

## Roof Tile Underlays in Cold Roofs during the Drying-out Period

Although dry methods of construction, using plasterboard or other panels, have reduced wet trades in the building industry, water is still generated in the construction of a dwelling. Mortar, plaster and screeds contain high percentages of water and, as the material dries, excess water has to dissipate.

Investigations by the BBA through consultation with a wide cross-section of the industry indicate that the possibility of roof-space condensation is highest in the first heating season and can affect any roof. The risks are highest when combinations of the following conditions exist:

- very low external temperatures occur, for example below 0°C
- the construction embodies high levels of wet processes, eg in-situ cast concrete slabs, wet plaster, etc
- insufficient drying-out time is allowed prior to occupation
- penetrations and perimeter gaps in ceilings do not adequately limit opportunities for the movement of moist air into cold roof spaces by convection
- ventilation openings in the living space are inadequate or blocked
- ventilation openings in the roof space (if used) are inadequate or blocked.

The BBA is aware of very few reports of excessive roof space condensation relating to breathable roof tile underlays in cold non-ventilated roofs in the context of the many tens of thousands of roofs incorporating them.

Users should refer to the relevant product Certificate for conditions and limitations of use — for example, the use of non-discontinuous roof coverings or sheet/panel timber sarking with Low Resistance membranes have not been assessed by the BBA.

Irrespective of the type of membrane used, it is important to ensure that the following good practice steps are taken to avoid excessive flows of moisture vapour into the roof space:

- sealing gaps in ceilings with particular attention being paid to edge gaps, light fittings and pipe penetrations
- using recessed light fittings that comply with BS EN 60598-2.2 : 1997
- sealing the head of all cavities in external party and partition walls to prevent the transfer of warm constructional moisture into the loft
- ensuring sufficient weathertightness so that precipitation does not add to the drying load
- allowing sufficient drying time, for example at least a week of heating and ventilating of the building living spaces, before hand-over
- keeping the loft hatch closed during the drying time and at all other times, when practicable
- providing ventilation direct to the outside by opening doors and windows
- avoiding the use of moisture-generating space heaters.

It should be noted that air permeable membranes offer significant water vapour transmission rates.

Occupiers of new homes should ensure — particularly in the early days of occupancy if outside temperatures are low — that adequate ventilation is provided, for example by opening windows to the vent position. Loft hatches should always be kept closed unless in use.