Chartered Institute of Environmental Health

Housing Ombudsman call for evidence: Investigation into damp and mould

CIEH submission

June 2021

About the Chartered Institute of Environmental Health (CIEH)

CIEH is the professional voice for environmental health representing over 7,000 members working in the public, private and third sectors, in 52 countries around the world. It ensures the highest standards of professional competence in its members, in the belief that through environmental health action people's health can be improved.

Environmental health has an important and unique contribution to make to improving public health and reducing health inequalities. CIEH campaigns to ensure that government policy addresses the needs of communities and business in achieving and maintaining improvements to health and health protection.

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1. What do you consider to be the main cause(s) of damp and mould?

We represent environmental health professionals working in a range of sectors and in a variety of specialisms. One of the main areas of focus for our members is housing, particularly private rented sector enforcement work within local authorities.

Our survey of environmental health professionals, in early 2019, revealed that damp and mould was the most common complaint from private rented sector tenants (26% of mentions). Along with ventilation, damp and mould is also an area that EH professionals felt generated lower scores using the Housing Health and Safety Rating System (HHSRS) resulting in less formal action being taken by local authorities.[1]

In December 2019, we published a guide to assist our members and other professionals on the enforcement of excess cold hazard in the home. This guidance contains lots of detailed and practical information on how to identify and remedy excess cold and damp and mould.[2] We use this guide to inform this submission to the call for evidence.

There are many potential causes of damp and mould in a dwelling and identifying the correct cause and solution is not always simple. Condensation, damp and mould growth occurs when the insulation, heating provision or ventilation of a building is not adequate for the level of moisture generated by the occupants. It is also a common area for disputes between landlords and tenants about which party is responsible for the occurrence of damp and mould. There is always a level of atmospheric moisture within a building, if it is in occupation. However, a building should be able to accommodate a normal level of occupation and a normal type of usage.

In terms of the building itself, there are several main causes of damp and mould:

- Penetrating damp – where the moisture is coming in through a leaking roof or cracked wall, from the outside
- Rising damp – where the dampness is coming from the floor. This can occur when there is no damp-proof course or when the soil level may have risen above the damp proof course
- Condensation dampness occurs when there is an imbalance between heating, insulation, ventilation and humidity (atmospheric moisture)

The relationship between these four factors is complex and although most competent housing professionals should be able to differentiate between and offer solutions for structural rising or penetrating dampness relatively easily, this is often not the case for condensation dampness. All four factors must be considered carefully before reaching conclusions on an appropriate solution. Because the factors are interdependent, modifications to one factor will change the performance of another. The most common mistake is to assume that a 'condensation problem' will be resolved simply by making adjustments to heating input, ventilation and atmospheric moisture input. This flawed approach also often causes conflict between tenants and their landlords as it serves to focus the 'blame' for condensation on tenants or their 'lifestyle', whereas a more considered approach would consider the adequacy and affordability of the heating system available to the tenant and the insulation performance of elements of the structure. The causes of condensation, damp and mould

[1] https://www.cieh.org/media/2683/hhsrs_scoping_review_cieh_submission_final_-_feb_2019.pdf
[2] https://www.cieh.org/media/3762/cieh-excess-cold-enforcement-guidance.pdf

should be investigated properly and remedied with appropriate solutions that do not put tenants at risk from potential intruders or of excess cold in the winter months. Whilst it is good practice to open windows regularly to ventilate an internal space, this is not an appropriate solution on its own.

Other important factors:

- The adequacy of insulation and whether the insulation is present across all parts of a building is important. The presence of 'cold bridges' in the building envelope – these are areas where the insulation level is inadequate compared to the rest of the building. Warm air holds more water as vapour than cold air. At 21°C air holds roughly twice as much water as air at 10°C. Any moisture-laden warm air that finds its way to any cold spot is likely to condense there. This can lead to the growth of mould in any area where there is a cold bridge.
- Heating provision is critical, as colder buildings suffer from more problems with damp and mould than those which are adequately heated.
- The level of ventilation required in dwellings is often overestimated and increasing ventilation alone may exacerbate condensation and mould growth by reducing internal temperatures. Greater consideration of controlled targeted ventilation is necessary, in wet areas such as kitchens and bathrooms where high levels of moisture generation are normal.

