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Condensation, Damp, and Mould

Quick guide

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Contents

Summary

This quick guide aims to address some common misconceptions in domestic retrofit regarding condensation, damp, and mould. The document has been designed to help local authority officers and registered providers advise residents about best practices in this field.

What is condensation, damp, and mould?

Condensation

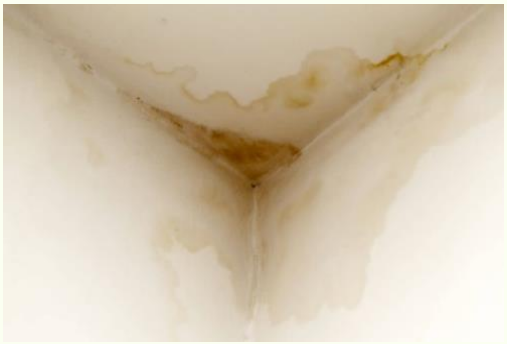
Condensation occurs when moisture in the air forms droplets of water upon contact with a colder surface (e.g., windowpane). Warm air can hold more water vapour than cold air, so when air cools (through contact with a relatively colder surface) it can no longer hold the same amount of moisture. The moisture is therefore released in the form of water droplets, or condensation.

Water vapour may be carried in the air as warm air rises away from its original source, so it's possible to have condensation issues in rooms or areas located away from the original moisture source.

Damp

Damp refers to the presence of excess moisture in the building structure. There are two types of damp – it is important to correctly identify the cause of damp to ensure the appropriate remedy is undertaken:

- **Penetrating damp** is moisture which enters the house through a defect in the external walls or roof (e.g. leaking pipes, blocked gutters, and gaps in window frames). This type of damp is recognisable because it tends to leave a 'tide' mark where the excess moisture has reached through the building material. Penetrating damp is often the result of poor building maintenance and can often be attributed to overflowing or poorly sealed gutters and downpipes.
- **Rising damp** is caused by ground water entering the home through a defective or non-existent damp course. It starts from the ground and moves upwards. Rising damp may be recognised through ground salts that form on the surface of the plaster wall.



Signs of penetrating damp

Signs of rising damp

Mould

Mould spores may be found indoors and outdoors. Once a mould spore enters a home, it grows best in damp, humid, and poorly ventilated areas where moisture builds up (usually through condensation, as above).

Mould will most commonly appear as a cloud of little black dots. If left untreated mould can spread from walls onto furniture, curtains, and clothing. Severe mould growth can make asthma and other respiratory illnesses worse due to the inhalation of mould spores.

Black mould growth

Children, the elderly, and people with skin or respiratory conditions are particularly vulnerable to moisture build-up in the home. In most instances, black mould is a sign of condensation, attributed to a combination of poor ventilation, poor thermal capacity of the building elements and under-heating of the property.

Busting common misconceptions

'Adding wall insulation will make my house damp'

Insulation generally keeps a home warmer. Condensation builds up on colder surfaces so insulating your home reduces this risk. Appropriate ventilation should be considered when adding insulation. Wall insulation has on occasion been poorly installed in the past.

To reduce this risk, homes should be assessed by retrofit professionals that are PAS 2035 certified. This means that:

- The home will be assessed for its energy efficiency potential according to best practice
- The assessment will form the basis of the retrofit designs, ensuring that the designs are suitable for the building's type, condition and the way the occupants live
- A retrofit coordinator will ensure that the installers are TrustMark registered, which should provide a guarantee for the work

Making use of the PAS 2035 process means residents can be confident that wall insultation installed during retrofitting will be to a high standard.

'A dehumidifier will take care of excess condensation'

A dehumidifier may help but is rarely adequate to remove excessive moisture from the air. Dehumidifiers can be quite costly to purchase and expensive to run for long periods of time, and the electricity bills are typically paid by the residents. Therefore, a dehumidifier should not be solely relied upon for dealing with long term condensation issues.

'I can't ventilate my home in the winter because it's too cold'

Opening windows for even short periods of time can significantly help with ventilation and reducing condensation build up, particularly when cooking, showering, and drying laundry (as these activities all create additional moisture). Using extractor fans while showering and cooking is especially useful in removing moist air.

The aim of retrofitting is to increase the energy efficiency of homes and reduce fuel bills for their occupants. This will make it more feasible for residents to use natural ventilation sources such as opening a window.

Additionally, improvements such as insulation and double glazing make a home less draughty (or more airtight). Improved airtightness reduces the amount of air exchange between the inside and outside of the property, which can in turn increase the risk of condensation. This is why ventilation is often installed alongside energy efficiency measures.

If new ventilation is installed, or if existing ventilation is overhauled as part of this programme, it is important to use them as recommended. This will keep the home as dry, warm and mould free as possible.

Tips and best practices

- Reduce the creation of moisture where possible. E.g., keep lids on pots while cooking, dry laundry outside, mechanically ventilate kitchens and bathrooms cooking and washing (keeping the doors shut to reduce heat loss and moist air escaping into the rest of the house)
- Increase the ventilation in the home (e.g. run extractor fans and/or open windows when cooking or showering)
- When possible, maintain a constant temperature and properly heat the home to avoid condensation forming on cold surfaces
- Add insulation to the walls or roof of the home. Ensure a professional is consulted when installing any insulation or damp proofing
- Treat clusters of mould with a mould and mildew remover available at most supermarkets or DIY stores. However, many mould removing products contain bleach so make sure to follow the product instructions for use
- Where mould is severe and widespread it may need to be professionally removed

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