Four Million Homes

Knowledge and action for change in social housing

Webinar 01

Damp and Mould

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Introduction

This session includes covering the four main causes or damp and mould issues in homes:

- Incident related water ingress;
- Penetrating damp;
- Rising damp and;
- Condensation.

Incident Related Water Ingress

Water ingress is when water makes its way into a building and is usually bad news. Incident related ingress will cause damage based upon the amount of water that is entering.

So, a roof with one missing tile would cause minor damage that would build up over time and would be noticed particularly during heavy and sustained periods of rain; whereas a roof with a missing section of tiles would cause more significant damage and a roof with its entire roof removed during a heavy storm substantial damage.

The causes of incident related water ingress include:

- Roofs – missing or broken tiles or slates on pitched roofs but also blocked flat roof rainwater stackpipes and faulty flashing around chimneys;
- Blocked or faulty guttering;
- Walls – cracked render or damaged mortar, bridging to cavity walls or damp proof coursing and damaged or broken pipework;
- Windows – faulty flashing around frames;
- Flooding – from outside water build up or internal burst pipework; and
- Faulty plumbing – from properties above or from leaks within your home.

Penetrating Damp

Penetrating damp can cause a variety of problems in your home and there are a number of potential causes.

To avoid penetrating damp leading to potentially costly damage and to health problems for residents, it is important to get it sorted out as soon as the problem is noticed. Penetrating damp is when water infiltrates a buildings structure.

Some of the signs that your home may have penetrating damp include:

- Mould on walls and ceilings;
- Damp patches;
- A musty smell;
- Paint and/or plaster peeling and coming away;
- It being difficult to heat or keep stay warm;
- Walls feeling very cold to touch;
- Woodworm; which likes wood that has been exposed to damp; and
- Dry and/or wet rot.

The causes of penetrating damp include:

- Minor leaks in pipework or plumbing around the building;
- Badly maintained, broken or full/dirty guttering;
- Damaged mortar;
- Missing or faulty damp proof coursing;
- Faulty or aged window flashing;
- Blocked air bricks;
- Missing or inadequate waterproofing in the wall cavity; and
- Wall and brickwork damage caused by age or frost damage among other things.

Penetrating damp through walls is relatively common as bricks can be prone to water permeation. Driving rain can lead to water being absorbed by bricks and eventual penetration.

Problems can also be caused by incorrectly installed cavity wall ties or corrosion of metal ties and building faults including serious structural issues. Remedial works such as cladding, insultation and re-rendering can also make matters worse if badly carried out.

Rising Damp

Rising damp is often cited as a problem in buildings although in truth it is a relatively rare form of damp that affects the walls of buildings. It occurs when moisture from the ground travels up through walls by capillary action. This means that ground water is being effectively sucked up through tiny tubes in bricks.

The ground water often contains salts that also travel up; these salts are deposited on the wall when the water evaporates. There are two main types of salt - sulphates which result in crusty white patches and invisible hygroscopic salts known as nitrates and chlorides. The hygroscopic salts continue to draw moisture and therefore must be treated.

Rising damp is usually first apparent by the damage it causes to the internal walls. Plaster and paint can deteriorate and wallpaper tends to loosen. A visible stain or tide mark often appears on the wall at the point where the ground water has reached. You may also see salts appearing on the internal surface. Externally, mortar may crumble and white salt stains may appear on the walls.

Most buildings have some form of barrier at low level to prevent water rising; this is called a Damp Proof Course or DPC. These are made of non-absorbent, water-resistant materials such as slate, bitumen and plastic.

A DPC can remain intact but be bridged; this is where water is able to travel past the DPC because of a construction fault such as:

- Debris in wall cavities or subfloor voids;
- Internal or external renders or plasters overlapping the DPC;
- External ground levels being above the DPC;
- Solid floors; and
- Intersecting structures and abutting garden walls.

Rising damp is often confused with damp caused by condensation and this is a common cause of misdiagnosis.

The Code of Practice for the Investigation and Control of Dampness in Buildings states: *'One of the most reliable ways that may be used to differentiate between dampness due to condensate and due to rising damp is to compare moisture in the contents of samples of masonry, or preferably mortar, from within the depth of the wall and near the inner surface of the wall; samples from within the wall will not be damp if surface condensation is the sole cause.'*

Condensation

Condensation is the most common and easiest damp problem to fix and often does not need professional help. Condensation is caused when humid air meets cold surfaces like walls and windows. As the temperature falls, the amount of moisture that the air can hold falls and tiny drops of water form on the surface.

The air in your home is naturally moist, but the amount of moisture is increased by the release of water vapour from cooking, bathing, showering and even breathing.

If condensation is allowed to sit on walls for long periods of time, it can penetrate the outer layers of your walls and seep into clothing and furniture where it becomes a longer-term problem, causing mould to grow.

Better ventilation helps reduce condensation problems. Options include:

- Opening windows when you are at home;
- Installing air bricks (made with small holes) into outside walls;
- Installing air vents through internal walls or sealed chimneys to allow airflow through the house;
- Fitting roof ventilation tiles and/or ventilated soffits (under the roof and guttering) to allow air through the loft; and
- Adding window vents to the tops of window frames.

In addition to ventilation, removal of moisture from your home will also help.

Your bathrooms and kitchen are responsible for most of the moisture in your home. Extractor fans in these rooms should be fitted and in the kitchen, extraction hoods which send air outside through ducting, are generally most effective at removing steam and moisture. If these are not effective, then dehumidifiers are good for drawing moisture out of the air.

For more serious condensation problems, there are bigger systems available that can improve ventilation such as Positive Input Ventilation Systems which control and filter the air that is drawn into the building to replace the humid air that is removed by extractor fans.

Sudden changes in air temperature can exacerbate a condensation problem, as water evaporates and condenses each time your central heating switches on and off. You may find that having your heating on a constant low heat helps but this can be a costly option.

Finally always try to limit the amount of condensation produced in your home. Try to dry clothes outside rather than on radiators on sunny days, if you don't have an extractor fan, open windows when cooking, washing up or showering and remove condensation that does appear with sponges and towels.