

Condensation and Mould in Houses and Flats

The below information was taken from a CSIRO publication entitled 'Condensation and Mould in houses and flats'.

The winter season brings with it condensation and mould growth problems in houses, units, townhouses and villa homes. Condensation and mould can occur in any type of home construction, including weatherboard, brick veneer, solid brick, masonry veneer and monocrete.

Condensation and its causes

Atmosphere heavily laden with water vapour is referred to as being of high humidity. When highly humidified air comes in contact with any cold surface such as a wall or ceiling, it chills and water vapour is extracted from the air, remaining as condensation on the cold surface. High humidity has an accumulative effect on absorbent materials such as clothing hanging in the cupboard or bedclothes, making them damp. Condensation will also cause rust on metal surfaces such as spring wire mattresses.

How to prevent condensation

Condensation cannot occur if humid moist air is removed and replaced by dry air. This can be achieved very simply through better ventilation of dwellings.

Some ways of improving ventilation are:

- Open windows and doors whenever possible. Where window locks are provided, lock windows open at 10cm when not at home.
- On cold nights, when the house or flat is closed against the cold, ventilation should be ensured during the day.
- If the dwelling is closed during the day, windows and inside doors should be open at night, particularly in spaces where heaters are operating.
- Room ventilators and exhaust fans should be kept clean. Normal house fluff can block or partly block wall or ceiling ventilators and exhaust fans and impede proper ventilation of the property.

Warm air will not cause condensation on a cold surface, but warm moist air will. Warm moist air can be created by:

- Kerosene room heaters
- Steam from cooking
- Washing dishes or clothes
- Clothes dryers that are not externally vented
- Steam from bathrooms
- Drying damp clothes inside

Mould

Mould is a form of fungus and is spread primarily by airborne spores that will develop and grow on almost any surface providing the following conditions are present:

- A relevant indoor humidity of 80% or higher.
- Moisture, usually from condensation. Mould can develop in the absence of condensation, but its growth is accelerated by the presence of moisture.
- A nutrient. Research shows that certain ingredients in most paints, household dust, and cooking fumes all provide excellent food for mould.

Sooty mould, the most common type, leaves surfaces with a brown or black stain and usually occurs on the walls and ceilings of bathrooms, bedrooms and in cupboards. Untreated, this mould will spread to other rooms in the house.

Green furry mould grows on organic or organic-bearing surfaces, such as shoes or clothes.

How to prevent mould

Mould growth is retarded by the circulation of dry air. It follows that proper ventilation will prevent most mould growth.

To prevent green fluffy mould on clothes and footwear, ensure that they are thoroughly dry before storage.

Methods to prevent condensation and mould

- Reduce indoor humidity by good ventilation and through regular airing of the dwelling. Keep ventilators and exhaust fans clear of fluff. Do not block air vents in winter to keep out the cold - they are necessary for good ventilation of the property.
- Dry indoor air with space heaters and wipe dry any surface on which condensation appears. Avoid the use of kerosene room heaters. Unflued gas heaters may also cause problems.
- Dry clothes and footwear thoroughly prior to storage.
- Allow sunlight into the home whenever possible by opening the blinds during the day.
- Remove any sign of mould growth on walls ceilings and furniture using diluted household bleach or suitable household cleaner.
- Furniture should not be pushed up against walls. This creates dark airless areas and allows mould spores to grow.