

# Brighton & Hove

## MEANS OF VENTILATION: APPROVED DOCUMENT F:FI

The Building Regulations 2000 require adequate means of ventilation to be provided for people when constructing a new building, extending a building or changing the use of a building.

### DOMESTIC BUILDINGS

One way of complying with the requirement is to provide rapid ventilation (e.g. opening windows), background ventilation (eg. trickle ventilators) and extract ventilation to rooms in accordance with Table 1 below.

TABLE 1

Ventilation of rooms containing openable windows (ie located on an external wall)			
Room	Rapid ventilation (eg opening windows)	Background ventilation (see diagram 1)	Extract ventilation fan rates or passive stack (PSV)
Habitable room	1/20 <sup>th</sup> of floor area	8000mm <sup>2</sup>	
Kitchen	Opening window (no minimum size)	4000mm <sup>2</sup>	30L/sec adjacent to a hob or 60L/sec elsewhere or PSV
Utility room	Opening window (no minimum size)	4000mm <sup>2</sup>	30L/sec or PSV
Bathroom (with or without WC)	Opening window (no minimum size)	4000mm <sup>2</sup>	15L/sec or PSV
Sanitary accommodation (separate from bathroom)	1/20 <sup>th</sup> of floor or mechanical extract at 6L/sec	4000mm <sup>2</sup>	

## VENTILATION OF NON-HABITABLE ROOMS NOT CONTAINING OPENABLE WINDOWS

In kitchens, utility rooms, bathrooms and sanitary accommodation not containing openable windows (i.e. internal rooms) the requirement will be satisfied if there is either:

- mechanical extract ventilation as per Table 1, or
- passive stack ventilation, or
- an open-flued heating appliance.

In rooms with no natural light it would be appropriate for the fans to be controlled by the operation of the light switch.

## NON DOMESTIC BUILDINGS

Similar ventilation requirements apply to these buildings and a method of complying is set out in Table 2 below.

**TABLE 2**

Ventilation of rooms containing openable windows (ie located on an external wall)			
Room	Rapid ventilation (eg opening windows)	Background ventilation (see diagram 3)	Extract ventilation <sup>(2,4)</sup> fan rates
Occupiable room <sup>(1)</sup>	1/20th if floor area	For floor areas: up to 10m <sup>2</sup> - 4000mm <sup>2</sup> greater than 10m <sup>2</sup> - at the rate of 400/m <sup>2</sup> of floor area	
Kitchen <sup>(2)</sup> (domestic type)	Opening window (no minimum size)	4000mm <sup>2</sup>	30 litres/second adjacent to hob, or 60 litres/second elsewhere
Bathrooms (including shower-rooms)	Opening window (no minimum size)	4000mm <sup>2</sup> per bath/shower	15 litres/second per bath/shower
Sanitary accommodation (and/or washing facilities)	1/20th of floor area, or mechanical ventilation at 6 litres/second per WC or 3 air changes per hour	4000mm <sup>2</sup> per WC	

There are also guidance documents for specialist activities such as schools, workplaces, hospitals, building services plant rooms, rest rooms where smoking is permitted and commercial kitchens.

Car parks below ground level, enclosed car parks and multi-storey car parks should be naturally or mechanically vented.

## BACKGROUND VENTILATION

A ventilation opening (or openings), eg. trickle ventilators, air bricks with a "hit and miss" ventilator, or where appropriate, suitably designed opening windows. The opening(s) should be reasonably secure, adjustable and located (typically 1.75m above floor level) so as to avoid discomfort due to cold draughts and to prevent rain entry.

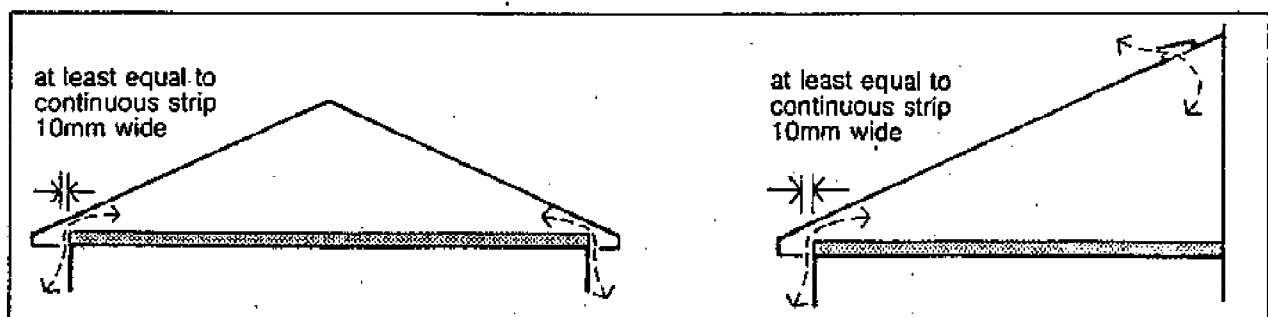
## MECHANICAL VENTILATION OF ROOMS

Occupiable rooms (see definitions later) require a rate of not less than 8 litres/second of fresh air per occupant, assuming there is no provision for smoking. Rooms designed for light smoking would require a fresh air supply of 16 litres/second. Specific rooms designed for heavy smoking must comply with the provisions of The Workplace Regulations.

