

Mould and condensation.

There is an obligation on landlords to provide accommodation which is safe for the occupants in every way—from gas and electrical equipment safety to a whole range of other health hazards.

The layperson, including lawyers as non-experts in Damp and Condensation Problems, often fail to understand that condensation, and problems flowing from this condition, are often caused, not by the state of the building itself, but by the lifestyle and actions of the occupants in the building. In other words, sometimes conditions created by the tenants are put at the landlord's door when it comes to a condensation problem.

Major Causes of Dampness and Condensation

(1) Ingress of water— Leaks from sinks, baths and shower and their related piping where water may seep under floorboards or get in unseen places like behind built-in cupboards etc.

(2) Penetrating & Rising Damp - usually caused by non-existent or defective damp proof courses, blocked external drains or water pooling near the house foundations.

(3) Condensation. This occurs where moist warm air comes into contact with colder dryer air or a surface, which is at a lower temperature. Air contains water vapour in varying quantities; its capacity to do so is related to its temperature - warm air holds more moisture than cold air. When moist air comes into contact with either colder air or a colder surface, the air is unable to retain the same amount of moisture and the water is released to form condensation in the air or on the surface.

Condensation is generally noticeable where it forms on non-absorbent surfaces (i.e. windows, windowsills, mirrors or tiles) but it can form on any surface and it may not be noticed until mould growth or rotting of material occurs.

Conditions for Condensation

In these islands, condensation in houses is mainly a winter problem, particularly where warm moist air is generated in areas like kitchens and bathrooms and then penetrates to colder parts of a building.

The moisture in the air comes from a number of sources within the house. Water vapour is produced in relatively large quantities from normal day-to-day activities - a single person puts over 2 kg of water into the air every day (without taking into account any heating) - i.e.

- breathing (asleep) 0.3 kg
- breathing (awake) 0.85 kg
- cooking 0.6 kg
- personal washing 0.2 kg
- washing and drying clothes 1.1 kg
- heating - especially paraffin and flue-less gas heaters.

For every litre of paraffin burnt, over one litre of moisture vaporises into the air.

Every carbon fuel produces some amount of water from combustion. (1 kg of water equates to about 1 litre) - moisture can also be drawn from the structure of the building into the internal air, from below the floor or through the walls/ceilings.

Houses have become effectively sealed boxes, keeping in any moisture produced within the house and providing ideal conditions for condensation to occur.

Ventilation is only effective if it is consistent throughout the whole envelope of the house. Condensation is encouraged by poor air circulation where stagnant air pockets form (behind furniture and in cupboards) and the first evidence is often the appearance of mould growth and a

musty smell on clothes in wardrobes. The warm moist air rises to the highest points in the building, forming condensation in those areas, which are often coldest, including bedrooms, wardrobes and upstairs bathrooms and toilets etc.

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Buildings may lack or have insufficient airbricks to allow adequate under floor or attic ventilation, which is vital to prevent mould growth and timber rot problems. Keeping the moist air in the house through effective draft proofing aggravates the effect of moisture generation. It is theoretically possible to avoid condensation altogether by adequately venting moist air from the room in which it is generated. In certain areas of a house (such as bathrooms and kitchens) the warm air contains a lot of moisture; if that air then spreads to cooler parts of the house it condenses on any colder surface.

Up until the middle/late part of the twentieth century most houses had high natural ventilation, as the level of home insulation was low, draft proofing was non-existent and open fireplaces and chimneys allowed air circulation.

As Energy Conservation became necessary, natural ventilation was greatly reduced by the introduction of double glazing, draught excluders, fitted carpets (which prevent air movement up through suspended wooden floors) and, with the introduction of central heating, the removal of open fireplaces.

The modern life style and particularly that of tenants, means that many houses remain unoccupied and unheated throughout the greater part of the day, allowing the fabric of the building to cool right down.

Cold walls and masonry hold more moisture which adds to the cooling effect, creating a vicious circle – cold walls, more moisture, colder, damper walls.

The moisture producing activities are then concentrated into a relatively short time period in the evenings, producing large amounts of steam when the building structure is still relatively cold.

Although there are other causes, by far the most common cause of mould growth in a rental property is condensation.

Very often, the main cause of condensation resulting in mould growth is the lifestyle of the occupants – the occupants themselves. The main reasons are:

1. Lack of adequate heating in an attempt to economise or because the occupants are "out" all day.
2. Lack of proper ventilation in an attempt to keep the heat in the property.
3. Lack of venting of steam generating activities resulting in high levels of condensation
4. Lack of adequate ventilation in areas (rooms) used for drying clothes, sleeping, cooking etc.
5. Use of flue-less heaters (Super Ser type heaters, Paraffin Heaters)

Occupants see the results of condensation and mould growth and may suffer health issues in the process—mouldy clothes in wardrobes are usually the first sign – when landlords get an ear full!

However, occupants usually fail to appreciate that they may be part of the problem or indeed the whole of the problem. The landlord is the first to get the blame.

Keeping the temperature at a fairly constant higher level to make sure that masonry remains warm and dry preventing Interstitial Condensation.

This is where moisture is diffused deeply into the fabric of the building, usually after long-term lack of heating and condensation problems. The wallpaper, plaster, mortar, masonry and timbers gradually absorb more and more moisture.

A couple of questions for you:

- Is the accommodation adequately heated throughout the day? Ideally rooms need to be maintained at a good average temp (around 20% C).
- Are you producing excessive amounts of moisture / steam which are unvented?