

Condensation in Roofs

Building Regulation Guidance Note

In order to assist in the conservation of energy and to reduce the risk to the health and safety of people in houses, condensation in spaces above ceilings should be prevented so that the thermal insulation and structural performance shall not be permanently reduced.

The following information gives guidance as to how that may be achieved.

Adequate provision shall be made to prevent excessive condensation in:

- a. **A roof, or**
- b. **A roof void above an insulated ceiling**

The requirements will be met by the ventilation of those roofs where the moisture from the building can pass through the insulation.

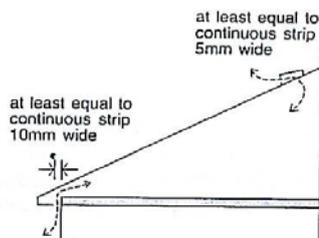
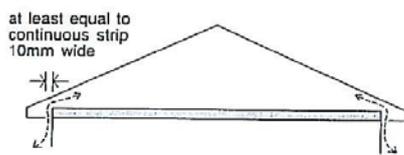
- **Roofs With a Pitch of 15⁰ Or More**

Pitched roof spaces should have ventilation openings at eaves level to promote cross-ventilation. These openings should have an area on opposite sides at least equivalent to continuous ventilation, running the full length of the eaves and 10mm wide (**see diagram A**).

Purpose made components are available to ensure that quilt and loose fill insulation will not obstruct the flow of air where the insulation and the roof meet. Details of these are available from manufacturers or builders merchants.

A pitched roof which has a single slope and abuts a wall should have ventilation openings at eaves level and at high level. The ventilation at high level may be arranged at the junction of the roof and the wall or through the roof covering. If it is through the roof covering it should be placed as high as practicable. The area at high level should be at least equal to continuous ventilation running the full length of the junction and 5mm wide (**see Diagram B**).

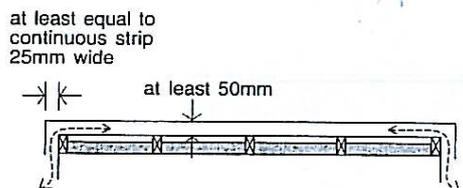
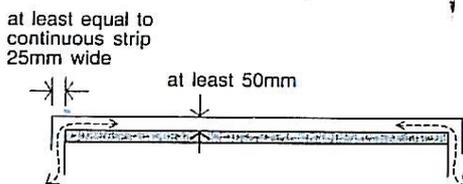
Diagram A – Roof with a pitch of 15° or more



- **Roof With a Pitch of Less Than 15° and Those Where the Ceiling Follows the Pitch of the Roof**

Roof spaces should have ventilation openings in two opposite sides to promote cross ventilation. These openings should have an area at least equal to continuous ventilation running the full length of the eaves and 25mm wide (see Diagram C).

Diagram C – Flat Roof



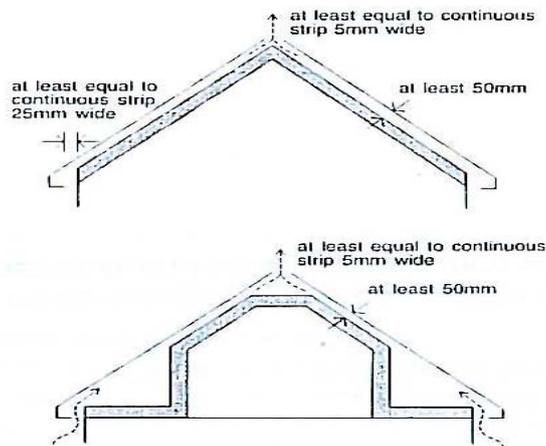
Roof with a span exceeding 10m or other than a simple rectangle in plan may require more ventilation, totalling 0.6% of the roof area.

The void should have a free air space of at least 50mm between the roof deck and the insulation where joists run at right angles to the flow of air a suitable air space may be formed by using battens fixed at right angles to the joists.

These provisions also apply to roofs with a pitch of 15° or more if the ceiling follows the pitch of the roof.

Pitched roofs where the insulation follows the pitch of the roof also needs ventilation at the ridge at least equal to continuous ventilation running the length of the ridge and 5mm wide (**see Diagram D**).

Diagram D – Ceiling Following Pitch of Roof



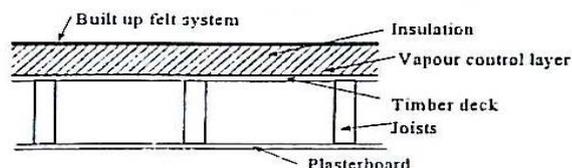
Where the edges of the roof abut a wall or other obstruction in such a way that free air paths cannot be formed to promote cross ventilation or the movement of air outside any ventilation openings would be restricted, any alternative form of roof construction should be adopted (warm deck).

- Warm Deck

Where difficulty is experienced in achieving effective cross ventilation a 'warm deck' roof will be required. The insulation is placed above the roof deck, but below the weatherproof membrane.

There should be no insulation below the deck. Ventilation is not required, since the insulation is bedded on a continuous vapour control layer. (**see Diagram E**).

Diagram E



- Please Note

For further information relating to this guidance not please ring 01325 406214 and ask for a Building Control Surveyor.

Translation Information

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