AS 7240.20—2012
ISO 7240-20:2010

AS 7240.20—2012

Australian Standard®

Fire detection and alarm systems

Part 20: Aspirating smoke detectors

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 5 September 2012.
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The following are represented on Committee FP-002:

- Audio Engineering Society
- Australasian Fire and Emergency Service 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
- CSIRO Manufacturing and Materials Technology
- Deafness Forum of Australia
- Department of Defence
- Fire Protection Association Australia
- National Electrical and Communications Association
- National Fire Industry Association
- Property Council of Australia
- Security Providers Association of Australia
- Society of Fire Safety

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Part 20: Aspirating smoke detectors

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PREFACE

This Standard was prepared by the Standards Australia Committee FP-002, Fire Detection, Warning, Control and Intercom Systems.

The objective of this Standard is to provide the requirements and methods of test for aspirating smoke detectors in fire detection and fire alarm systems in and around buildings. The Standard does not cover aspirating smoke detectors that are intrinsically safe for use in hazardous conditions.

This Standard is identical with, and has been reproduced from ISO 7240-20:2010, *Fire detection and alarm systems—Part 20: Aspirating smoke detectors.*

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this part of ISO 7240' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
7240	Fire detection and alarm systems (series, as applicable)	7240	Fire detection and alarm systems (series, as applicable)
IEC			
60068	Environmental testing (series, as applicable)	60068	Environmental testing (series, as applicable)

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.

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INTRODUCTION

This part of ISO 7240 is based on a European Standard EN 54-20:2006, prepared by the European Committee for Standardization CEN/TC 72 "*Fire detection and fire alarm systems*". It has been reviewed and revised by ISO/TC 21/SC 3/WG 21.

Aspirating smoke detectors differ from point-type smoke detectors (see ISO 7240-7) in that air is drawn into the smoke-sensing chamber, rather than relying on convection.

This part of ISO 7240 is not intended to place any other restriction on the design and construction of such detectors.

AUSTRALIAN STANDARD

Fire detection and alarm systems

Part 20:
Aspirating smoke detectors

WARNING — Certain types of detectors contain radioactive materials. National requirements for radiation protection differ from country to country and they are not, therefore, specified in this part of ISO 7240.

1 Scope

This part of ISO 7240 specifies the requirements, test methods and performance criteria for aspirating smoke detectors for use in fire detection and alarm systems installed in buildings.

Aspirating smoke detectors developed for the protection of specific risks that incorporate special characteristics (including additional features or enhanced functionality for which this part of ISO 7240 does not define a test or assessment method) are also covered by this part of ISO 7240. The performance requirements for any special characteristics are beyond the scope of this part of ISO 7240.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 7240-1, *Fire detection and alarm systems — Part 1: General and definitions*

ISO 7240-4, *Fire detection and alarm systems — Part 4: Power supply equipment*

ISO 7240-7:2003, *Fire detection and fire alarm systems — Part 7: Point-type smoke detectors using scattered light, transmitted light or ionization*

EN 50130-4:1995 + Amendment 1:1998 + Amendment 2:2003, *Alarm systems — Part 4: Electromagnetic compatibility — Product family standard: Immunity requirements for components of fire, intruder and social alarm systems*

IEC 60068-2-1, *Environmental testing — Part 2-1: Tests — Test A: Cold*

IEC 60068-2-2, *Environmental testing — Part 2-2: Tests — Test B: Dry heat*

IEC 60068-2-6, *Environmental testing — Part 2-6: Tests — Test Fc: Vibration (sinusoidal)*

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

IEC 60068-2-42, *Environmental testing — Part 2-42: Tests — Test Kc: Sulphur dioxide test for contacts and connections*

IEC 60068-2-75, *Environmental testing — Part 2-75: Tests — Test Eh: Hammer tests*

