

Guidance Note

in-roof solar ventilation



in-roof solar ventilation guidance:

- All in-roof Solar panels and their flashings should be considered an impermeable roof covering due to the minimal airflow that can enter the batten cavity when compared to the likes of roof tiles, the majority of which are considered air open.
- With that said, the solar panels will never cover 100% of the roof area and this creates a scenario that is not currently allowed for within existing standards or guidance. There is nothing to state at what % of impermeable roof covering you have to allow for additional measures.
- BS5250; the management of moisture in buildings sets out the requirement for roof-space ventilation.
- If the entire roof covering is deemed impermeable then BS5250 states additional measures are required. Either; a) the installation of a HR impermeable membrane, both with appropriate high and low level ventilation **OR**; b) the installation of 25mm counterbattens above the membrane, with adequate ventilation to the batten cavity and appropriate low and high level ventilation.
- The test method for permeability determined within BS5534 does not allow for the testing of the roof as a complete system. We have found that the junction between the panels themselves are impermeable, whilst the junction between the solar flashing and surrounding tiles is air permeable, and all Sandtoft tiles themselves fully air open.
- There is no guidance in any of the British standards for this scenario. We are also unaware of any real world test data on different solar installation scenarios and the risk of condensation from an impermeable panel. Therefore, it is unclear on what we as a manufacturer should advise.
- Although we are in the process of organising and conducting real world testing, there is no standardised way of accelerating this testing. Therefore, we are testing in real time.
- Unless we obtain sufficient data to prove otherwise, we are recommending that all solar installations are considered an impermeable roof covering as a belt and braces approach. This means that the installation of an impermeable membrane with appropriate roofspace ventilation is recommended by Wienerberger.
- As this is not enforceable through relevant standards or regulations this is currently for recommendation only. However, all of our RoofSPEC guarantee's that contain any solar system will specify an impermeable membrane with appropriate roofspace ventilation and this will be enforced in order to achieve the guarantee.

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