

# Acceptable Solution G4/AS1

## 1.0 Ventilation

### 1.1 Introduction

**1.1.1** Ventilation of spaces within *buildings* is required to maintain air purity by a flow of *outdoor air* through the *building* envelope, with or without mechanical assistance.

#### COMMENT:

If activities or environmental conditions adjacent to external natural ventilation openings produce air pollution in any of the forms listed in NZBC G4.3.3, it may be necessary to relocate the openings or use mechanical ventilation.

**1.1.2** Ventilation of spaces within *buildings* must be provided by natural ventilation (refer to Paragraphs 1.2 and 1.3), mechanical ventilation (refer to Paragraph 1.5), or a combination of mechanical and natural ventilation (refer to Paragraph 1.4).

**1.1.3** *Buildings* containing Type 5 fire alarm systems must have mechanical extract ventilation installed in kitchens.

#### COMMENT:

Refer to Acceptable Solution F7/AS1 and Acceptable Solutions C/AS1– C/AS6 Appendix A for information on Type 5 fire alarms.

Amend 3  
Feb 2014

### 1.2 Natural ventilation – General

**1.2.1** Where natural ventilation is available via adjacent spaces, specific ventilation is not required to small spaces such as hallways and lobbies in *household units*.

**1.2.2** Natural ventilation of *occupied spaces* must be achieved by providing a *net openable area* of windows or other openings to the outside of no less than 5% of the floor area. The 5% floor area requirement does not apply to:

- a) *occupied spaces* in Commercial and Industrial *buildings* where products listed in NZBC Clause G4.3.3 are generated (mechanical ventilation of these spaces is required), and
- b) *household units* and accommodation units where there is only one external wall with opening windows (refer to Paragraph 1.3 for additional requirements if natural ventilation is used).

**1.2.3** Openable *building elements* shall be constructed in a way that allows them to remain fixed in the open position as a means of ventilation during normal occupancy of the *building*.

#### COMMENT:

1. The net openable area of windows or doors is measured on the face dimensions of the *building element* concerned.
2. Fixing in an open position of doors and windows used for ventilation is necessary to avoid injury or damage from sudden closure in the event of strong winds or other forces.
3. Keeping water from entering the *building* must be considered for compliance with NZBC Clause E2 External Moisture.

**1.2.4** Natural ventilation of car parks shall comply with the natural ventilation part of AS 1668.2 Section 7.

### 1.3 Natural ventilation of household units and accommodation units with one external wall

#### Scope

**1.3.1** Paragraphs 1.3.2 to 1.3.9 specify the natural ventilation to both *household units* and accommodation units with only one external wall, such as those often found in apartments, hotels and motels.

#### Kitchens, bathrooms, toilets and laundries that have an external wall

**1.3.2** For kitchens, bathrooms, toilets and laundries located on the external wall, moisture and other contaminants must be ventilated to the outside by natural ventilation using either:

- a) windows and/or other openings to the outside with a *net openable area* of no less than 5% of the floor area, or
- b) high level *trickle ventilators* located through the external wall or *building elements* within the external wall (see Paragraph 1.3.9 for *trickle ventilators*), where the distance between the external wall and opposing wall is less than 6 metres.