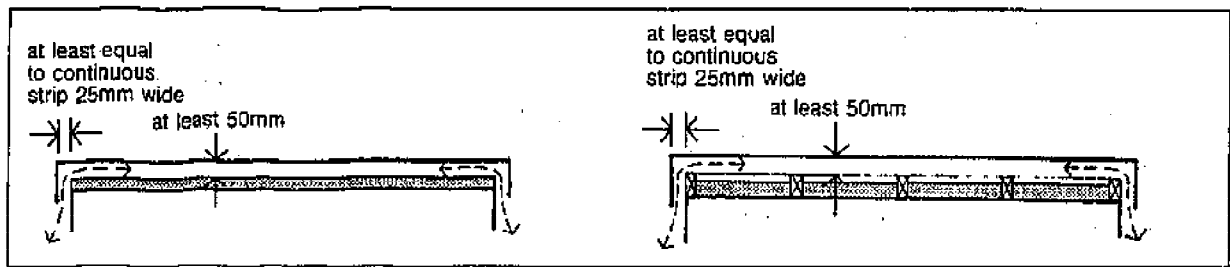
Kitchens, bathrooms and sanitary accommodation without windows (e.g. internal rooms) required to have mechanical ventilation in accordance with Table 2 must have a fan with a 15 minute overrun and be controlled automatically or manually. An air inlet to the room should be provided e.g. a 10mm gap under the door.

## CONDENSATION IN ROOFS - APPROVED DOCUMENT F : F2

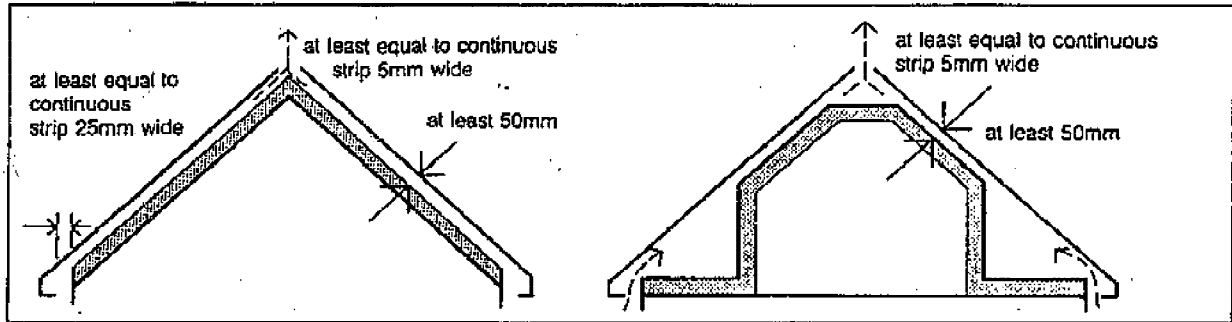
Where the moisture from a building can permeate the insulation and cause possible condensation within a roof void, cross ventilation should be provided to the space above the insulation. It is necessary to use one of the following methods to prevent condensation in roof spaces for ALL BUILDINGS.



a) Pitched Roof



## b) Flat roof



## c) Ceiling following pitch of roof

### ALTERNATIVE APPROACH

The requirement can also be met by following the relevant recommendations of BS5250 : 1989; the control of condensation in buildings.

If cross ventilation cannot be provided it will be necessary to provide a warm deck roof, as it is not necessary to ventilate warm deck roofs or inverted roofs.

### DEFINITIONS

**Ventilation opening** - this can include any means of ventilation (whether it is permanent or closable) which opens directly to external air, such as the openable parts of a window, a louvre, airbrick, progressively openable ventilator, or window trickle ventilator. It also includes any door which opens directly to external air.

**Habitable room** - this is a room used for dwelling purposes but which is not solely a kitchen.

**Bathroom** - this is a room containing a bath or shower, and can include sanitary accommodation.

**Sanitary accommodation** - this is a space containing one or more closets or urinals. Sanitary accommodation containing one or more cubicles counts as a single space if there is free circulation of air throughout the space.