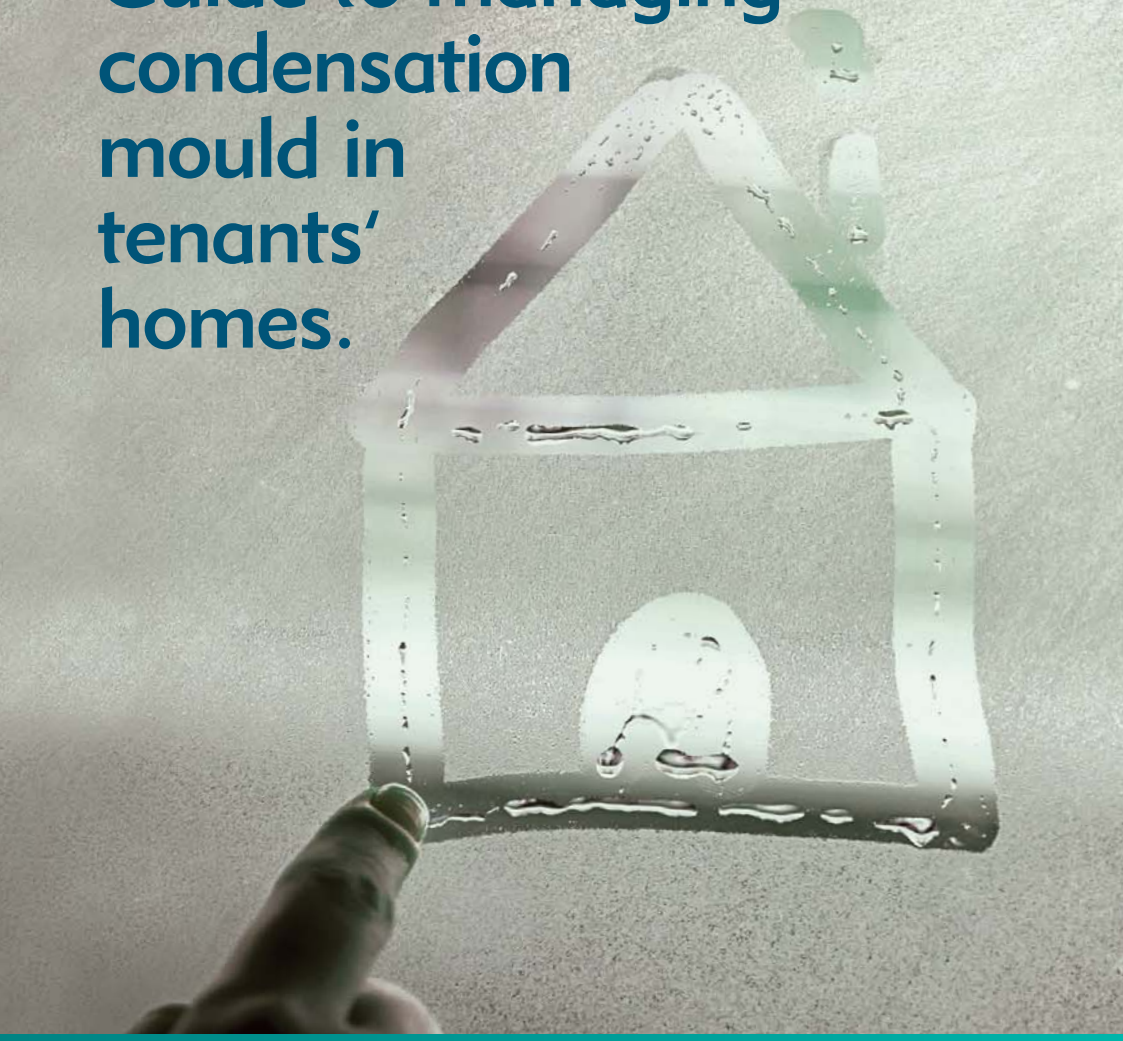
AMIP

Echelon Group

Guide to managing condensation mould in tenants' homes.



