



Automatic fire detection and alarm systems

Part 17: Warning equipment for people with hearing impairment



AS 1603.17:2020

This Australian Standard® was prepared by FP-002, Fire Detection, Warning, Control and Intercom Systems. It was approved on behalf of the Council of Standards Australia on 15 June 2020.

This Standard was published on 26 June 2020.

The following are represented on Committee FP-002:

- Australasian Fire and Emergency Service Authorities Council
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Institute of Building Surveyors
- CSIRO
- Deafness Forum of Australia
- Engineers Australia
- Fire Protection Association Australia
- Hydraulic Consultants Association Australasia
- National Electrical and Communications Association
- National Fire Industry Association
- Property Council of Australia
- Society of Fire Safety

This Standard was issued in draft form for comment as DR AS 1603.17:202X.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

ISBN 978 1 76072 889 2



Automatic fire detection and alarm systems

Part 17: Warning equipment for people with hearing impairment

First published as AS 1603.17—2011.
Second edition 2011.
Third edition 2020.

COPYRIGHT

© Standards Australia Limited 2020

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

Preface

This Standard was prepared by the Standards Australia Committee FP-002, Fire Detection, Warning, Control and Intercom Systems, to supersede AS 1603.17—2011, *Automatic fire detection and alarm systems, Part 17: Warning equipment for people with hearing impairment*.

The objective of this document is to provide design and performance requirements for warning equipment that acts in conjunction with smoke alarms or other emergency detection systems to alert people with hearing impairment to potential danger.

The major changes in this edition are as follows:

- (a) Terminology aligned with the AS 1670 series and BS 5446-3.
- (b) Normative references updated.
- (c) Power supply requirements clarified.
- (d) Conformance of VAD to AS ISO 7240.23.
- (e) Conformance of AAD to AS ISO 7240.3 or AS 3786.
- (f) Fault response timings aligned with the AS 7240 series.
- (g) Component assessment requirements clarified.

Contents

Preface	ii
Introduction	v
Section 1 Scope and general	1
1.1 Scope.....	1
1.2 Normative references.....	1
1.3 Terms and definitions.....	2
1.4 Abbreviated terms.....	3
Section 2 Warning systems	4
Section 3 Components	5
3.1 General.....	5
3.2 Control panel.....	5
3.2.1 General.....	5
3.2.2 Wired component connectors.....	5
3.2.3 Transmission path fault supervision.....	5
3.2.4 Enclosure protection.....	5
3.3 Display of functional conditions.....	6
3.4 Control panel indications.....	6
3.4.1 General.....	6
3.4.2 Indication of power.....	6
3.4.3 Indication of an alarm condition.....	6
3.4.4 Indication of a fault.....	6
3.4.5 Display of indications.....	6
3.4.6 Audible indication of fire alarm — Optional function.....	6
3.4.7 Additional indications.....	7
3.4.8 Quiescent condition.....	7
3.5 Alarm condition.....	7
3.5.1 Reception and processing of alarm signals.....	7
3.5.2 Silence warning system facility — Optional function.....	7
3.5.3 Alarm condition test facility — Optional function.....	7
3.6 Fault warning condition.....	8
3.6.1 Reception and processing of fault signals.....	8
3.6.2 Indication of faults.....	8
3.6.3 Audible fault indication — Optional function.....	8
3.7 Control panel power supply.....	8
3.8 Visual alarm device.....	9
3.9 Vibrating pad (option with requirements).....	9
3.10 Vibrating alerter (option with requirements).....	9
3.11 Radio-transmission path for warning system components.....	9
3.11.1 General.....	9
3.11.2 Operating range.....	10
3.11.3 Fault monitoring.....	10
3.12 Audible alarm device (option with requirements).....	10
3.13 Labelling.....	10
3.14 Software.....	10
3.15 Component conformance.....	10
Section 4 Testing	12
4.1 General.....	12
4.2 Functional test.....	12
4.3 Environmental tests.....	12
4.4 Shock test.....	12
4.4.1 Test procedure.....	12
4.4.2 Test requirements.....	13
4.5 Drop test.....	13

