STANDARDS Australia

AS 1684.4—2010

Residential timber-framed construction

(Incorporating Amendment No. 1)

Part 4: Simplified—Non-Cyclonic Areas

Australian STANDARD

AS

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The following are represented on Committee TM-002:

- A3P
- Association of Consulting Engineers, Australia
- Australian Building Codes Board
- Australian Institute of Building
- Building Research Association of New Zealand
- CSIRO Manufacturing and Infrastructures Technology
- Engineered Wood Products Association of Australasia
- Engineers Australia
- Forest Industries Federation (WA)
- Frame and Truss Manufacturers Association Australia
- Housing Industry Association
- Master Builders, Australia
- New Zealand Timber Industry Federation
- Scion
- South Australian Housing Trust
- Timber and Building Materials Association, NSW
- Timber Development Association, NSW
- Timber Queensland

Additional Interests:

- Mr Peter Juniper

This Standard was issued in draft form for comment as DR AS 1684.4.

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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Australian Standard®

Residential timber-framed construction

Part 4: Simplified—Non-cyclonic areas

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PREFACE

This Standard was prepared by the Joint Standards Australian/Standards New Zealand Committee TM-002, Timber Framing, to supersede AS 1684.4—2006.

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 incorporates Amendment No. 1 (June 2012). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure, or part thereof affected.

The objective of this Standard is to provide the building industry with procedures that can be used to determine building practice, to design or check construction details, and to determine member sizes, and bracing and fixing requirements for timber-framed construction in non-cyclonic wind classifications N1 and N2.

The objectives of this revision are to —

(a) include editorial amendments and some technical changes to correct mistakes, clarify interpretation and enhance the application of the document;

(b) incorporate the outcomes of recent research projects that considered the role and function of wall noggings (Clause 6.2.1.5); and

(c) provide some adjustments to the Span Table values in Appendix A for stress grades MGP 10, MGP 12 and MGP 15 in response to changes to the design characteristic values for these stress grades in AS 1720.1.

NOTE:These adjustments have been made recognising that MGP stress grades represent the major product usage in the marketplace. Further work is required to assess and more fully respond to existing and expected changes to the related loading, design, and design criteria Standards, and this may result in a future revision of Span Tables in the Supplements for all stress grades.

Prior to using this Standard, it is necessary to establish the design gust wind speed and wind classification (see Clause 1.4.2).

This Standard is a companion publication to the following:

AS		
1684		Residential timber-framed construction
1684.1	Part 1:	Design criteria
1684.2	Part 2:	Non-cyclonic areas
1684.3	Part 3	Cyclonic areas

This Standard has been derived from AS 1684.2 to provide a simpler design procedure for lower wind classification areas where details of bracing and tie-downs are simplified. It should be noted that this Standard differs from AS 1684.2 in a number of areas in order to achieve the simplification. Some of the differences are as follows:

(A) Input to the Span Tables requiring references to span and spacing.

(B) The geometric limits of the house are more restricted, e.g., 12.0 m maximum width and 30° maximum roof pitch.

(C) Span Tables are provided for a more limited range of stress grades.

(D) Design of bracing is simplified.

(E) Where required, design of tie-down is simplified.

Alternatively, for wind classifications N1 and N2, more economical design may be obtained by following the design procedures given in AS 1684.2. For wind classifications N3 and N4 for non-cyclonic areas, see AS 1684.2.

This Standard does not preclude the use of framing, fastening or bracing methods or materials other than those specified. Alternatives may be used, provided they satisfy the requirements of the Building Code of Australia.

Statements expressed in mandatory terms in Notes to the tables and figures are deemed to be requirements of this Standard.

Notes to the text contain information and guidance. They are not an integral part of the Standard.

Statements expressed in mandatory terms in Notes to the Span Tables in Appendix A are deemed to be requirements of this Standard.

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for building practice and for the selection, placement and fixing of the various structural elements used in the construction of timber-framed Class 1 and Class 10 Buildings as defined by the Building Code of Australia and within the limitations given in Clause 1.4. The provisions of the Standard also apply to alterations and additions to these buildings.

This Standard also provides building practice and procedures that assist in the correct specification and determination of timber members, bracing and connections, thereby minimizing the risk of creating an environment that may adversely affect the ultimate performance of the structure.

This Standard may also be applicable to the design and construction of other classes of buildings where the design criteria, loadings and other parameters applicable to those classes of building are within the limitations of this Standard.

NOTES:

1 See AS 1684.1 for details of design criteria, loadings and other parameters.

2 Whilst this Standard may be used to design Class 10 buildings, less conservative levels of design for this building class may be permitted by building regulations and other Australian Standards.

3 Advisory information for the construction and specifications of timber stairs, handrails and balustrades, is provided in the FWPA's publication (see the Bibliography).

Member Span Tables are given in Appendix A.

1.2 COMPANION DOCUMENTS

This Standard is a companion publication to the following:

AS
1684 Residential timber-framed construction
1684.1 Part 1: Design criteria
1684.2 Part 2: Non-cyclonic wind areas
1684.3 Part 3: Cyclonic wind areas

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