Understanding condensation mould

The Echelon Group has worked with Geoff Hunt, Chartered Building Surveyor and author of RICS Residential Building Defects, to produce this guide for housing providers on engaging with tenants to manage condensation mould.

Mould is one of the most pressing issues currently being faced by UK housing providers and landlords. Not only does it cause stress, anxiety, and in serious cases, health problems for tenants, but it is also a significant cause of expensive claims for disrepair.

The first step to managing the causes of mould in tenants' homes is to be able to explain in a simple way how it is created.

We often talk about 'damp and mould' and the two terms are regularly put together, even in official guidance but this is too simplistic. What we should actually be calling it is 'condensation mould'.

Condensation occurs when water, as a gas, changes to water, as a liquid, on a colder surface.

Mould only grows on clean water (condensation) and is the manifestation of when warm moist air comes into contact with a colder surface. There are a number of reasons why walls are colder or there is too much moisture in the air.

No matter where you are in the world, you can't get away from water vapour which is water as a gas held in the air. By far the biggest ocean is the atmosphere that we live in, and moisture is in everything, from our clothes to our hair. You can see condensation as clouds and in the morning dew.

Water can be in two states – a liquid and a gas. If water stays as a gas in the air, there will be no problems with condensation, but air can only keep hold of water as a gas if it is warm enough.

You can't cure condensation, but you can manage it. There are three main steps that you can take to reduce the risks of condensation, which can all be controlled by the occupant, with equipment supplied by the landlord:

- Raise the temperature of the air.
- Raise the temperature of the surface.
- Replace wet air with dry air.

All of the above bullet points need to be checked and balanced, to suit the tenant's occupancy patterns.

It is important to ensure the person at the centre of the control mechanism has the knowledge, ability, and resources to control and operate the systems sympathetically to their use of the house. This can be as simple as just quickly opening and closing the windows and adjusting the heating programme to prepare the room before it is used.

First steps

Use a set procedure – Calls reporting condensation mould need to be given a high priority, and your organisation needs to develop a reliable process for flagging the issue. It can occur for any number of reasons and will need careful assessment beyond the initial call.

Listen carefully to the occupant – People often complain about mould as if it is a defect, but it is actually the result of condensation, and you need to guide the caller and listen carefully to what they believe the potential causes could be. A system of triage questions can be developed to draw out the likely cause to help guide the condensation team.

Don't write a ticket to contractors stating "cure the mould" – Asking maintenance contractors to "cure mould" is not sufficient to resolve the problem. Operatives often apply generic applications, such as repainting walls and fitting new fans, rather than investigating potential operational causes, and without proper diagnosis, these generic reactive applications are fraught with potential failure. Even with all items repaired condensation can be created.

Don't assume it must be the occupant's fault – Condensation occurs for a number of reasons, and these can be different for each room in a house, so don't generalise a solution early on. Even though the occupant has control over the heating and venting system, they might not know how to operate heating, windows and fans in a co-ordinated way. Problems can arise when misinformation is given too early, causing the occupant to try a different approach, with no success. This generates an assumption in their mind that there must be something wrong with the house and they can become entrenched in this belief.

Don't order new double glazing, cavity wall fill or a new heating system to "cure" condensation – Adding new items to the fabric of a building, without establishing the causes of condensation, is a lost cause. Condensation will happen anywhere there is sufficient moisture in the air and a relatively lower air or surface temperature. By way of example, It is often found that when better thermal insulation is added people simply turn the heating off earlier, resulting in the same internal temperatures as before, creating the same levels of condensate.

Engaging with tenants

While it is right not to blame tenants for mould problems, you can't remove them from the equation. In the UK, domestic heating and ventilation systems put people at the centre of the control mechanism. Unfortunately, by default, humans have very bad sensors when it comes to responding to changing temperatures, and we generally under heat and over ventilate.

Supporting tenants to understand how to get the best out of their heating systems and when to ventilate, is key to managing condensation mould. However, there isn't a one-size-fits-all approach.