Levels of occupation of a property will also play a role, as each person produces moisture from breathing, washing, cleaning and other normal domestic activities.[3] An overcrowded property, particularly where the family has young children, is more likely to generate higher levels of moisture through normal household activities and would benefit from the installation of rapid mechanical ventilation in kitchens and bathrooms.

2. Are the root causes of damp and mould difficult to identify? And if so, why?

The root causes can be difficult to identify by lay people. A professional such as an environmental health practitioner, specialising in housing, and a building surveyor should be able to identify the likely cause of the damp.

Damp is strongly associated with mould growth and house dust mites. These have strong causal links with childhood asthma and respiratory problems that persist into adulthood, with serious educational, social and economic impacts upon individuals and families. Studies show that physical and chemical control measures for dust mites are ineffective, so the problem has to be tackled at source.[4]

In addition to the considerations of adequate heating, ventilation, levels of ventilation, level of occupation and the presence of rising or penetrating damp, there are also several more specific building types that may present more unique problems. These buildings are probably best referred to as having construction types, which can display 'inherent' deficiencies in thermal insulation.

Typically, buildings of prefabricated reinforced concrete (PRC) historically displayed design deficiencies comprising concrete components that are carried from the outside to the inner skin of the wall, such as ring beams and balcony projections in high rise or medium rise blocks of flats.

[3] See section on ventilation: https://www.cieh.org/media/3762/cieh-excess-cold-enforcement-guidance.pdf
[4] https://www.cieh.org/media/3762/cieh-excess-cold-enforcement-guidance.pdf

Dense concrete materials gain heat very slowly and this can act as a powerful thermal bridge. Air pockets in concrete will improve thermal efficiency. In some cases where it is unclear whether insulation would be more effective internally or externally, it may be worth considering whether the concrete component can be removed and replaced with a different design that does not act as a thermal bridge. However, it is likely that where problems associated with damp and mould are occurring due to the thermal bringing effect of structural concrete elements, it would be more cost-effective to 'envelope' the building, for example by using non-flammable cladding or creating an enclosed porch.

Older brick and stone walls can be thick enough to offer insulation comparable with cavity brickwork but the density of the material requires high levels of heat input to gain structural warmth and it is often useful to provide internal insulation.

Blocked-up window and door openings, later back additions, coal-shed and outside toilets that have been incorporated into the main property often have half-brick or single-brick thick walls with poor thermal performance. Any alterations or additions built without adequate insulation will also have poor thermal performance, such as poor loft conversions or extensions. These areas contribute significantly to excess cold, as they will be at or below the dew-point temperature during the heating season and will therefore be where condensation and mould accumulates.

Similarly, many older and vernacular style properties have stud walls, often slate or tile hung, or with render on lathes. Stripping the inside plasterwork and insulating between the studs will improve insulation, but the timber-framing will act as a thermal bridge, especially if the studs are not deep enough for a significant amount of insulation. In this case, additional insulation may also be required on the inside.

In areas of high exposure to wind and rain, such as elevated and coastal properties, problems with damp and mould can occur in more modern buildings with cavity walls. This occurs particularly where either there is mortar contamination of the wall ties, allowing water to travel from the outer to the inner skin, or where there are problems with cavity wall insulation.

Wall tie failure often shows up as a fairly regular pattern of damp patches on the inside, while insulation issues are more irregular – these can be where there are pockets of uninsulated wall (causing cold patches that encourage condensation) or where the insulation material is acting as a bridge for water to cross to the inner skin.

3. Are the root causes of damp and mould difficult to address? And if so, why?

The remedy will depend on the cause of the damp. There may be a need to address several causes at once as these can be interlinked or contributing factors.

