AS 1668.4—2012

Australian Standard®

The use of ventilation and airconditioning in buildings

Part 4: Natural ventilation of buildings

This Australian Standard® was prepared by Committee ME-062, Ventilation and Airconditioning. It was approved on behalf of the Council of Standards Australia on 30 November 2012.
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The following are represented on Committee ME-062:

- Air Conditioning and Mechanical Contractors Association
- Australasian Fire and Emergency Service Authorities Council
- Australian Building Codes Board
- Australian Industry Group
- Australian Institute of Refrigeration Air Conditioning and Heating
- Chartered Institute of Building Services Engineers
- Climate Control Companies Association
- Consumer Electronic Suppliers Association
- Department of Health and Human Services, Tasmania
- Engineers Australia
- Facility Management Association of Australia
- Fire Protection Association Australia
- Institute of Refrigeration Heating and Air Conditioning Engineers of New Zealand
- Plastics and Chemical Industries Association
- Plumbing Industry Commission
- Property Council of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee ME-062, Ventilation and Airconditioning, to supersede, in part, AS 1668.2—2002, *The use of ventilation and airconditioning in buildings*, Part 2: *Ventilation for indoor air contaminant control (excluding requirements for the health aspects of tobacco smoke exposure)*.

In accordance with the philosophy of adopting a complementary approach to building regulations, the relocation of natural ventilation content from AS 1668.2—2002 to this new Part 4 of the AS 1668 series fulfils this requirement, as well as provides the deemed to satisfy requirement of the National Construction Code (NCC).

This Standard covers—

(a) natural ventilation of occupied spaces; and

(b) natural ventilation within car parks and vehicle facilities.

During the preparation of this Standard, consideration was given to many international and national Standards, design guides, technical papers, manuals and other publications.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

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FOREWORD

This Standard sets out the requirements for the design of natural ventilation systems, which have been relocated from AS 1668.2—2002. Where possible, this Standard is prescriptive and calculations are presented as simple and detailed procedures.

It is recognized that this Standard is likely to be used for occupational health and community health purposes, thus its provision have been designed, to the extent possible, to community health criteria promulgated by peak health bodies. Implicit in this recognition is the possibility that the provisions of the Standard may, at least in part, be excessively conservative when applied in an occupational health context. The Standard provides an approach for the design of natural ventilation as a performance approach outside of the National Construction Code (NCC) prescribed requirements.

STANDARDS AUSTRALIA

Australian Standard
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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out minimum design requirements for natural ventilation systems that ventilate enclosures, and requirements for the ventilation of car parks.

This Standard does not prescribe requirements associated with comfort, such as temperature, humidity, air movement or noise, nor does it include requirements for the maintenance of ventilation systems.

NOTES:

1 Road tunnels are outside the scope of this Standard.

2 Fire and smoke control aspects of air-handling systems are covered in AS 1668.1.

3 Requirements for mechanical ventilation are covered by AS 1668.2.

4 Requirements for system design in respect of microbial control are given in AS/NZS 3666.1.

5 Requirements for the provision of ventilation for gas appliances are given in AS 5601.

1.2 APPLICATION

1.2.1 General

This Standard is intended for use by regulatory authorities, building service designers, architects, equipment manufacturers and suppliers, installers, managers, owners and operating staff responsible for designing natural ventilation systems.

C1.2.1 *It is intended that this Standard be applied to new buildings at the design stage. Its application to some existing buildings may be inappropriate and, in such instances, alternative designs and solutions may be necessary.*

1.2.2 Ventilation system application

The design of ventilation systems shall be applied as follows:

(a) *Natural ventilation* Natural ventilation provisions shall comply with Section 2 for general enclosures and Section 3 for enclosures accommodating automotive vehicles with internal combustion engines.

(b) *Combination ventilation systems* For combinations of natural and mechanical ventilation provisions, the provisions shall comply with the appropriate sections of this Standard, in conjunction with the requirements of AS 1668.2.

NOTE: For mechanical ventilation, system selection (supply or exhaust) is specified in AS 1668.2.