

Australian Standard™

**Fire detection, warning, control and
intercom systems—System design,
installation and commissioning**

Part 1: Fire



This Australian Standard was prepared by Committee FP-002, Fire Detection, Warning, Control and Intercom Systems. It was approved on behalf of the Council of Standards Australia on 2 March 2004.

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The following are represented on Committee FP-002:

Audio Engineering Society
Australasian Fire Authorities Council
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Industry Group
Australian Institute of Building Surveyors
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Fire detection, warning, control and intercom systems—System design, installation and commissioning

Part 1: Fire

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PREFACE

This Standard was prepared by the Standards Australia Committee FP-002; Fire Detection, Warning, Control and Intercom Systems, to supersede AS 1670.1—1995, *Fire detection, warning, control and intercom systems—System design, installation and commissioning, Part 1: Fire*, and AS 1670.2—1997, *Fire detection, warning, control and intercom systems—System design, installation and commissioning, Part 2: Local fire* (which is being withdrawn). Its preparation is supported by AS 1603, *Automatic fire detection and alarm systems*, AS 4428, *Control and indicating equipment*, AS 7240, *Fire detection and fire alarm systems* and EN 54, *Fire detection and fire alarm systems* component Standards used in an automatic fire detection and alarm system and installed in accordance with this Standard.

This Standard incorporates Amendment No. 1 (November 2005). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This Standard will be referenced in the Building Code of Australia 2004, thereby superseding AS 1670.1—1995 and AS 1670.2—1997, which will be withdrawn 12 months from the date of publication of this Standard.

For the first time this Standard permits the installation of specific components that comply with ISO equipment Standards (issued as AS Standards) and EN 54. Committee FP-002 intends to review the application of existing Australian equipment Standards where International Standards exist. This will take effect five years after the publication of the Australian adoption of the International Standards. Smoke detectors, heat detectors, power supply units and control and indicating equipment Standards are expected to be among the first to be reviewed. Other parts of AS 1603 for equipment for which no International Standard exists will remain current.

This edition covers both monitored and local fire detection and alarm systems and also allows the use of smoke and heat alarms in some instances. Audible warning within the building now specifies signals conforming to ISO 7731, *Ergonomics—Danger signals for work places—Auditory danger signals* and ISO 8201, *Acoustics; Audible emergency evacuation signal*. The building may have a sound system for emergency purposes that complies with AS 1670.4, *Fire detection, warning, control and intercom systems—Sound systems and intercom systems for emergency purposes*. AS 1670.4 has replaced the emergency warning system installation requirements specified in AS 2220.2, *Emergency warning and intercommunication systems in buildings, Part 2: Equipment design and manufacture*.

The use of the strobes has replaced bells at the main entrance, which is now identified as the designated building entry point. The new term, designated site entry point, has been introduced for multi-building sites.

Appendix A ‘Guidance for the selection of detectors’ assists in the design of fire detection and alarm systems. Appendices B and C provide guidance for the installation of wiring systems and calculation of power source capacity.

The commissioning section encompasses Appendices E and F, which are report forms to indicate the installation content and its compliance with this Standard.

Maintenance requirements for fire detection and alarm equipment are given in AS 1851, *Maintenance of fire protection equipment*.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the Appendix to which they apply. A ‘normative’ Appendix is an integral part of a Standard, whereas an ‘informative’ Appendix is only for information and guidance.

This Standard incorporates commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by ‘C’ preceding the clause number and is printed in italics in a box. The commentary is for information only and does not need to be followed for compliance with the Standard.

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STANDARDS AUSTRALIA

Australian Standard

**Fire detection, warning, control and intercom systems—System design,
installation and commissioning****Part 1: Fire**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements for the design, installation and commissioning of fire detection and alarm systems comprising components complying with the requirements of the appropriate product Standards.

1.2 APPLICATION

All fire detection and alarm systems shall comply with the requirements of Section 2 and Section 3, with the additional requirements of Section 4, Section 5, or Section 6 according to the actuating device type, and the commissioning requirements of Section 7.

Where a fire detection and alarm system is ancillary to an automatic fire suppression system, the detection and alarm system shall comply with the appropriate requirements of this Standard.

This Standard requires that detection be provided throughout all areas of the building, however, where systems are installed to solely meet the requirements of the BCA, detectors may only be required in certain nominated areas.

1.3 REFERENCED DOCUMENTS

AS

1259	Acoustics—Sound level meters
1259.1	Non-integrating
1603	Automatic fire detection and alarm systems
1603.1	Part 1: Heat detectors
1603.2	Part 2: Point type smoke detectors
1603.3	Part 3: Heat alarms
1603.5	Part 5: Manual call points
1603.7	Part 7: Optical beam smoke detectors
1603.8	Part 8: Multi-point aspirated smoke detectors
1603.11	Part 11: Visual warning devices
1603.13	Part 13: Duct sampling units
1603.14	Part 14: Point type carbon monoxide (CO) fire detectors
1603.15	Part 15: Remote indicators
1668	The use of mechanical ventilation and air-conditioning in buildings
1668.1	Part 1: Fire and smoke control in multi-compartment buildings
1670	Fire detection, warning, control and intercom systems—System design, installation and commissioning
1670.3	Part 3: Monitoring network performance
1670.4	Part 4: Sound systems and intercom systems for emergency purposes

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1.4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS 2484.2, BCA and those below apply.

1.4.1 Adjacent

Side-by-side but not necessarily touching.

1.4.2 Alarm acknowledgment facility

That part of the control and indicating equipment (CIE) that provides a delay to allow an occupant to clear an unwanted detector activation before the activation is processed as a fire alarm.

1.4.3 Alarm signalling equipment

That part of control and indicating equipment (CIE) designed to communicate alarm and fault signals and other information between a fire detection and alarm system and a monitoring service provider.

1.4.4 Alarm verification facility

That part of the control and indicating equipment (CIE) which provides an automatic resetting or equivalent function for alarm signals and only permits subsequent alarms to initiate occupant warning system, alarm signalling equipment or ancillary control functions.

1.4.5 Approval (approved)

The granting of formal permission in relation to an application or proposal, with or without conditions, given by a body having statutory powers under an Act of Parliament or the Regulations of such an Act.

1.4.6 Contiguous

Adjacent to, and mutually accessible.

1.4.7 Corridor

A narrow enclosed thoroughfare, other than a lift lobby, not exceeding 3.5 m in width, and not used for trade or storage purposes.

1.4.8 Cupboard

An enclosure recessed into a wall or fixed to a wall, having a door or doors.

1.4.8(A) Customer cabling

As defined by AS/ACIF S009.

1.4.9 Designated building entry point

An entry point to a building which provides fire fighters with information identifying the location of the fire alarm.

1.4.10 Designated site entry point

An entry point to a site which provides fire fighters with information identifying the location of the building from which the fire alarm originated.

1.4.11 Distributed system

A fire detection and alarm system where sections of the control and indicating equipment are remotely located from the fire indicator panel (FIP) or where subindicator panel(s) (SIP(s)) communicate with a FIP.

1.4.12 Extra-low voltage

That voltage defined in AS/ACIF S009.

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