In the case of penetrating damp, repairs will usually need to be made to the exterior or the building or fixing the cause of the leak. With rising damp, checks will need to be made as to whether there is a damp proof course and whether anything may be stopping it from working effectively. For example, plants and earth building up against the wall above the damp proof course.

For penetrating dampness caused by cavity bridging, these may involve more invasive investigation, such as removing bricks from the outer skin, or drilling holes to inspect the cavity.

Where cold bridges are present, the correct cause would need to be identified. For example, whether the existing insulation has dropped or slipped down inside the cavity or wood construction wall. Areas of a dwelling that suffer from cold bridging may fall outside of the areas normally considered for insulation. For example, where there are concrete parts of the structure such as lintels, window reveals, upper storey floor joists, balcony floors and some roof elements. These will need to be identified and insulated.

If the heating system is not able to heat the property to a safe healthy level, it may need to be upgraded or replaced. The affordability of any heating system relative to the occupant's ability to pay for energy should also be considered. In 2019, there were over 3 million households living in fuel poverty in England.[5] Underheating a property could result in low indoor air temperatures and dampness with inevitable implications for the health and wellbeing of the occupants.

The ideal ventilation system is controllable, quiet, responds to occupancy and extracts air from moisture production areas to outside during periods of high moisture generation and replaces it with a controllable amount of outdoor air flowing in via the other rooms. This would regulate the amount of air required to remove moisture at source, prevent its spread and ventilate the whole building with outdoor air in a controlled manner.

Controlled ventilation measures should be installed in wet areas such as kitchens and bathrooms, hen required. Quieter models of mechanical ventilation should be used so that occupants are encouraged to use these. Simple extract fans with a fixed overrun time are often noisy, so the occupants tend to switch the power off. Humidistat-controlled quieter ventilation helps tackle the problem at source. In smaller dwellings, such as flats lacking outside space, it may not be feasible for occupants to dry clothing outside, especially in winter months. Further difficulty can be caused in any dwelling where outside drying facilities are insecure (out of sight) or where there is a fear of crime and windows are insecure when partially open. A condensing dryer or dryer with fixed external venting could assist in reducing the amount of moisture released into the air from the drying of clothing. Trickle vents could be installed on any windows being replaced.

Occupants and their activities generate moisture. More occupants results in more moisture being released inside the dwelling creating a higher risk of damp and mould problems.

BS 5250: 1985 and BS5250: 2002 Codes of practice for control of condensation in buildings provide comprehensive technical guidance, including a formula at Appendix C, which permits calculations displaying the impact of adjustments to one or more of the four factors relevant to the formation of condensation. This enables remedial specifications to be accurately drafted. Although the document is no longer current, it remains a valuable source of guidance.

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5 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/966509/Annual_Fuel_Poverty_Statistics_LILEE_Report_2021__2019_data_.pdf

4. While damp and mould issues are being looked into, what support is offered to residents to ensure they are able to live in a hygienic environment?

In the private rented sector, the severity of the problem will determine what course of action is taken by the environmental health teams. In the worst cases, where there is an immediate risk to health of the occupiers, especially if the damp is accompanied by other serious hazards, the property may be prohibited from being occupied until the condition is improved. In less serious cases, local authorities will engage with the landlord either formally or informally to request that works are carried out. Action tends to be taken on excess cold in many cases involving damp and mould as the HHSRS assessment system will score this hazard as having a more significant impact on health. As a result, the hazard will be more likely to be 'actionable' by the local authority than damp and mould identified on its own.

Impartial advice, without blame, plays a big role in the support tenants require to resolve dampness and mould problems. Many people do not understand how condensation forms, and even where resolution lies with the landlord, some simple education can often really help them take better control of the issue, even if it is just about feeling more in control, which can mitigate the mental health impacts of living with damp and mould. Proper investigation of the issues can also help, including identifying those in fuel poverty and signposting them appropriately.

5. Has a particular damp and mould situation led to significant changes in the way in which a landlord operates? If so, please provide details.

No comment.