1.5 Mechanical ventilation

1.5.1 Mechanical ventilation systems must satisfy the following conditions:

a) **outdoor air supply** shall be designed and equipment installed to comply with NZS 4303, or AS 1668.2 (excluding Table A1 and Sections 3 and 7), and to provide outdoor air to *occupied spaces* at the flow rates given in NZS 4303 Table 2, and

b) **air-handling systems** shall be installed and maintained to the requirements of AS/NZS 3666.1 and AS/NZS 3666.2, and

c) **extract ventilation** shall:

i) be constructed so that any products listed in Clause G4.3.3 are removed, collected or diluted by ventilation rates and methods set out in AS 1668.2 Section 5

COMMENT:
Commercial kitchen extract ventilation is included in AS 1668.2 Section 5.

ii) where provided to remove moisture and other contaminants from kitchens, bathrooms, toilet spaces and laundries in *household units*, exhaust the air to the outside at flow rates given in AS 1668.2, Table B1, and

iii) where provided for extract from kitchens, bathrooms, toilets and laundries in *buildings* containing *household units* or accommodation units, refer to Paragraphs 1.5.2 and 1.5.3.

d) **outdoor air intakes** shall be located to avoid contamination from any local source in accordance with AS 1668.2 Clause 4.3.1 and NZS 4303 Clause 5.5, and

e) **recirculated air systems** shall comply with AS 1668.2 Clause 4.5, and

f) **contaminated air discharge systems** shall discharge contaminated air in a way that complies with AS 1668.2 Clause 5.10, and

g) **filtration** shall comply with AS 1668.2 Clause 4.4, and

h) **commissioning** shall comply with CIBSE Code Series A.

Extract ventilation from buildings containing household units and accommodation units

1.5.2 Extract ventilation from kitchens must:

a) maintain the *fire separation* of the fire separated shaft with a pressure-forming intumescent fire collar around a collapsible duct, and

b) have ducting, downstream of the fire collar, made of non-combustible material, and

c) have the branch connection to the *common extract duct* located in a fire separated shaft, and

d) have the fire shunt and *common extract duct* located in a separated shaft.

1.5.3 Extract ventilation from bathrooms, toilets and laundries must:

a) be installed in a fire separated shaft, and

b) have the branch connection to the *common extract duct* via a fire shunt of 900 mm in height, and

c) be ducting made of non-combustible material, unless the *common extract duct* is the only duct in the fire separated shaft.

Car park ventilation

1.5.4 Mechanical ventilation of car parks shall comply with the mechanical ventilation part of AS 1668.2 Section 7.

Positive and negative pressure

1.5.5 *Building* interiors ventilated by mechanical systems incorporating filtration shall, except where Paragraph 1.4.4 applies, be maintained at a positive pressure.

COMMENT:
Positive pressure allows good control of intake air filtration, whereas under negative pressure, unfiltered air may be drawn through gaps and openings in *building elements*.

1.5.6 Spaces in which mechanical ventilation is used to remove or collect contaminants shall be maintained at negative pressure relative to other spaces in the *building*.

COMMENT:
Negative pressure reduces the likelihood of contaminants being spread to other spaces.