

Australian Standard™

**Construction of buildings in
bushfire-prone areas**

Building Code of Australia
Primary referenced Standard



Australian Building Codes Board



Standards Australia

This Australian Standard was prepared by Committee FP-020 (formerly BD/64), Construction in Bushfire-prone Areas. It was approved on behalf of the Council of Standards Australia on 5 November 1999 and published on 5 December 1999.

The following interests are represented on Committee BD/64:

Association of Consulting Surveyors of New South Wales
Australasian Fire Authorities Council
Australian Building Codes Board
Australian Institute of Building Surveyors
CSIRO Building, Construction and Engineering
Clay Brick and Paver Institute
County Fire Service South Australia
Department of Local Government (N.S.W.)
Forest and Wood Products Research and Development Corporation
Housing Industry Association
Insurance Council of Australia
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National Association of Steel-framed Housing
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AS 3959—1999
(Incorporating Amendment Nos. 1 and 2)

Australian Standard™

**Construction of buildings in
bushfire-prone areas**

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PREFACE

This Standard was prepared by the Standards Australia Committee FP-020 (formerly BD/64), Construction in Bushfire-prone Areas.

This Standard incorporates Amendment No. 1 (December 2000) and Amendment No. 2 (June 2001). The changes required by the Amendments are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

This edition incorporates the following changes:

- (a) Measures to improve the performance of structures subjected to radiant heat and possible flame contact as well as for burning debris.
- (b) A method to assess bushfire attack for sites deemed to be situated within a bushfire-prone area.
- A1 | (c) Section 3, which covers the requirements for construction, has been expanded to include three levels of construction and construction elements comprising eaves, fascias and gutters and downpipes have been added.
- (d) Reference is made to AS 3660.1 (see Clauses 1.4) for termite protection, drawing attention to measures to be considered where both bushfire protection and termite protection is required.
- (e) Appendix A describes a procedure on how to use the Standard.
- (f) Appendix B sets out the designation of bushfire prone areas by some authorities in Australia.

A1 | Two issues were identified by the Committee when considering publication of this revision. These are as follows:

- (i) Assessment of bushfire attack
- (ii) Fire-retardant-treated material. At the time of preparing this revision, no fire-retardant-treated timber products were available, which achieved the specified ignitability index when tested to AS/NZS 1530.3 following pre-weathering in accordance with the regime of ASTM D2898 (see Clause 1.5.6).

A1, A2 | Research and development on the issue of 'assessment of bushfire attack' is progressing and the results obtained will be considered by the Committee for inclusion in the next edition.

The use of notes in this Standard are 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.

A2 | In preparing the amendment to address the issue of specifying the requirements for fire-retardant-treated timber, the Committee was mindful of the need for additional research in this area. Further consideration will be given to refining this Amendment when the results of the research are to hand.

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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FOREWORD

Land and building owners should be aware that this Standard is part of a process that aims to lessen the risk of property damage occurring in the event of bushfire attack. Improvements to construction is one means of providing property protection against bushfire attack. Other measures of mitigating damage from bushfire attack fall within the areas of planning, subdivision, siting and landscaping. Information concerning these measures which assist in the mitigation of bushfire attack are included in Appendix B. SAA publication HB 36, Building in bushfire-prone areas, provides invaluable information for building in bushfire-prone-areas.

Research is continuing with regards to the effects of bushfire on buildings, determination of bushfire-prone areas within various states and particular construction techniques designed to maximise the performance of buildings when subjected to bushfire attack. The outcomes of this research will be reflected in subsequent editions of this Standard.

STANDARDS AUSTRALIA

Australian Standard

Construction of buildings in bushfire-prone areas

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the design and construction of buildings in bushfire-prone areas in order to improve their performance when subjected to burning debris, radiant heat or flame contact generated from a bushfire.

1.2 OBJECTIVE

The objective of this Standard is to prescribe a site assessment method and construction details for buildings in bushfire-prone areas.

1.3 APPLICATION

The intended use of this Standard is as follows:

- (a) This Standard will be referenced in the Building Code of Australia (BCA) by way of BCA Amendment No. 6 effective from 1 January 2000, thereby superseding the previous edition of AS 3959—1991, which will be withdrawn 12 months from the date of publication of this edition.
- (b) This Standard is limited to those sites where the bushfire attack has been categorized by the methodology of this Standard as low, medium or high and sets out construction requirements for medium and high bushfire attack.

NOTE: Although the Standard is designed to improve the performance of such buildings, there can be no guarantee, because of the variable nature of bushfires, that any one building will withstand bushfire attack on every occasion.

1.4 REFERENCED DOCUMENTS

AS

1288 Glass in buildings—Selection and installation

1684 National timber framing code

1684.2 Part 2: Non-cyclonic areas

1684.3 Part 3: Cyclonic areas

3600 Protection of buildings from subterranean termites

3600.1 New buildings

4005 Skylights

AS/NZS

1530 Methods for fire test on building materials, components and structures

1530.1 Combustibility test for materials

1530.2 Test for flammability of materials

1530.3 Simultaneous determination of ignitability, flame propagation, heat release and smoke release

3837 Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter