

Condensation and dampness in your home

What causes dampness and condensation in your house?

- Water coming in from the outside through leakage, seepage
- Rising damp – dampness from the ground rising up into the building fabric
- High levels of moisture/water vapour being produced inside the house
- Lack of adequate heating and/or ventilation.

Why is it important to keep a house dry as well as warm?

Moulds and other fungi can grow in damp homes, particularly in areas where there is restricted ventilation, such as inside cupboards and wardrobes. These microscopic organisms release tiny lightweight spores which can be inhaled. If you smell a musty odour or see mould, you have a problem.

Moulds can produce adverse health affects, such as respiratory problems, nasal and sinus congestion, plus skin rashes and irritation. A damp mouldy house is bad for people's health so it is important to keep your house dry to prevent mould growth.

Humidity

Air contains moisture – this is called humidity. The higher the temperature of the air the more water it is able to hold. Air at 20°C can hold a lot more moisture than air at 10°C. The term 'relative humidity' describes how much moisture air contains at a given temperature. 100% relative humidity means the air is holding as much moisture as it can at that temperature.

The more humid the air is in your house, the more energy it takes to warm your house because it is also warming the water in the air. This means it will be more expensive to heat!

A good range of indoor humidity for comfort and health is between 30-60% during cooler months of the year. Mould is likely to occur if the relative humidity indoors is 70% or more for long periods of time. Keeping humidity levels under 50% also helps to minimise or control dust mites. But it is also possible to live in a house that is too dry! Humidity levels below about 30% lead to dry skin and nasal passages, increasing the potential for respiratory illnesses. However this tends to be less of a problem in New Zealand's climate.

It can be fun to buy a low cost humidity meter from a hardware store and track how humid the air in your house is. You might be surprised at how quickly it can change, from morning to night, from room to room, and as the weather changes.

Humidity and condensation

When the humidity is high inside a house and it is cold outside the water vapour condenses on cold surfaces. The following areas might have problems with condensation and dampness:

- Cold surfaces such as mirrors, single glazed windows, and metal window frames ('crying' windows)
- Kitchens and bathrooms
- Solid, uninsulated walls of unheated rooms
- Cold corners in unheated rooms, particularly where outside walls meet
- Wardrobes, cupboards.

Humid air and condensation can also be generated by things people do in their homes on a daily basis.

<i>Source of humidity/moisture</i>	<i>Litres of water vapour</i>
Cooking	Up to 3 litres per day
Clothes washing	0.5 litres per wash
Showers and baths	1.5 litres per person
Washing dishes	Up to 1 litres per day
Un-vented clothes drying	5.0 litres per load
Unflued gas heater	0.5-1.0 litre per hour of use
Breathing, active adult	0.2 litres an hour per person
Breathing, adult asleep	0.02 litres an hour per person
Pot plants	A high number of pot plants or if you frequently water them will increase humidity in your house

** Source: Consumer Magazine

How to keep your house dry and avoid condensation

There are lots of things YOU can do to minimise dampness and condensation in your house.

Four key actions:

- Reduce the amount of moisture produced in the home
- Provide ventilation, particularly in moisture-prone areas
- Increase heating to raise the temperature of the air and the cold surfaces
- Insulate the building to warm up cold surfaces and keep the heat in

Low cost options

- On dry days open some windows to allow humid air to ventilate out of the house. It is better to open a few windows a little throughout the whole house. This helps the air to move through the house. One window open wide in one room may not be as effective. Try to do this as often as possible (2-3 times a week), but keep windows closed on wet days as damp air may increase indoor humidity.
- Keep lids on your pots and pans when you cook – simmer rather than boil hard.
- Keep the doors to the bathroom and kitchen closed when you are bathing or cooking.
- Use thermal or lined curtains, keeping them open in the day and closed before dusk. This will capture the free heat from the sun and help to lift indoor temperatures.
- Always wipe excess moisture from windows – if you don't the moisture will collect on the frame which may start to rot. It may also re-evaporate during the day, raising humidity levels and making condensation worse when the room cools down.
- Limit the number of pot plants in your house.
- Install temporary plastic window insulation kits on your windows for the cooler months of the year.
- Keep furniture away from outside walls to allow air circulation. Cool areas behind furniture will be high humidity areas conducive to mould growth.

Heating

- On cold days try to keep indoor temperatures at least 18°C.
- Try not to use a portable gas heater. They create high levels of humidity and are expensive to run. They also release harmful gases into the air.
- Where possible install efficient heating, suitable for each of the rooms being heated
- Install a heater in your bathroom.
- Dehumidifiers extract moisture from the air and can help reduce humidity. However they do not tend to solve underlying problems of moisture getting into your house, excess moisture production in the home, and lack of ventilation and heating.

Drying clothes

- Wherever possible, dry your clothes outside.
- If you use a clothes dryer, make sure that it is vented outside.
- If you must dry your clothes on a clothes rack inside, do this in a well ventilated room with doors closed to the rest of the house.

Maintain your house well – no or low cost options

- Scrub all mouldy surfaces clean with a non-ammonia soap or detergent, and dry thoroughly. Mouldy curtains should also be cleaned.
- Keep gutters and down pipes clear so that storm water drains away.*
- Trees or shrubs which shade your house will reduce the amount of free heat you receive from the sun! Cut vegetation back from north facing windows.*
- If your house is on suspended timber foundations, keep the air vents free of vegetation to make sure the air flows easily under the house.*

Maintain your house well – other tasks

- Fit extractor fans in the bathroom and a range hood over the stove top in the kitchen.
- Repair all leaking plumbing*
- Check for and repair all leaks in the roof and house cladding.*
- Make sure that your insulation is up to Building Code standard wherever possible.*
- If the ground is damp underneath your house, install polythene underneath your house to prevent moist air circulating through the floor-boards.*
- Community Energy Action can help with insulation and polythene – call 374 5698 to find out how.

*If you live in rented accommodation, it is your landlord's responsibility to maintain the house well so that it does not leak or create preventable dampness or condensation. Talk to your landlord or property manager if you think any of these maintenance tasks are required.

If you live in a cold home built before 1978, talk to HEET about the various types of financial assistance available for insulation.

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