AS 1530.4:2014

Australian STANDARD

Methods for fire tests on building materials, components and structures

Part 4: Fire-resistance tests for elements of construction

STANDARDS Australia

This Australian Standard® was prepared by Committee FP-018, Fire Safety. It was approved on behalf of the Council of Standards Australia on 6 October 2014.
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The following are represented on Committee FP-018:

- Australasian Fire and Emergency Service Authorities Council
- Australian Building Codes Board
- Australian Industry Group
- Australian Institute of Building
- AWTA Product Testing
- Building Research Association of New Zealand
- Bureau of Steel Manufacturers of Australia
- CSIRO Manufacturing and Infrastructure Technology
- Engineers Australia
- Fire Protection Association Australia
- Fire Protection Association New Zealand
- Forest and Wood Products Australia
- Insulated Panel Council Australasia
- Insulation Australasia
- Insurance Council of Australia
- Plastics and Chemicals Industries Association
- Society of Fire Protection Engineers Australasian Chapter

Additional Interests:

- Testing Interests (Australia)

This Standard was issued in draft form for comment as DR AS 1530.4.

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 the public comment period.

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Part 4: Fire-resistance tests for elements of construction

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PREFACE

General

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee FP-018, Fire Tests on Building Components, Materials and Structures, to supersede AS 1530.4—2005.

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.

Development and International Standards

This Standard aligns with the general principles and procedures set out in the ISO 834 series, *Fire-resistance tests—Elements of building construction*, of Standards and other related ISO documents. This Standard also includes references to relevant European Standards, as appropriate.

This Standard references normative and informative documents. Normative referenced documents are listed in Clause 1.5, and informative referenced documents are listed in the Bibliography.

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 an ‘informative’ appendix is only for information and guidance.

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.

This Standard incorporates a Commentary on some clauses. The Commentary directly follows the relevant clause, is designated by ‘C’ preceding the clause number and is printed in italics in a panel. The Commentary is for information only and does not need to be followed for compliance with the Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard provides methods for determining the fire resistance of various elements of construction when subjected to standard fire exposure conditions.

NOTES:

1 Radiant heat measurements are given in Appendix A.

2 Alternative heating and radiation exposure conditions, which may be used for evaluation of alternative solutions, voluntary upgrades and other applications where the standard heating regime may not be applicable, and recommended means for meeting special requirements are given in Appendix B.

3 Unless one of the alternative heating regimes is specifically required, the standard time temperature curve applies (see Figure 2.11.1).

4 AS 1720.4, AS 3600, AS 3700 and AS 4100 may also be used to determine the fire resistance of an element of construction.

5 The assessment of smoke production and smoke spread when testing specimens is outside the scope of this Standard. Significant smoke spread or smoke production can occur even though an element of construction may have achieved a high fire resistance level (FRL). Other test methods, such as AS 1530.7, may be considered when evaluating the potential for smoke spread.

1.2 OBJECTIVE

The objective of this Standard is to provide building designers, manufacturers, test laboratories and regulatory authorities with a set of uniform requirements for heating conditions, test procedures, and criteria for the determination of fire resistance of an element of building construction.

NOTE: Test reports include information that may assist building designers. Records of temperature at critical times may be used by a designer to assess the fire resistance of a variant of the tested prototype, where the procedure for such an assessment is defined in the appropriate design Standard or code. The test methods given herein provide means for the determination of—

(a) resistance to the incipient spread of fire through ceiling systems;

(b) safe distances for the spacing of combustible materials from elements that provide a separating function;

(c) radiant heat flux from doorsets, shutter assemblies and glazing; and

(d) the cross-sectional area of air ducts to provide functional operation while providing fire resistance.