4.5.1	Test procedure	13
4.5.2	Test requirements	14
Section 5	Marking and data	15
5.1	Individual component marking	15
5.2	Point of sale packaging	15
5.2.1	Kits	15
5.2.2	Individual components	15
5.3	Hardware documentation	16
5.4	Test report	16

Introduction

Smoke alarm systems and smoke detection systems for use in residential applications are intended to warn of the presence of fire by emitting an audible warning. However, people with hearing impairment may be unable to hear the audible alarm that is normally produced.

There are recognized methods of alerting people with hearing impairment: the use of vibro-tactile, low-frequency sounds and visual alarm devices. To provide a fire warning for people with hearing impairment, it has become common practice for such devices to be coupled to smoke alarms or smoke detection systems. For example, vibrating pads can be used to awaken sleeping people and visual alarms to alert those already awake. This part of the AS 1603 series specifies the requirements for supplementary warning devices for use in residential accommodation to warn people with hearing impairment of fire. This document does not claim to provide an exclusive or definitive solution to the problem of providing reliable fire safety protection to people with hearing impairment.

This document provides tests and requirements for vibro-tactile devices, visual alarm devices, and any control equipment required for the connection of these components to smoke alarm or smoke detection systems.

Reference is made to international and national Standards throughout this document and in the component conformance table to increase the options for conformance and to reduce the time and cost in demonstrating conformance. Conformance refers to fulfilling the requirements of a Standard or document.

NOTES

Australian Standard®

Automatic fire detection and alarm systems

Part 17: Warning equipment for people with hearing impairment

Section 1 Scope and general

1.1 Scope

This document specifies the requirements for individual components used to form a fire warning system appropriate to the individual requirements or needs of people with hearing impairment.

This warning equipment is intended to alert people with hearing impairment and, in particular, to arouse sleeping occupants on detection of a fire.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

AS 1670.1, *Fire detection, warning, control and intercom systems—System design, installation and commissioning, Part 1: Fire*

AS 1670.4, *Fire detection, warning, control and intercom systems—System design, installation and commissioning, Part 4: Emergency warning and intercom systems*

AS 3786, *Smoke alarms using scattered light, transmitted light or ionization*

AS ISO 7240.1, *Fire detection and alarm systems, Part 1: General and definitions*

AS 7240.2, *Fire detection and alarm systems, Part 2: Fire detection control and indicating equipment (ISO 7240-2:2017, MOD)*

AS ISO 7240.3, *Fire detection and alarm systems, Part 3: Audible alarm devices*

AS 7240.4, *Fire detection and alarm systems, Part 4: Power supply equipment (ISO 7240-4:2017, MOD)*

AS ISO 7240.23, *Fire detection and alarm systems, Part 23: Visual alarm devices*

AS ISO 7240.25, *Fire detection and fire alarm systems, Part 25: Components using radio transmission paths*

AS/NZS 3100, *Approval and test specification—General requirements for electrical equipment*

AS/NZS 60335.1, *Household and similar electrical appliances—Safety, Part 1: General requirements*

AS/NZS 62368.1, *Audio/video, information and communication technology equipment, Part 1: Safety requirements (IEC 62368-1:2014 (ED. 2.0), MOD)*

AS/ACIF S008, *Requirements for customer cabling products*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60068-2-27, *Environmental testing — Part 2-27: Tests — Test Ea and guidance: Shock*

IEC 60068-2-31, *Environmental testing — Part 2-31: Tests — Test Ec: Rough handling shocks, primarily for equipment-type specimens*

BS 5446-3, *Detection and alarm devices for dwellings. Specification for fire alarm and carbon monoxide alarm systems for deaf and hard of hearing people*