil levels should be at least 6 inches (150mm) below the black line of the DPC. Where soil has crept up to or even over this line it is essential that it be dug away. This is especially important if the soil supports dense vegetation. Similarly paths should not rise more than 6 inches below the DPC. In homes with wooden floors it is also important to spot airbricks and ensure they are clear of obstructions and debris.

If none of the above applies then it may be the case that your existing DPC has perished with age and a new one has to be inserted. Or, it could be that the DPC

being bridged by render on the outside (or plaster on the inside) running to ground level.

If you are an owner-occupier then it is probably best to call on the services of a Chartered Building Surveyor or recognised damp proofing specialist (preferably a member of The British Wood Preserving and Damp-proofing Association). They can usually diagnose the cause of the rising damp, suggest remedial action and guarantee the finished product.

If you are a rent-paying tenant, then alert your landlord or agent to the problem and request that it be remedied.

2. Penetrating Dampness

This type of dampness will only occur on external walls. Examine the exterior of your property in the area of the dampness, looking for broken eaves gutters, down pipes, missing tiles, poor chimney flashings or perished mortar or sealant around windows. More rarely, you may see areas of old perished brickwork and open jointed brickwork. Any of these defects could allow water to pass to the inside of your home.



If you are an owner-occupier then you should call on the services of a reputable contractor to repair the problem. Only attempt to repair the defect yourself if you are competent at DIY and can do the work in a safe manner.

If you are a rent-paying tenant, then alert your landlord or agent to the problem and request that it be remedied.

3. Defective Plumbing



Examine both the 'clean' and 'dirty' pipe work in your home for leaks, especially at joints and unions. If you find a leak either call on the services of a reputable plumber

or, if you are competent at DIY, repair it yourself. More rarely the dampness problem could be due to a blocked waste pipe, causing water to 'weep' from the joints. This is usually noticed when sinks, baths or WC's are slow to discharge their contents. Again, either clear the blockage yourself or call on the services of a reputable plumber or drain clearance specialist.

If you are a rent-paying tenant, then alert your landlord or agent to the problem and request that it be remedied.

N.B. *Leaks from defective plumbing are especially a problem in flats, because a leak from your flat may not affect you but could cause major damage to those below. Please be a good neighbour and repair leaks as soon as possible. Imagine how you would feel in the same position!*

4. Condensation and Associated Mould Growth

This is caused by an occupier's living and lifestyle. Cooking, washing, drying clothes indoors, even breathing, all produce water vapour which can only be seen when tiny drops of water (or condensation) appears on colder surfaces such as walls, windows and ceilings.

The 'amount' of condensation in a home depends upon how much water vapour is produced by the actions of its residents and how cold or warm the property is. Condensation is usually less apparent in the warmer months and/or where adequate central heating is used. The warmer the property, the more water vapour the atmosphere can hold before it condenses onto colder surfaces. Or, put another way, the higher the temperature, the higher the relative humidity (RH). As a general rule of thumb, a RH of over 40% is desirable for normal modes of living, but a RH of over 70% will lead to condensation problems.

Simply turning up the heating will not sort out the problem; this will only temporarily reduce condensation. Unless the amount of moisture is reduced, then condensation will result.

Condensation (together with associated mould growth) is a relatively new phenomenon, occurring as a result of modern living and lifestyles. For instance, a few years ago the only form of heating in a home was an open coal fire. This is an inefficient form of heating because only 25% of the energy produced went into heating the home while 75% goes up the chimney. Fossil fuel needs oxygen to burn, so open fires incidentally help to naturally ventilate the home and hence remove condensation. Nowadays few homes have open fires so we have to do the ventilating ourselves.

Mould spores are, like water vapour, invisible to the naked eye and always present in the atmosphere both inside and outside dwellings. They only become apparent when they land on a surface upon which they can exist, and then multiply. To exist and thrive; mould requires four things: food, moisture, a suitable temperature and oxygen. The food (starch) is usually obtained from the surface it lands upon, i.e. wallpaper or emulsion paint; moisture is obtained from condensation; a suitable temperature is supplied courtesy of the householder, and oxygen it gets from the air. Of these four

things, mould germination and growth is principally dependent upon the presence of moisture.

Usually the first indication of a problem is water vapour condensing on windows and other cold surfaces. The second indication is black mould patches growing on surfaces. Whether you are an owner-occupier or a rent-paying tenant, condensation and mould growth is a problem that occurs due to your living and lifestyle and is something that you can remedy yourself. Black mould is only an indication of the true problem, - condensation. In dealing with the causes of condensation you will automatically deal with the problem of mould. A six-step plan can help to reduce the amount of condensation, and thus mould growth, in your home.

TOP TIP FOR DEALING WITH MOULD AND MILDEW

Tea Tree oil is a natural antiseptic and disinfectant but it's also great for cleaning especially on mould or mildew. Try a dilute of 3-4 (three-four) drops of Tea Tree oil in 2 (two) litres of water (hot or cold). Soak mildewed items or spray on to trouble spots using a plant mister. Scrub, then rinse off. *(Please always ensure you carry out a test on small area of the fabric/material/surface beforehand).*

SIX-STEPS TO REDUCE CONDENSATION

A. Produce Less Moisture:

- i) Cover pans when cooking or, if you have one, use a microwave.
- ii) Dry clothes outdoors in warm weather.
- iii) Vent tumble driers to the outside.
- iv) Do not use paraffin or liquid petroleum ('bottled') gas heaters. They produce masses of water vapour and are very expensive to run!