Don't tell tenants it must be their lifestyle choices. This is the most common early conclusion arrived at and can result in little or no action by the occupants, usually escalating to a worsening situation. It is important to collect good, impartial evidence to pass on to an experienced team, who can set out what further evidence is required. It is more accurate to define it as occupational patterns as this is reflective of the occupancy flow rates of the house during a given day and not the particular way in which people choose to use it.

In order to do this, housing providers need to profile tenants, analyse the environment that they live in, and make sure that their triage is accurate. As a landlord, you not only need to understand who lives in the house and their occupancy pattern but also, what systems are in place, the tenants understanding of how to use the systems and why they may be resistant to running them, for example cost and noise. Using a data logger can help you to find out what is going wrong and give you information on the way that the heating and ventilation is being managed and how best to advise balancing it cost effectively. Once you know how the heating and ventilation relate in a particular house, you will be able to advise occupants on when to turn the heating on and off etc and educate them how to use programmers effectively.

Early misinformation given to occupants is one of the main causes of escalation, and active engagement with tenants is key to managing condensation mould, especially with growing concerns over rising energy costs and fuel poverty.

It is essential to make sure that everyone within your organisation, from call handlers to tradespeople, is giving consistent advice at the right time, managed by your organisation's lead on condensation mould. Ask the occupant what they have done to try to resolve the problem and what, if anything, they think would put it right.

Optimum temperature

Heat is key to managing condensation mould, and the temperature within a home should always sit between 21 degrees in the day and 16 at night. The best way to run heating and to maintain that optimum temperature, is by using a thermostat and the programmer. To avoid major condensation problems the temperature should not drop below 14 degrees.

However, not all systems have a thermostat, so in these instances you need to be working with tenants, to ensure that they use their programmers to bring their homes up to the right temperature, at

the right time. Providing a simple digital thermometer can help the occupant to know when these parameters are not being met.

The trick is to make sure that the house is ready for when the occupants become active. So, first thing in the morning, or when people are coming home from work, school etc.

This will vary from household to household, but tenants should be programming the heating to come on about an hour before everybody gets out of bed and to go off as they get up – waiting until you are getting up to switch on the heating manually is too late.

Bringing in dry air

The quickest and easiest way to bring in dry air, is through opening and shutting windows. Geoff advises opening a window, counting to five, and then closing it immediately. This is enough to reset the room as water as a gas is always looking to get out of the house as fast as it can. It is also important to assure the occupant that the advice is given not to let heat out and cold in. There is no waste of heat. A good rule of thumb is to tell occupants that if they get cold while opening the window then that is too long. The object is not to "air" the house for hours at a time. That is only for the summer.

The golden rule is to do this in each room before you do any activity such as having a bath or shower or cooking. It should also be done as you get up in the morning, to allow any moisture that has built up in the house overnight to dissipate.

Wiping down visible condensation from sills etc after a shower can help, as can closing the door, to prevent the warm wet air from escaping into the rest of the house.

Impact of drying clothing

Wet clothing accounts for one of the largest amounts of moisture generation in the home, as the moisture from the clothes will naturally move to the dryer air. Drying them on a radiator is the worst thing that you can do in terms of managing condensation mould, especially in a multi-occupancy building.

Unless it is raining heavily, it is always better to dry clothes outside but obviously this isn't an option for people who don't have access to an outside space.

If clothes must be dried inside, it is best to use a clothes airer and keep the radiator clear. Airers should be positioned in the bathroom, where possible, as it will be the best ventilated room. If the bathroom doesn't have a fan, open the window slightly (on the locked position) and close the door; this will contain the moisture in that area. For a small flat, a clothes airer that can straddle the bath and therefore not take up floor space, would be the best option. If there is no window to the bathroom kitchens can also be used as long as these are warmer, and have some background trickle ventilation and the door is kept shut. It may be necessary to keep the light on to keep the fan running if it is not activated by a humidity control.

The worst place to dry clothes in is the bedroom, as the heating is never in the right cycle, and we breathe out moisture during the night, which adds to the moisture from the clothes.

Fans

While fans can help in the management of condensation mould, heat control is always key and you can only move water as a gas usings fans, if dry air comes in to replace it.

You can't rely on fans in isolation, and if they are not used correctly, they won't have any reliable effect.

