

Australian Standard<sup>®</sup>

**Methods for fire tests on building  
materials, components and structures**

**Part 7: Smoke control assemblies—  
Ambient and medium temperature  
leakage test procedure**



This Australian Standard® was prepared by Committee FP-018, Fire Safety. It was approved on behalf of the Council of Standards Australia on 5 April 2007.  
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The following are represented on Committee FP-018:

- AWTA Textile Testing
  - Australasian Fire Authorities Council
  - Australian Building Codes Board
  - Australian Industry Group
  - Australian Institute of Building
  - Building Research Association New Zealand (BRANZ)
  - Bureau of Steel Manufacturers of Australia
  - CSIRO Manufacturing & Materials Technology
  - Fire Protection Association Australia
  - Fire Protection Association New Zealand
  - Plastics and Chemicals Industries Association
  - Property Council of Australia
  - Testing Interests (Australia)
- 

This Standard was issued in draft form for comment as DR 06279.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

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Originated as AS/NZS 1530.7:1998.  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FP-018, Fire Safety, to supersede AS/NZS 1530.7:1998.

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee FP-018. After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

This Standard is based on ISO 5925-1, *Fire tests—Smoke control door and shutter assemblies*, Part 1: *Ambient and medium temperature leakage test*.

A further test for high temperature smoke leakage is under development.

### Test method series AS 1530

This Standard is one of a series dealing with methods for fire tests on building materials, components and structures. The series consists of the following:

#### AS

1530	Methods for fire tests on building materials, components and structures
1530.1	Part 1: Combustibility test for materials
1530.2	Part 2: Test for flammability of materials
1530.3	Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release
1530.4	Part 4: Fire-resistance tests of elements of construction
1530.7	Part 7: Smoke control assemblies—Ambient and medium temperature leakage test procedure (this Standard)

#### OTHER PARTS IN PREPARATION ARE AS FOLLOWS:

Part 8.1: Tests on elements of construction for buildings exposed to simulated bushfire attacks

Part 8.2: Tests on elements of construction for buildings exposed to simulated bushfire attack—Large flaming sources

### Changes reflected in this edition

The scope of this edition has been extended to cover additional elements of construction other than doors. Requirements for 30 min exposure at a temperature of 200°C have been aligned with the Building Code of Australia deemed-to-satisfy requirements for smoke doors.

The time from commencement of the test at which readings should be taken, has been specified to improve repeatability, because many types of specimen have properties that vary with the duration of exposure. The previous edition did not address controls although a standardized procedure was applied to tests performed in Australia to ensure consistency with products.

The test method specification and means of calculating and presenting results to improve the repeatability and accuracy of tests has been tightened.

Smoke spread through penetrations, including acceptable leakage rates, is the subject of research for regulatory review in the BCA. Leakage rates that are readily achievable with adequate design and selection of materials are provided in Appendix A, together with the principle of the test method.

**Normative, informative and notes**

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 the Standard, whereas as ‘informative’ appendix is only for information and guidance.

**Notes and commentaries**

The use of Notes in this Standard is of an advisory nature only. They provide explanations and guidance on recommended design consideration or technical procedures, as well as an informative cross-reference to other documents or publications.

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STANDARDS AUSTRALIA

**Australian Standard**

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SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE**

This Standard sets out a method to measure the leakage of ambient and medium temperature smoke from one side of an assembly to the other under specified test conditions. The test can be applied to assemblies of different types primarily to control the passage of smoke at ambient and medium temperatures.

**1.2 OBJECTIVES**

The objective of this Standard is to provide a method of test for determining the smoke leakage through separating elements and assemblies.

**1.3 PRINCIPLE**

Assemblies are exposed to the effects of a fire when the smoke travels along various routes and comes across an assembly in its movement and as part of the fire safety system, the assembly may be required to restrict the passage of smoke in order to ensure that conditions on the other side of the separating element do not become unacceptable.

NOTE: For a detailed description of the test principle see Appendix A.

**1.4 APPLICATION**

This Standard applies to situations where there is a need to quantify the potential smoke leakage through a wall or floor opening that is protected by service penetration systems, door or shutter assemblies, damper assemblies, joint systems and the like.

**1.5 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

AS

- |        |                                                                                 |
|--------|---------------------------------------------------------------------------------|
| 1530   | Methods for fire tests on building materials, components and structures         |
| 1530.4 | Part 4: Fire-resistance tests of elements of construction                       |
| 4072   | Components for the protection of openings in fire-resistant separating elements |
| 4072.1 | Part 1: Service penetrations and control joints                                 |

ISO

- |       |                                                         |
|-------|---------------------------------------------------------|
| 834   | Fire-resistance tests—Elements of building construction |
| 834-1 | Part 1: General requirements                            |



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