B. Ventilate to Remove Moisture:

- i) Always ventilate, or open a window when the kitchen and/or bathroom are in use and close other internal doors so as to prevent moisture-laden air from spreading to other parts of the dwelling. Continue to ventilate for a time after a shower, a bath or cooking.



- ii) Ventilate cupboards, wardrobes and (with blocked up fireplaces) chimney flues.
- iii) Always open bedroom windows (for up to one hour) as soon as you arise, and throw back the sheets or duvets to air the bed and bedding.
- iv) Clear window cills of clutter that will impede window opening.

C. Wipe Away Excess Moisture:

- i) Always wipe the windows (and window cills if appropriate) of your home, every morning, to remove condensation. This is especially important in the bedroom; just opening the window is not good enough. Also, pull back the sheets or duvets to air the bed, which will also help to reduce house dust mite numbers (see below).



D. Insulate and Draught-proof:

- i) Insulate the loft up to a depth of 11 inches (275mm).
- ii) Consider cavity wall insulation.
- iii) Draught-proof windows and external doors.
- iv) Consider secondary glazing.
- v) Find out if you are eligible for grant aid assistance, for instance, if you are over 60 or on some form of income-related benefit.

E. Heat Your Home a Little More:

- i) If possible, keep low background heat on all day, even in the bedrooms, kitchen and bathroom. This is far more efficient than having the heating on in the morning, then again in the evening.

F. Removing Excess Moisture & Ventilating

It is absolutely vital to combine **C** with **B iii** above. Simply opening a window covered in condensate will not work. By removing condensate from the windows AND ventilating you are both removing water, and water vapour from your rooms. You will be allowing warm (but moist) air to escape to the outside and let in cool (but dry) air. It is cheaper to heat cool dry air than warm moist air, as well as being healthier. At first you may believe that you are allowing valuable warm air to escape but, the warm air is laden with moisture. Just imagine the difference between trying to dry your self with a warm but wet towel, as opposed to a cool but dry towel! Or, put another way, if you apply a hair drier to the condensate on a window, the water will evaporate and disappear. BUT effectively you have just used energy to evaporate that water into your home, and paid for the privilege. This is just a quicker demonstration of what happens each day in your home if you do not wipe away moisture from windows each morning. You are paying (via the central heating) to turn this water into vapour. This means that you are wasting money every day!

G. Above All Remember:

- a. Dealing with condensation is not easy. Most people see moisture (or more usually, black mould) and automatically assume it has come inside their home from outside; it hasn't!
- b. Only carrying out one or two of the above steps will not help your problem. You must do as many as possible every day, so that it becomes part of your living and lifestyle. You must help yourself.

Warmth versus Ventilation

It is very important to strike a balance between warmth and ventilation. Turning up the heating and opening windows is neither appropriate nor effective advice in almost all condensation cases. It is economically unsound and may even increase the likelihood of condensation occurring. Reducing the amount of surplus moisture in the home is the only solution.

Also, many people who have recently had double-glazing installed claim that they never had a problem with condensation and mould growth when they had their old draughty window frames. This may well be so because the old windows provided natural ventilation (or draughts!) due to their poor condition. So now the householders must supply this ventilation themselves by opening the windows.

By opening windows (in association with the other tips to reduce moisture) it may appear that you are losing 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! So this actually saves you money, as well as resulting in a healthier living environment.

Dealing with Mould Growth

Black mould growth on walls, ceilings, furnishings and even on clothes and toys can be depressing and expensive. To kill and remove the mould wipe down the affected areas using a fungicidal wash or diluted bleach (always use rubbers gloves and wear glasses). Dry clean mildewed clothes and shampoo carpets. Do not brush mould - use a vacuum cleaner. After treatment redecorate using a fungicidal paint and do not over paint or wallpaper on top of this. Follow the six steps listed above to reduce moisture production in the home. Remember, cleaning and removing areas of black mould is not the solution, reducing condensation is.

Asthma and the House Dust Mite

Black mould growth is often blamed, especially when it affects children, for asthma in the household. This *may* be the case, but by far the greatest trigger of asthma in the United Kingdom is the faeces of the house dust mite (responsible for up to 60% of cases) followed by smoking, then cats. In fact, the Building Research Establishment has estimated that up to 50% of the annual asthma deaths can be attributed to the house dust mite. These mites have also been associated with eczema, conjunctivitis, rhinitis and the increased prevalence of prolonged colds. All homes have house dust mites, the greater the numbers, then the greater the problem. Warm moist homes, especially those with fitted carpets, produce a near perfect living and breeding environment for the house dust mite.



Reducing condensation in the home not only limits mould growth it also reduces the numbers of house dust mites, when allied to an effective cleaning and airing programme. By following the six steps listed above, you will not only reduce the amount of moisture in your home, you'll also reduce black mould growth and cut the numbers of house dust mites, thereby killing three birds with one stone!

Finally

Some moisture in the air is vital to our well-being. About 40% relative humidity is the recommended household level but when the level reaches 70% then condensation is likely to be the result. By reducing the amount of condensation in your home you will reduce the amount of black mould growth and house dust mites, thereby improving your living environment and, reducing your heating costs.

And Remember!

Virtually every home suffers from condensation to some extent. The solution lies in your hands. You have the power to reduce the amount of condensation in your home, reduce black mould growth, and reduce the number of house dust mites, so making your home a more comfortable, warmer and healthier environment for you and your family. You have the power. Use it!