AS 7240.22—2008

Australian Standard®

Fire detection and alarm systems

Part 22: Smoke-detection equipment for ducts (ISO 7240-22:2007, MOD)

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 27 May 2008.
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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
- CSIRO Manufacturing and Infrastructure Technology
- Deafness Forum of Australia
- Department of Defence (Australia)
- Fire Protection Association Australia
- Institute of Security Executives
- National Electrical and Communications Association
- National Fire Industry Association
- Property Council of Australia

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PREFACE

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

This Standard is an adoption with national modifications and has been reproduced from ISO 7240-22:2007, *Fire detection and fire alarm systems,* Part 22: *Smoke detection equipment for ducts*, and has been varied as indicated to take account of Australian/New Zealand conditions.

Variations to ISO 7240-22:2007 are indicated at the appropriate places throughout this Standard. Strikethrough (~~example~~) identifies ISO text, tables and figures which, for the purposes of this Australian Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border.

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

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text 'this part of ISO 7420' should read 'this part of AS 7240'.

(c) A full point should be substituted for a comma when referring to a decimal marker.

(d) Any French text on figures should be ignored.

The term 'normative' and 'informative' are used in this Standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a standard, whereas an 'informative' annex is only for information and guidance.

CONTENTS

INTRODUCTION

Smoke-detection equipment for ducts (s.d.e.d.) is used as part of a fire detection system to sample the environment within air ducts of a building. Detection of smoke releases a signal to the connected control and indicating equipment and can be used as a signal to an air-handling system to prevent the spread of smoke within the building.

A fire-detection and alarm system is required to function satisfactorily not only in the event of a fire, but also during and after exposure to conditions likely to be met in practice such as corrosion, vibration, direct impact, indirect shock and electromagnetic interference. Some tests specified are intended to assess the performance of the s.d.e.d. under such conditions.

The performance of s.d.e.d. is assessed from results obtained in specific tests. This part of ISO 7240 is not intended to place any other restrictions on the design and construction of such equipment.

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Any table, figure or text of the international standard that is struck through is not part of this standard. Any Australian/New Zealand table, figure or text that is added is part of this standard and is identified by shading.

1 Scope

This part of ISO 7240 specifies requirements, test methods and performance criteria for smoke-detection equipment for ducts (s.d.e.d.) for use in fire-detection and fire alarm systems installed in buildings; see ~~ISO 7240-1~~ AS 7240.1.

The s.d.e.d. samples the air from a duct and detects smoke in the sample.

NOTE 1 A common method of operation is to use differential pressure arising from airflow in the duct.

Smoke detectors complying with ~~ISO 7240-7~~ AS 7240.7 or other detectors complying with tests specified in this part of ISO 7240 may be used with the s.d.e.d.

A common application for s.d.e.d. is to detect visible smoke, for which detectors using scattered light or transmitted light can be more suitable. However, requirements for detectors using ionization are also included in this part of ISO 7240 for use in applications where detection of less visible fire aerosols is desired.

For the testing of other types of smoke detectors or smoke detectors working on different principles, this part of ISO 7240 can be used for guidance. Smoke detectors with special characteristics, developed for specific risks, are not covered.

NOTE 2 Certain types of detectors contain radioactive materials~~. The national requirements for radiation protection differ from country to country and are not specified in 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.

AS 1319, *Safety signs for the occupational environment*

ISO 209-1, *Wrought aluminium and aluminium alloys — Chemical composition and forms of products — Part 1: Chemical composition*

ISO 2919, *Radiation protection—Sealed radioactive sources—General requirements and classification*

~~*ISO 7240-1, Fire detection and fire alarm systems — Part 1: General and definition*~~

AS 7240.1, Fire detection and fire alarm systems — Part 1: General and definition

