

Australian Standard[®]

**The use of mechanical ventilation
and air-conditioning in buildings**

**Part 2: Mechanical ventilation for
acceptable indoor-air quality—
Commentary
(Supplement to AS 1668.2 – 1991)**

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Association of Consulting Engineers, Australia
Australian Assembly of Fire Authorities
Department of Administrative Services
Australian Construction Services
Australian Institute of Environment Health
Australian Institute of Refrigeration Air Conditioning and Heating
Australian Uniform Building Regulations Coordinating Council
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Revised and redesignated AS 1668.2 Supp1–1991.

PREFACE

This Commentary on AS 1668, *The use of mechanical ventilation and air-conditioning in buildings, Part 2: Mechanical ventilation for acceptable indoor-air quality*, was prepared by the Standards Australia Committee on Mechanical Ventilation and Air Conditioning to provide guidance on the application of the Code by explaining the intent of those clauses which could be the subject of requests for interpretation.

This publication supersedes SAA MP 47, Part C2: *Commentary on AS 1668, SAA Mechanical Ventilation and Airconditioning Code, Part C2: Ventilation requirements*. The contents have been revised to incorporate all alterations included in AS 1668, Part 2–1991.

The clause references in the Commentary are those for the corresponding clauses in AS 1668, Part 2–1991, prefixed by the letter 'C'.

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CONTENTS

	<i>Page</i>
SECTION C1 SCOPE AND GENERAL	
C1.1 SCOPE	4
C1.2 APPLICATION	4
SECTION C2 SUPPLY AIR DILUTION PROCEDURE	
C2.1 SCOPE OF SECTION	5
C2.2 OUTDOOR AIR INTAKES	5
C2.3 OUTDOOR AIR FLOW RATES	5
C2.5 OUTDOOR AIR MIXING AND DISTRIBUTION	6
C2.6 OUTDOOR AIR FLOW	7
SECTION C3 EXHAUST DILUTION PROCEDURES	
C3.1 SCOPE OF SECTION	8
C3.2 GENERAL EXHAUST VENTILATION	8
C3.3 LOCAL EXHAUST	8
C3.4 AIR FROM ENCLOSURES HAVING EXHAUST AIR REQUIREMENTS	8
C3.5 REPLENISHMENT OF EXHAUST AIR	9
C3.6 COMBINATION OF EXHAUST SYSTEMS	9
C3.7 AIR DISCHARGES	9
SECTION C4 VENTILATION OF ENCLOSURES USED BY VEHICLES WITH INTERNAL COMBUSTION ENGINES	
C4.2 APPLICATION OF SECTION	10
C4.3 GENERAL CASE	10
C4.4 CARPARKS	10
C4.5 ENCLOSURES OTHER THAN CARPARKS	11
C4.6 QUEUING AREA	11
C4.8 REPLENISHMENT OF EXHAUST AIR	11
C4.10 STAFF—VENTILATION RATE	11
C4.11 LOCATION OF EXHAUSTS IN BELOW GROUND ENCLOSURES	11
C4.13 MONITORING OF ATMOSPHERIC CONTAMINANTS	12
APPENDICES	
CA DERIVATION OF THE AIR CLEANING EFFICIENCY EQUATIONS USED IN APPENDIX D, AS 1668 PART 2	13
CB BASIS OF AIR FLOW RATES FORMULAE FOR CARPARKS	25
CC DERIVATION OF AIR FLOW RATES FOR QUEUING AREAS	27

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Australian Standard

The use of mechanical ventilation and air-conditioning in buildingsPart 2: Mechanical ventilation for acceptable indoor-air quality—Commentary
(Supplement 1 to AS 1668.2—1991)

SECTION C1 SCOPE AND GENERAL

C1.1 SCOPE Present building regulations (and the Australian Model Uniform Building Code) are based on the assumption that natural ventilation will be the first ‘natural’ choice and arbitrary minimum criteria for such ‘natural’ ventilation are prescribed. Presumably the occupants will have control over this aspect of their environment in the type of space where natural ventilation is employed.

In the event of the criteria not being met, e.g. percentage of floor area as openable windows or fixed openings and/or distance from openings are insufficient, then mechanical ventilation or air-conditioning would be required, as a permissible substitute. Where the criteria were met, then mechanical ventilation or air-conditioning would be a permissible substitute at the constructor’s option – generally at a higher cost.

AS 1668, Parts 1 and 2 are references in both State and Territory building regulations and in the recently published *Building Code of Australia*. Where mechanical ventilation is required by such regulations and codes, compliance with AS 1668 is prescribed. This therefore places constraints on the wording of the Standard that would not otherwise be necessary.

AS 1668.2—1980 provided some interpretations of the application of natural ventilation to carpark as prescribed in building regulations. Since AS 1668.2 is only referenced in building regulations in respect to mechanical ventilation requirements, consideration was given to the deletion of these natural ventilation interpretations. The Australian Uniform Building Regulations Interstate Committee deemed it appropriate that such interpretations remain in AS 1668.2 at this time. They have therefore been developed in more detail in the revision for further clarification. The wording of the Standard in respect of the use of natural ventilation has also been changed to provide a more logical basis for its inclusion.

Although AS 1668.2 has been incorporated in State and Territory building regulations, its use has been supplemented or replaced in specific areas by local codes. The revision is expected to achieve greater acceptance of AS 1668.2 except where a local code also addresses air-conditioning. Although the title of AS 1668.2 has been changed from ‘Ventilation requirements’ to ‘Mechanical ventilation for acceptable indoor-air quality’ the extension of the Standard to include comfort in terms of the control of temperature, humidity, air-movement or noise was still deemed to be inappropriate at this time. These elements are therefore only addressed in terms of the definition of limits beyond which health or safety may be impaired.

C1.2 APPLICATION The application of the Standard are now more precisely described by direct reference to the specific application of each section.

To provide greater assistance in the use of the Standard, a logic diagram has also been included.