

**Building Control
Guidance Note
16**

MEANS OF VENTILATION-PART F 2006

**Background ventilators and
Intermittent extract fans in dwellings**



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From the 6th of April 2006 new regulations relating to the ventilation of buildings come into force. In order to demonstrate compliance the whole of the building needs to be considered

Background ventilators and intermittent extract fans (system 1)

The ventilation strategy for dwellings adopted in the Approved Document F includes three main elements that can be delivered by natural or mechanical systems, or a combination of both: -

1. **Extract ventilation** - mechanical extract for rooms with water vapour or pollutants.
2. **Whole building ventilation** - providing fresh air and dispersal of pollutants through air exchange via background (trickle) ventilators.
3. **Purge ventilation** - (previously called 'rapid') to remove large amounts of pollutants and vapour and to be used to improve thermal comfort.

Location of extract ventilation devices in rooms

- Cooker hoods containing extract fans should be 650 to 750mm above a hob surface
- Extract fans should be as high as possible, preferably less than 400mm below the ceiling.
- Extract fans should be sited in each 'wet room'.
- For a room with no openable window, the extract fan should have a 15-minute overrun. In rooms with no natural light, the fan could be controlled by the operation of the main room light switch.

Extract ventilation rates

Room	Minimum. Intermittent extraction rate
Kitchen	30 l/s (adjacent to hob) or 60 l/s (elsewhere)
Utility room	30 l/s
Bathroom	15 l/s
Sanity accommodation	6 l/s (but can be purge ventilated by windows where security is not an issue)

Background ventilators for dwellings

For dwellings with more than one exposed façade the minimum total equivalent area of high-level background ventilators is given in the table overleaf. If there is only one façade additional low-level ventilators having at least the same total equivalent area will be needed at least 1 m below the high level ventilators, as building cross ventilation would not be possible. All habitable rooms should have a minimum of 5000mm² and all 'wet rooms' with an external wall should have a minimum 2500mm² and these should be typically 1.7m above floor level.

To ensure good transfer of air throughout the dwelling there should be an undercut of a minimum area of 7600mm² in all internal doors above the floor finish (e.g. 10mm gap on a standard door).

For single storey dwellings (e.g. bungalows and flats up to four storeys above ground) an additional 5000mm² should be added to the minimum equivalent background ventilator area indicated in the table overleaf

Equivalent background ventilator area for dwellings, (mm²)

Total floor area (m ²)	Number of bedrooms				
	1	2	3	4	5
≤ 50	25,000	35,000	45,000	45,000	55,000
51-60	25,000	30,000	40,000	45,000	55,000
61-70	30,000	30,000	35,000	45,000	55,000
71-80	35,000	35,000	35,000	45,000	55,000
81-90	40,000	40,000	40,000	45,000	55,000
91-100	45,000	45,000	45,000	45,000	55,000
> 100	Add 5,000mm ² for every additional 10m ² floor area				

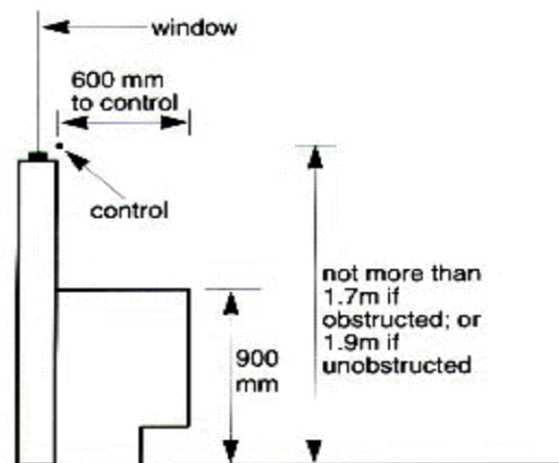
Purge ventilation

Adequate purge ventilation may be achieved by the use of openable windows and/or external doors of the following sizes: -

- A hinged or pivot window that opens 30° or more, or sliding sash windows where the height x width of the opening area is at least 1/20th of the floor area of the room.
- A hinged or pivot window that opens less than 30°, the height x width of the opening area is at least 1/10th of the floor area of the room.
- An external door (including patio doors) that has an opening area at least 1/20th the floor area of the room.

Accessible controls

Where manual controls are provided they should be within reasonable reach of occupants and it is recommended that they are located in accordance with the guidance for requirement N3 safe opening and closing of windows. Skylights and ventilators should have manual controls that are not more than 1.9m above floor level or 1.7m if there is an obstruction such as a sink or worktop.



Guidance on alternative ventilation systems are shown in the 2006 edition of Approved Document F and include Passive Stack Ventilation; Continuous Mechanical Extract Ventilation; and Continuous Mechanical Supply and Extract with Heat Recovery (MVHR).

Replacement windows

All replacement windows should include trickle ventilators or an equivalent background ventilation opening in the same room. Where there was previously none or, the size is unknown, a minimum of 5,000mm² for habitable rooms and 2,500mm² for kitchens, utility rooms or bathrooms (with or without WC) should be provided