

Roof and Wall Ventilation Recommendations and Guidance Notes/Area Based Programme Good Practice Note on Attic and Wall Ventilation

Contractors should at all times work to achieve the specified requirements in the most cost effective manner possible. In all instances the installer should fully explain to the homeowners the ventilation provisions to be installed and secure agreement for their installation. Ventilation provisions should be undertaken prior to the insulation upgrade. Where the client refuses to have the recommended ventilation requirement installed, attic insulation work should not be installed. The guidance outlined above only relates to properties upgraded under the Better Energy Area Based Warmer Homes scheme.

Assessing the Additional Ventilation Provisions required

The following process can be followed when assessing a property for additional roof ventilation;

- A. Quantify the total roof ventilation requirement for the property in accordance the Better Energy Homes specification (see Figures below for additional guidance notes);
- B. Assess and calculate the level of existing roof ventilation present;
- C. Calculate the additional roof ventilation provisions required by simple subtraction (A – B);
- D. Survey the property to identify the most cost effective and appropriate method to achieve the additional requirement.

Installation Options Guidance

In virtually all instances, the use of soffit ventilators will represent a significantly more cost effective solution than the use of vent tiles / slates. Thus vent tiles / slates should only be used where it is unfeasible or impracticable to use soffit ventilators.

Soffit Ventilator

Clearly calculate the number of soffit ventilators required based upon the effective ventilation area and recommended separation for the product used. The calculation used should be retained in the event of a Quality Control inspection.

Vent Tile / Slate

Vent tiles / slates should only be used where soffit ventilators are either not possible and/or nor practicable. Such situations may include no or narrow soffits, or soffits which are in poor condition or contain asbestos.

Notes:

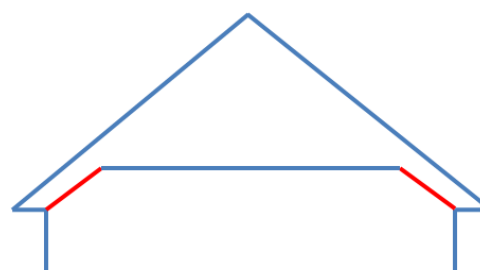
- As per the TGD Part F of the Building Regulations SEAI recommend that Pitched roof spaces, with a pitch of 15° or more, should have ventilation openings at eaves level to promote cross-ventilation. These openings should have an area on opposite sides at least equal to continuous ventilation running the full length of the eaves and 10 mm wide. See illustrations below for sample dwelling calculations. Additional ridge / high level ventilation may be required depending of the individual dwelling. Additional information can be obtained from TGD Part F of the Building Regulations.

Sloped Ceiling Insulation Guidance

Where a dwelling has a sloped ceiling, internal insulation can be fitted to the ceiling where the sections of the attic is inaccessible to fix insulation (see diagram 1, sloped ceiling highlighted in red).

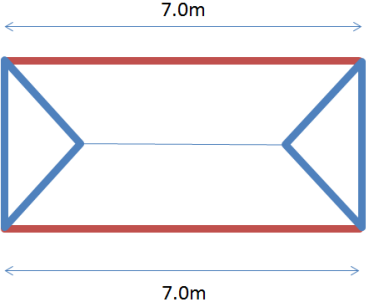
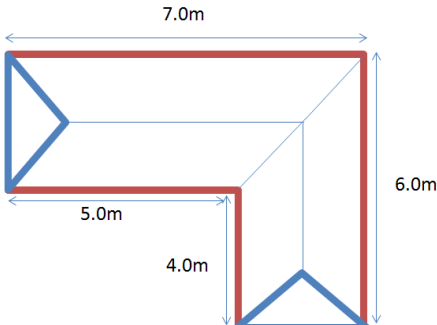
It is important not to impede any ventilation within the sloped area of the attic. No insulation shall be placed on the sloped section of the attic (see diagram 1, sloped ceiling highlighted in red).

The calculation methodology overleaf should be used to quantify ventilation requirements for the insulated attic space and that these requirements should be met using tile or slate vents. The tile/slate vents need to be installed above the level of the attic insulation.



