Action Surrey
SURREY'S LOW CARBON COMMUNITY

What is condensation and how is it caused?

Condensation is a form of dampness caused in the home by warm moist air hitting a cold surface. The resulting dampness, maybe severe and maybe, accompanied by mould growth.

Condensation is nearly always the result of a combination of a condition which lead to an air moisture content too high in relation to temperature, or temperature too low in relation to the air moisture content. This can occur if buildings:

- lack adequate and affordable heating system
- have inadequate thermal insulation causing cold walls and other cold spots
- lacks appropriate ventilation

Principles of condensation control

The control of condensation requires a combination of sufficient heating, ventilation and insulation.

Sufficient heating + insulation + adequate ventilation = less condensation

Condensation is not the only cause of dampness. It can also come from:

- Leaking pipes, wastes or overflows.
- Rain seeping through the roof where a tile or slate is missing, spilling from a blocked gutter, penetrating around window frames, or leaking through a cracked pipe.
- Rising damp due to a defective damp-course or because there is no damp-course.

The four main factors to consider in the control of condensation are:

1. adequate and affordable heating
2. adequate insulation
3. reducing moisture production
4. appropriate ventilation

To successfully remedy condensation a comprehensive approach should be taken, and these four conditions should not be treated in isolation from each other. Usually more than one requires attention.

*Condensation becomes a problem when it is bad enough to cause damp areas on internal wall surfaces, furnitures and fittings, to rust or rot window frames. A problem associated with severe dampness is growth of black or green mould and can be a health hazard. It appears as pinpoint black spots, usually on the side surfaces of external walls, in corners and in poorly ventilated spaces, such as behind cupboards and wardrobes.

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How to avoid condensation

1. Produce less moisture

Cooking: To reduce the amount of moisture, cover pans and do not leave kettles boiling.

Washing clothes: Put washing outdoors to dry if you can. Or put it in the bathroom with the door closed and the window open or fan on. It is best to fit a fan that can be switched to run continuously for clothes drying. If you have a tumble dryer make sure you vent it to the outside (unless it is the self-condensing type).

2. Ventilate to remove the moisture

You can ventilate your home without making draughts.

Some ventilation is needed to get rid of moisture being produced all the time, including that from people's breath. Keep a small window ajar or a trickle ventilator; open all the time if possible, and especially when someone is in the room.

More ventilation is needed in the kitchen and bathroom when cooking, washing up, bathing and drying clothes. This means opening the windows wider. Better still, to use a humidistat-controlled electric fan (these come on automatically when the air becomes humid and are cheap to run).

Close the kitchen and bathroom doors when these rooms are in use even if your kitchen or bathroom has an extractor fan. It will help to draught-proof these doors. Doing this will help stop the moisture reaching other rooms, especially bedrooms, which are often colder and more likely to get condensation.

Allow space for the air to circulate in and around your furniture. Open doors to ventilate cupboards and wardrobes. Leave space between the backs of wardrobes and the wall. Where possible, position wardrobes and furniture against internal walls, i.e. walls which have a room on both sides, rather than against outside walls.

When you have a curtain or blind drawn, it makes the surface of the window cooler and increases condensation, especially with single glazed windows. Trickle ventilators can help reduce the problem. If you replace your windows at any time, make sure they are double glazed and fitted with trickle ventilators.

3. Insulate and draught-proof

Insulation in the loft, cavity wall insulation and draught-proofing of windows and outside doors will help keep your home warm and you will have lower fuel bills as well. When the whole home is warmer, condensation is less likely.

When draught-proofing:

- Do not block permanent ventilators.
- Do not completely block chimneys (leave a hole about two bricks in size and fit a louvered grille over it).
- Do not draught-proof rooms where there is a fuel burning heater (e.g. gas fire) or cooker.
- Do not draught-proof windows in the bathroom or kitchen.

4. Heat your home a little more

In cold weather, the best way to keep rooms warm enough to avoid condensation is to keep low background heating on all day, even when there is no one at home. This is very important in flats and bungalows and other dwellings where the bedrooms are not above a warm living room. If you have central heating set it to provide background warmth in all rooms including unused rooms.

Otherwise install suitable thermostatically-controlled heaters where necessary (do not use paraffin or flueless bottled gas heaters for this purpose). The thermostats will help control heating and costs. Remember to provide background ventilation at the same time.

Dehumidifiers will help dry out damp in newly built houses. They can also help reduce condensation but they are of limited use in cold damp rooms.

Heating means that the air will be able to hold more moisture and the internal surface of the building will be kept warm. Around 14 C is the temperature at which the risk is of condensation is reduced for most structures in existing dwellings

Extreme cases

- a dehumidifier, which extracts moisture from the air, can be bought or hired.
- wipe down surfaces affected by condensation regularly, to prevent mould growth.
- mould can be removed by washing the surface with a disinfectant or a fungicidal wash. This must be used in accordance with the manufacturers' instructions.

Mould-inhibiting paints and sprays can also help to reduce the effects of condensation.

For more information on anything mentioned in this factsheet, please contact Action Surrey on:

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