Dealing with condensation

❖ What is condensation?

All air carries some water vapour and, as air warms, it can carry more. Once this air cools, it gets rid of the water vapour through condensation. As soon as warm, moist air hits a cold surface, you will get water droplets forming by condensation.

If this persists for a long time, it can damage paint and paper finishes and encourage mould. You tend to see condensation on poorly insulated ceilings, next to windows, on solid walls or uninsulated cavity walls, and particularly at the base of walls near corners, as these are nearer ground level and have two cold surfaces next to each other. This can sometimes be confused with rising or penetrating damp but fortunately condensation is easier to treat.

❖ Causes of condensation

- There are four basic causes of condensation:
  - Too much moisture being produced in the home
  - Not enough ventilation
  - Cold room temperatures
  - Cold surfaces
- High moisture inputs are common in kitchens when cooking, from bathrooms, and from bedrooms overnight – people can breathe out a pint of water a night as water vapour. Drying clothes on radiators and using non-condensing tumble dryers can also add lots of moisture.
- If there is insufficient ventilation to get rid of the stale moist air, this will add to the problems. If you have draught-proofed your home, this will help you save energy but, as this may reduce ventilation, you might have to compensate by making sure you ventilate damp areas more often.
- Badly insulated surfaces and ineffective heating will make any problems worse.

The Rural Community Energy Fund

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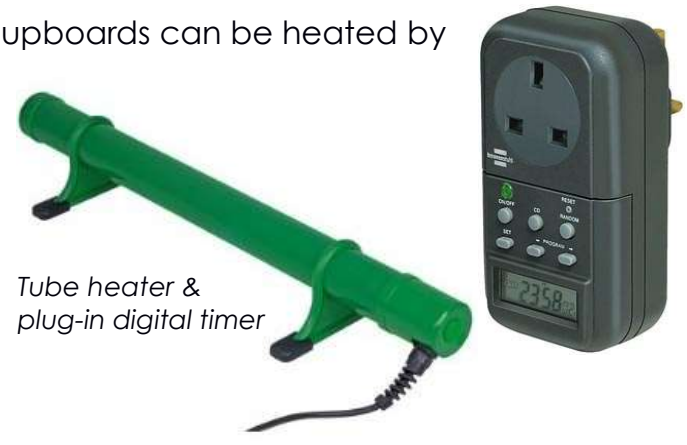
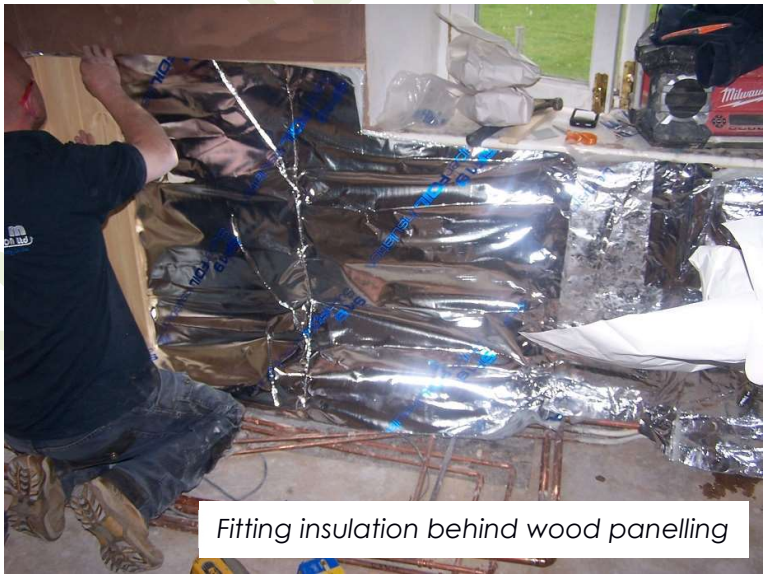
- To reduce the amount of moisture, try some of these tips:
  - Each morning, wipe down wet windows and walls with a cloth, and wring out the cloth to get rid of as much of the water as possible. Don't dry the cloth on a radiator.
  - Dry washing outside as much as possible.
  - Only use a tumble dryer to 'finish off' drying and, unless you have a condenser model, make sure it vents outside.
  - When cooking, always leave the lids on pans.
  - Try to avoid free standing gas heaters – they emit a lot of water vapour.
  - When having a bath, run the cold water first, then the hot – this cuts down steam by 90%.
  - Use plenty of bubble bath – the foam stops the hot water evaporating (it also keeps the bath warmer for longer...).
  - A small dehumidifier can sometimes help. These run off a humidistat, so can turn on and off automatically. See Factsheet No. 16, *Buying a Dehumidifier*.
- Increase ventilation where possible:
  - When you are cooking, shut the kitchen door and turn on the fan or open a window.
  - If you don't have a good extractor fan in the bathroom, shut the door and open the window for twenty minutes or so after you've had a bath.
  - Unless it's very cold, or you are worried about security, leave a bedroom window slightly open overnight.
- Insulate as much as you can, and make the most of your heating:
  - Refer to Factsheets No. 9 and 10 on heating your home; and Factsheets 18 to 24 on draught-proofing and insulation.
  - Small spaces in corners and cupboards can be heated by low power (50W) tube heaters on a digital timer. You can set the timer to come on over night when it's coldest or when you are cooking. Running one of these for 8 hours a day will cost around 34p per week.



Tube heater & plug-in digital timer

- It's also worth moving cupboards slightly away from cold walls and leaving gaps underneath and behind kitchen units if your house suffers from cold walls.
- Where you still get mould problems, there are wall treatments possible:
  - For small areas, such as window reveals – there are an increasing number of insulated plaster products. Typically, these require the existing plaster to be hacked off and a base layer of at least 20mm of insulating plaster applied before a conventional plaster skim finish. Breathable lime-based versions are available to suit older solid-wall properties.
  - There are also a number of anti-condensation paints on the market but these offer only limited benefits, as the paint layer is very thin and insulation is always a function of the thickness of the insulating layer. These products have been tested by TEC Ltd. and are not recommended as long-term solutions.
  - Lined wallpaper is an option, as these slightly increase the surface temperature of walls and reduce condensation but, while they are cheap and easy to use, they aren't as good as proper insulation.
  - Decorative wood panelling also provides an opportunity to add insulation and defeat condensation, and this can provide an attractive option for kitchens and bathrooms, etc. The picture below shows foil based thin film insulation being fitted behind half height wood panelling in a solid wall bathroom.



Fitting insulation behind wood panelling

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