Sloped ceiling diagram 1

Sample Roof Formats and Ventilation Calculations

Roof Layout	Guidance Notes on Ventilation Provision
<p data-bbox="212 383 256 405">Fig 1</p> 	<p data-bbox="791 277 1018 304">Standard roof plan</p> <p data-bbox="791 338 1422 427">Ventilators to achieve opening equivalent to continuous strip, 10 mm wide, along eaves as per TGD Part F of Building regulations.</p> <p data-bbox="791 461 1394 577">To calculate the ventilation provision for the attic the eaves length (red lines) is measured and multiplied by the continuous opening size required $(7,000\text{mm} + 7,000\text{mm}) \times 10\text{mm} = 140,000\text{mm}^2$.</p> <p data-bbox="791 611 1385 701">This figure is divided by the capacity of the ventilator and the requisite number of ventilators is equispaced along the eaves, per manufacturers instructions.</p> <p data-bbox="791 734 1422 862">For example a soffit ventilator that provides $10,000\text{mm}^2/\text{m}$ at 0.2m centres will require 70 soffit ventilators in total $(140,000\text{mm}^2 \div 10,000\text{mm}^2/\text{m} = 14\text{m} \div 0.2\text{m centres} = 70 \text{ soffit ventilators})$</p> <p data-bbox="791 896 1422 985">Note: The gable / hipped ends are not taken into consideration when calculating the ventilation provision required for the attic space.</p>
<p data-bbox="196 1189 240 1211">Fig 2</p> 	<p data-bbox="791 1077 1018 1104">L shaped roof plan</p> <p data-bbox="791 1137 1422 1227">Ventilators to achieve opening equivalent to continuous strip, 10 mm wide, along eaves as per TGD Part F of Building regulations.</p> <p data-bbox="791 1261 1422 1406">For the purpose of calculating the ventilation provision required for the attic, each eave length is assessed individually. The extent of eaves to be considered is indicated by the red lines. The eave length is measured and multiplied by the continuous opening size required.</p> <p data-bbox="791 1440 1422 1529">The total attic ventilation requirement should amount to $(7,000\text{mm} + 6,000\text{mm} + 4,000\text{mm} + 5,000\text{mm}) \times 10\text{mm} = 220,000\text{mm}^2$</p> <p data-bbox="791 1563 1385 1653">This figure is divided by the capacity of the ventilator and the requisite number of ventilators is equispaced along the eaves, per manufacturers instructions.</p> <p data-bbox="791 1686 1422 1803">For example a soffit ventilator that provides $10,000\text{mm}^2/\text{m}$ at 0.2m centres will require 110 soffit ventilators in total $(220,000\text{mm}^2 \div 10,000\text{mm}^2/\text{m} = 22\text{m} \div 0.2\text{m centres} = 110 \text{ soffit ventilators})$</p> <p data-bbox="791 1836 1422 1926">Note: The gable/hipped ends are not taken into consideration when calculating the ventilation provision required for the attic space.</p>

Permanent and Background Ventilation Requirements when Completing Wall Insulation

The ventilation provisions identified below should be installed prior to undertaking any wall insulation works

	Recommendation	Acceptable Solutions ⁽ⁱⁱⁱ⁾
Any Room with Open Flued Heat Producing Appliance⁽ⁱ⁾ Present	<ul style="list-style-type: none"> Permanent Ventilation Min. Free Area 6,500mm² Cover: Permanent, not user-adjustable 	Proprietary integrated ^(iv) ventilation system, certified to IS EN 13141-1: 2004 with a minimum equivalent area of 5,000mm ²
Habitable Room⁽ⁱⁱ⁾ No Open Flued Heat Producing Appliance⁽ⁱ⁾ Present	<ul style="list-style-type: none"> Background Ventilation Min. Free Area 6,500mm² Cover: User adjustable 	Conventional construction method (a sleeve with a minimum internal diameter of 102mm) with appropriate vent covers

- i. The minimum permanent ventilation provisions identified above relate to solid fuel appliances.
 - a. For open fires the ventilation opening(s) should have a total free area of at least 50% of the appliance throat opening area, with a minimum 6,500mm² being permanent.
 - b. For other solid fuel appliances the ventilation openings should have a total free area of at least 550mm² per kW of rated output above 5 kW, with a minimum 6,500mm² being permanent.

Please refer to TGD Part J of the Building Regulations for further guidance on permanent ventilation requirement.

If the surveyor / installer identifies a gas burning appliance (Natural gas or LPG) and believe that the current ventilation provision is anyway inadequate, then the matter should be referred in the first instance to an RGI Registered Installer for expert advice. No attic or wall insulation works should proceed until this is resolved.

- ii. Habitable room: A room in a dwelling used for living or sleeping purposes, but does not include a kitchen having a floor area of less than 6.5m².
- iii. Alternative solutions may be utilized where they can be demonstrated to achieve the prescribed ventilation rates
- iv. Such products / systems typically comprise a complete solution of vent sleeve, baffle / anti-draft mechanism and internal and external vent covers / cowls. Installers are responsible for selecting the correct product on the basis of the requirements above and the manufacturers certified data. Installers must adhere fully to manufacturers installation instructions.

Notes

A balanced-flued appliance / room sealed appliance does not rely on the room in which it is located as a source of air i.e. combustion air is provided directly from the outside and so permanent ventilation provisions do not apply. (If in doubt about the appliance types please refer to a suitably qualified plumber).

Where a portable fuel burning appliance is present within a dwelling, the area in which the appliance is located should comply with permanent ventilation requirements. The home owner must be notified in writing that a portable fuel burning appliance requires permanent ventilation and should not be operated in a room / space without permanent ventilation.

Trickle vents are not considered as a means of permanent ventilation. However they may be considered as a means of background ventilation, but must be in good working order.

Proprietary integrated solutions are preferred for permanent ventilation situations because of their certified performance and draught minimization functionality for added occupant comfort.

Please note: Where wall insulation is recommended and the client refuses to have the appropriate ventilation requirement installed, wall insulation work should not be installed. In instances where wall insulation is not being installed in a property, the permanent and background ventilation requirements outlined in this document should not be installed. The guidance on this advisory note only relates to properties upgraded under this scheme.