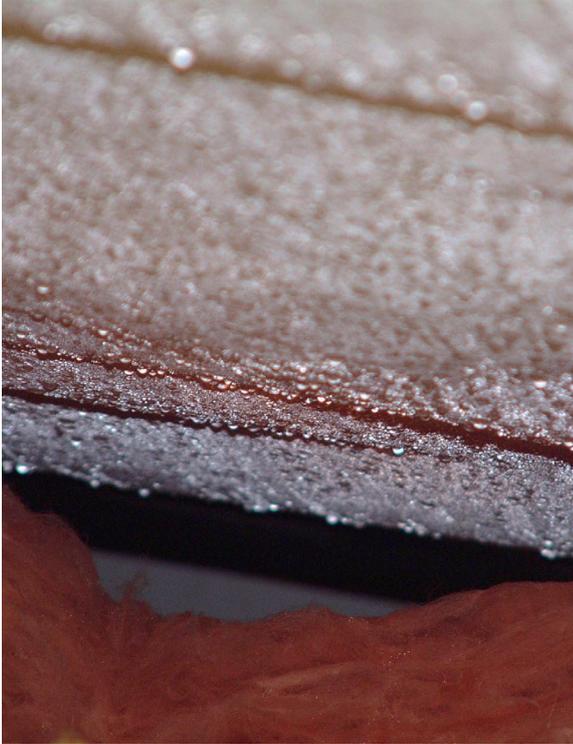




# What are the main causes of condensation?



There is no doubt that the construction industry has evolved and developed over the last century. So too has the way buildings are constructed. From thicker layers of insulation to double glazing, boilers and central heating, we have come a long way in our quest for thermal efficiency.

However, in this drive to keep warm air in and cold air out, our modern buildings also retain water vapour. Water vapour refers to water molecules that are present in the atmosphere, and thanks to modern appliances such as kettles and tumble dryers, the air inside our homes is likely to be burdened with a high amount of water vapour. When this water vapour encounters a cold surface such as windows, walls, or even a bathroom mirror, it condenses, with the H<sub>2</sub>O being released from the air and onto the surface.

Condensation can lead to problems with mould or damp, damaging the structure of the residence or property. As a manufacturer of roofing accessories such as vents and low resistance underlays, Hambleside Danelaw are all too aware of the problems associated with condensation. In this article we hope to remind readers on the causes of condensation as well as methods to reduce or resolve the problem associated with high levels of water vapour in the air.

## Improper Extractor Fan Installation

When using facilities such as the kitchen or bathroom, a large amount of water vapour can be released into the air as steam, either from cooking or from hot water when using the shower or bath. Therefore, when installing a bathroom or kitchen, appropriate extractor fans should be installed to enable the occupants to remove the moisture from the room during and after the production of water vapour.

It is important to ensure that the extractor fan is installed correctly and can remove the moisture from the environment. Connecting the mechanical extractor through rigid pipework to a pipe connector and then to a roof vent is a fantastic method to ensuring the moisture-laden air exits the building.

Danelaw roof vents can be fitted with a flexi-pipe adapter as required, allowing air flow through the roof. During installation, the flexi-pipe must be installed as straight as possible to prevent water collecting inside the pipe and lagged to minimise condensation forming. On longer runs of ducting a condensation trap should be installed above the ceiling where there is a risk of the condensate draining back into the fan.

Hambleside Danelaw produce continuous soakers (Contisoakers® or secret gutters) from GRP with an option for use in conjunction with a cover flashing (also available in GRP), or lipped for securing into a chase in the wall, depending on your project needs.

## **Ineffective Insulation**

In some buildings mould and damp can start to appear in the corners of rooms. This is where the insulation lacks continuity where it has not been installed deep enough into the corner of the wall cavity or where it has been crushed. This ineffective insulation results in cold bridging - meaning that the wall is a cold enough surface for the water vapour to condense.

This can happen at roof level - again where the insulation is not pushed down far enough into the cavity to be effective. It could be that it is not pushed down for fear of blocking roof ventilation openings. To prevent blockages when upgrading the loft insulation, Hambleside Danelaw produce Universal Refurbishment Tray Vents to allow for that air flow to the vent openings while providing a barrier for the insulation, enabling insulation to be tucked effectively into the corners of cavities.

## **Poor Ventilation**

Due to the way that houses are now being built, it is increasingly necessary to manage ventilating air flow in roof spaces, to minimise the risk of unseen condensation. When a home is built with a cold roof there are requirements when considering the appropriate and necessary means of ventilation. Hambleside Danelaw produce a wide array of roofing ventilation products as well as other GRP accessories for the pitched roof.

## **Further Information**

For more information about ventilation requirements for warm and cold roofs please see Hambleside Danelaw's first Back to Basics article.

Paul Lambert, Hambleside Danelaw's Field Technical Support, can deliver a wide range of training on topics that can help develop understanding in pitched roof ventilation, product installation, and much more.

Get in touch with Hambleside Danelaw at [marketing@hambleside-danelaw.co.uk](mailto:marketing@hambleside-danelaw.co.uk) to discuss the CPD webinars we have available.

## **Back to Basics**

Hambleside Danelaw's Back to Basics series is devoted to helping contractors and developers with relevant information from broad topics like condensation, to more specific information detailing key products for use on the roof. All previous articles can be found in the news section of our website.