

HOW TO PREPARE FOR COLD WEATHER

This advice guide is part of a series of free guides produced by the Association of Plumbing & Heating Contractors Ltd. which provide consumers with essential basic information on a range of plumbing and heating matters including installations, repairs and maintenance.

Extreme cold weather can cause lots of problems for plumbing and pipework in a home. Frozen pipes can cause inconvenience or damage to plumbing systems and some appliances can be very badly damaged by very cold weather.

Frozen pipes

When you have an exposed or un-insulated water pipe running through an area of the home which is not heated, there is a chance that in cold weather the pipe can become so cold that the water inside can freeze. This would include pipework in your normal living areas, but due to a holiday or time away from the home the central heating is switched off.

Generally pipes running through garages, lofts and roof spaces, under suspended wooden floors on the ground floor, cellars and outbuildings are at greatest risk. The pipes may belong to a central heating system, hot and cold water pipework to taps on basins, baths, showers, WCs, sinks, etc or boiler condensate pipes.



How can I stop pipes from freezing?

The best method of preventing pipes from freezing is to try to make sure they do not run through an unheated area first, however, sometimes this will not be possible. If you are going away for a short period of time consider leaving your heating system on a timed function and set to the lowest temperature on the thermostat. For longer periods of time you should consider draining down the water from your various systems. An APHC member can do this for you and arrange to meet you on your return to re-fill your systems.



Most people consider insulation on its own as a method to prevent pipes freezing, but this should not be the only method relied on. Pipe insulation can be purchased from most DIY stores, similar to the foam insulation shown in the picture. Pipe insulation will help to slow down freezing but will not prevent it alone. To prevent pipes freezing extra methods need to be used.

Frost thermostats

This is a thermostat, similar to room thermostats that you would find on a wall in your home, but it is used to protect the boiler and central heating pipes in cold weather. By measuring and sending the temperature of the air around the boiler back to the controller, it can turn on the boiler at low temperatures to stop the boiler and the central heating pipes freezing. This will only protect a boiler and the central heating pipes and not the hot or cold water pipes.



Trace heating



This is an electrical cable that is attached to the pipe; the cable is then wired to a transformer and attached to the electricity supply. The pipe and cable are then covered in pipe insulation and the cable is turned on and off by an external frost thermostat, normally when the temperature falls below 2.5°C to 3°C. This is effectively placing the pipe in its own mini electric blanket, warm enough not to freeze but not warm enough to heat the water above 2.5°C.

Condensate pipes

Condensing boilers can make about 1 litre of condensate water an hour. Should these pipes freeze it can cause problems for the boiler and in some circumstances severely damage the appliance. There are several methods to help prevent the condensate pipes from freezing;

- Increasing the pipe size from 20mm pipe to 32 or 40mm pipe.
- Fitting high grade pipe insulation to the pipes.
- As a last measure fitting trace heating to the pipes.

If your condensing boiler has stopped working and the outside temperature has dropped below 0°C then there is a chance that the condensate pipe has frozen. If this happens then you should telephone a Gas Safe Registered engineer to rectify the situation.

In summary

Protecting your exposed water and central heating pipes from freezing can save you a lot of money in the long run, but it will incur costs as frost thermostats and trace heating make systems more expensive to operate.

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