For example, if you're running a fan but not allowing any other air to come in, the fan will spin but nothing will happen, and the humidity won't change.

One of the biggest issues with fan systems is the ducting, and fans are often connected using flexi-hosing, which can get squashed or is too long. It can also create a lot of friction in the pipe which the fan cannot overcome and so no air moves through to the outside, leading to a raised risk of condensation build-ups inside.

In many instances, when operatives go out on site, they will think the fan system is working and tick it off their checklist, simply because they have pulled the cord and can hear the fan running, but they haven't checked the ducts. The presence of flexible hosing should raise a further investigation notice to have the fan draw checked. This usually results in the duct work being changed to solid ducting or the fan moving to a new location closer to an outside wall. Ordering a bigger fan is unlikely to resolve ducting problems.

Ventilation

In order to manage condensation mould, wet air in a property must be replaced with dry air. Air from outside is generally dryer but it needs to be brought into the home in the right quantity, so as to not lower the air temperature inside.

Small ventilators, like trickle ventilators, will help to bring dry air into a property, however it has to balance with heat input as the air needs to be warmed up. Mechanical ventilation is often used in isolation to cure condensation, but this also needs to be carefully assessed and not simply provided as the remedy. Slow, constant running fans help to keep a background baseline particularly if they have humidity control but be careful to ensure tenants know how they work as fans are often isolated in the belief they are expensive to run. Whether the fan pushes air into the house or pushes it out the idea is to get dryer air into the property and that needs small background vents. Again, the occupant needs to know the significance of how little background ventilation is actually needed.

Fuel poverty

At a time when many people are having to choose between eating and heating, persuading people to keep their heating on can be a challenge.

Housing providers are spending millions of pounds on insulation, ventilation, and damp proofing, in unsuccessful bids to solve the problem, but that money could perhaps be better spent on subsidies to help people with fuel costs, so that they can maintain the temperature in their home and therefore, prevent condensation mould growth.

It may seem like an unconventional solution, but it works. Regions don't come much colder than Siberia, yet condensation mould is not a problem in homes there, as heating costs are included in people's rent.

A co-ordinated plan

When faced with instances of condensation mould in a tenant's home, housing providers should put together all of the above and complete a full analysis of the property and profile the people within it. It isn't just about protocols and tick sheets.

Damp proofing and cavity wall insulation won't fix the issue of people turning off their heating, throwing open their windows in the morning and living at the same temperatures and humidity as before. Everything must be connected, with call handlers, technical staff and trade operatives giving out the same simple messages, from one expert source. Technical documents should reflect the language and messages being issued by the tenant services side of the organisation, and housing providers need to balance misconceptions and misunderstandings.

Ultimately, the sector needs to understand that we're not curing condensation mould, we're managing it, with the tenant.

10 things you need to know about condensation

- Moulds only grow on clean water i.e., condensation.
- If water stays as a gas in the air, there will be no problems with condensation.
- Air can only keep hold of water as a gas, if it is warm enough.
- The warmer the air is the larger the amounts of water as a gas it can hold.
- Water, as a gas, mixes with warm air to move around rooms in a house.
- Air is cooled in a house when it comes into contact with a cold surface, or mixes with cold air.
- We can only move water, as a gas, using fans and windows if dry air comes in to replace it.
- Air containing water, as a gas, naturally forces its way through the walls to the outside.
- There is fast condensation (showers and cooking) and slow condensation (heating set too cold for a long time).
- Early misinformation given to occupants is one of the main causes of escalation.

Membership of our AMIP best practice and networking club can provide you with the tools that you need to tackle the issue of condensation mould, through our disrepair improvement groups.

You can learn more about prevention and intervention through presentations from experts like Geoff, find out how other housing providers are tackling the issue, through data and collateral sharing, and work to create a harmonised sector-wide approach to tackling disrepair.

Email **amip@echelonip.co.uk** for more information.

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Geoffrey Hunt

Geoffrey Hunt is a Chartered Building Surveyor and Building Pathologist specialising in the history of construction and recurring defects. He mentors surveyors and managers engaged on residential and defects management tasks.

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