

- iv) have the branch connection to the common duct via a fire shunt of 1800 mm in height (see Figure 1), and
 - v) have the fire shunt and the stack located in a *fire separated* shaft.
- h) when extracting from bathrooms, toilets and laundries:
- i) be installed in a *fire separated* shaft, and
 - ii) have the branch connection to the *common extract duct* via a fire shunt of 900 mm in height (see Figure 1), and
 - iii) have connections that contain no more than two bends and do not have any duct that is more than 45° to the vertical, and
 - iv) be ducting made of non-combustible material, unless the *common extract duct* is the only duct in the fire separated shaft.
- i) have ventilation ducts and stacks that are insulated in any unheated areas with a minimum thickness of 25 mm of a material having a thermal conductivity of no less than 0.04W/m²K, and
- j) have a condensation trap fitted to the part of the duct above the roof level.

Table 1: Number of occupants Paragraph 1.3.9	
Household unit accommodation unit type	Number of people
Studio	2
1 bedroom	2
2 bedroom	3
Greater than 2 bedrooms	Add 1 per bedroom

1.3.8 The terminal of a *passive stack ventilator* shall:

- a) have an *equivalent aerodynamic area* greater than the cross-sectional area of the stack, and
- b) extend above the roof to at least the ridge height.

COMMENT:

To comply with b) the outlet of the *passive stack ventilator* should be placed at the ridge of the roof to reduce the adverse effects of wind gusts.

Trickle ventilators

1.3.9 *Trickle ventilators* are devices that have an opening to the outside. *Trickle ventilators* shall:

- a) have an opening of no less than 2000 mm² *equivalent aerodynamic area*, and
- b) be located to minimise draughts, and
- c) be secured to keep pests and insects out, and
- d) have acoustic attenuation, if required by NZBC G6 Airborne and Impact Sound, and
- e) be controllable and closable in all conditioned spaces, and
- f) be installed in *household units*, providing they do not contain mechanical supply ventilation, and
- g) have the sum of the *equivalent aerodynamic area* greater than the sum of the equivalent area of the *passive stack ventilator(s)*, if installed in a *household unit*, and
- h) have the *equivalent aerodynamic area*, based on the number of occupants, for the space as given in Tables 1 and 2, and

Table 2: Total required equivalent aerodynamic area per space (mm ²) Paragraph 1.3.9					
Ventilator locations	Number of occupants				
	1	2	3	4	5
High and low level	4000	8000	12,000	16,000	20,000
High level only	3000	6000	9000	12,000	15,000