

Australian Standard[®]

**Automatic fire detection and alarm
systems**

Part 2: Point type smoke detectors

This Australian Standard was prepared by Committee FP/2—Fire Detection, Warning, Control and Intercom Systems. It was approved on behalf of the Council of Standards Australia on 15 November 1996 and published on 5 January 1997.

The following interests are represented on Committee FP/2:

The Association of Consulting Engineers, Australia
Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Chamber of Manufactures
Australian Fire Authorities Council
Australian Fire Protection Association
Australian Water and Sewerage Authorities
Commonwealth Fire Board
CSIRO—Division of Building, Construction and Engineering
Department of Defence
Fire Protection Industry Association of Australia
Institution of Engineers, Australia
Insurance Council of Australia
Master Plumbers and Mechanical Services Association of Victoria
Melbourne Water
New Zealand Fire Equipment Association
Scientific Services Laboratory AGAL—Department of Administrative Services
Telstra Corporation

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

This Standard was issued in draft form for comment as DR 95443.

AS 1603.2—1997

Australian Standard[®]

**Automatic fire detection and alarm
systems**

Part 2: Point type smoke detectors

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7337 0870 6

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FP/2 on Fire Detection, Warning, Control and Intercom Systems to supersede AS 1603.2—1990, *Automatic fire detection and alarm systems, Part 2: Point type smoke detectors*, and is the result of a consensus among the representatives on the Joint Committee that it be produced as an Australian Standard.

It is recommended that a period of twelve months from the date of publication of this Standard be allowed for manufacturers to comply with this Standard.

The various components of automatic fire detection and alarm systems are being specified in the AS 1603 series of Standards.

Specifications for the design, installation and maintenance of equipment for fire detection and alarm systems and the testing of actuating devices are given in the following Standards:

AS

1670 Automatic fire detection and alarm systems—System design, installation and commissioning

1851 Maintenance of fire protection equipment

1851.8 Part 8: Automatic fire detection and alarm systems

2362 Automatic fire detection and alarm systems—Methods of test for actuating devices

The objective of this Standard is to provide designers and manufacturers of detection and alarm systems with requirements for the design, construction and performance of point type smoke detectors.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	4
1.2 APPLICATION	4
1.3 CLASSIFICATION	4
1.4 REFERENCED DOCUMENTS	4
1.5 DEFINITIONS	5
1.6 INTERPRETATION OF SPECIFIED LIMITING VALUES	5
1.7 NEW DESIGNS AND INNOVATIONS	5
SECTION 2 FUNCTIONS	
2.1 GENERAL	6
2.2 SENSITIVITY	6
2.3 SENSITIVITY ADJUSTMENTS	6
SECTION 3 DESIGN AND CONSTRUCTION	
3.1 GENERAL	7
3.2 MATERIALS AND COMPONENTS	7
3.3 RADIOACTIVE MATERIALS	7
3.4 ELECTRICAL	8
3.5 CONNECTING FACILITIES	8
3.6 INDICATING FACILITIES	8
3.7 ENCLOSURES	8
3.8 MOUNTING FACILITIES	8
SECTION 4 PRODUCT INFORMATION AND MARKING	
4.1 MARKING	9
4.2 POINT OF SALE INFORMATION	9
SECTION 5 ASSESSMENT OF COMPLIANCE	
5.1 CRITERIA OF ASSESSMENT AND TEST SCHEDULE	10
5.2 FUNCTIONAL ASSESSMENT	10
5.3 ENDURANCE ASSESSMENT	11
5.4 REPORTING	13

Originated as AS 1603.2—1990.
Second edition 1997.

Incorporating:
Amdt 1—1998

STANDARDS AUSTRALIA

Australian Standard

Automatic fire detection and alarm systems

Part 2: Point type smoke detectors

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies requirements for the design, construction and performance of point type smoke detectors as used in automatic fire detection and alarm systems.

This Standard does not cover detectors installed in air handling ducts, although many provisions herein could be applied to such applications.

1.2 APPLICATION This Standard applies to smoke detectors intended for installation in accordance with AS 1670 and connected to compatible control and indicating equipment (CIE).

1.3 CLASSIFICATION Point type smoke detectors shall be classified as ionization or photo-electric (light scattering).

1.4 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS

1319	Safety signs for the occupational environment
1670	Automatic fire detection and alarm systems—System design, installation and commissioning
1939	Degrees of protection provided by enclosures for electrical equipment (IP Code)
2362	Automatic fire detection and alarm systems—Methods of test for actuating devices
2362.4	Method 4: Voltage stability test
2362.5	Method 5: Insulation resistance test
2362.6	Method 6: Static discharge test
2362.7	Method 7: Electromagnetic interference test
2362.8	Method 8: Impulse voltage withstand test
2362.9	Method 9: High frequency disturbance test
2362.10	Method 10: Low temperature test
2362.11	Method 11: Damp heat test
2362.12	Method 12: Dry heat test
2362.13	Method 13: Corrosion test
2362.15	Method 15: Vibration test
2362.16	Method 16: Impact test
2362.17	Method 17: Sensitivity test
2362.18	Method 18: Air velocity stability test
2362.19	Method 19: Dust test
2362.25	Method 25: Indicator visibility test