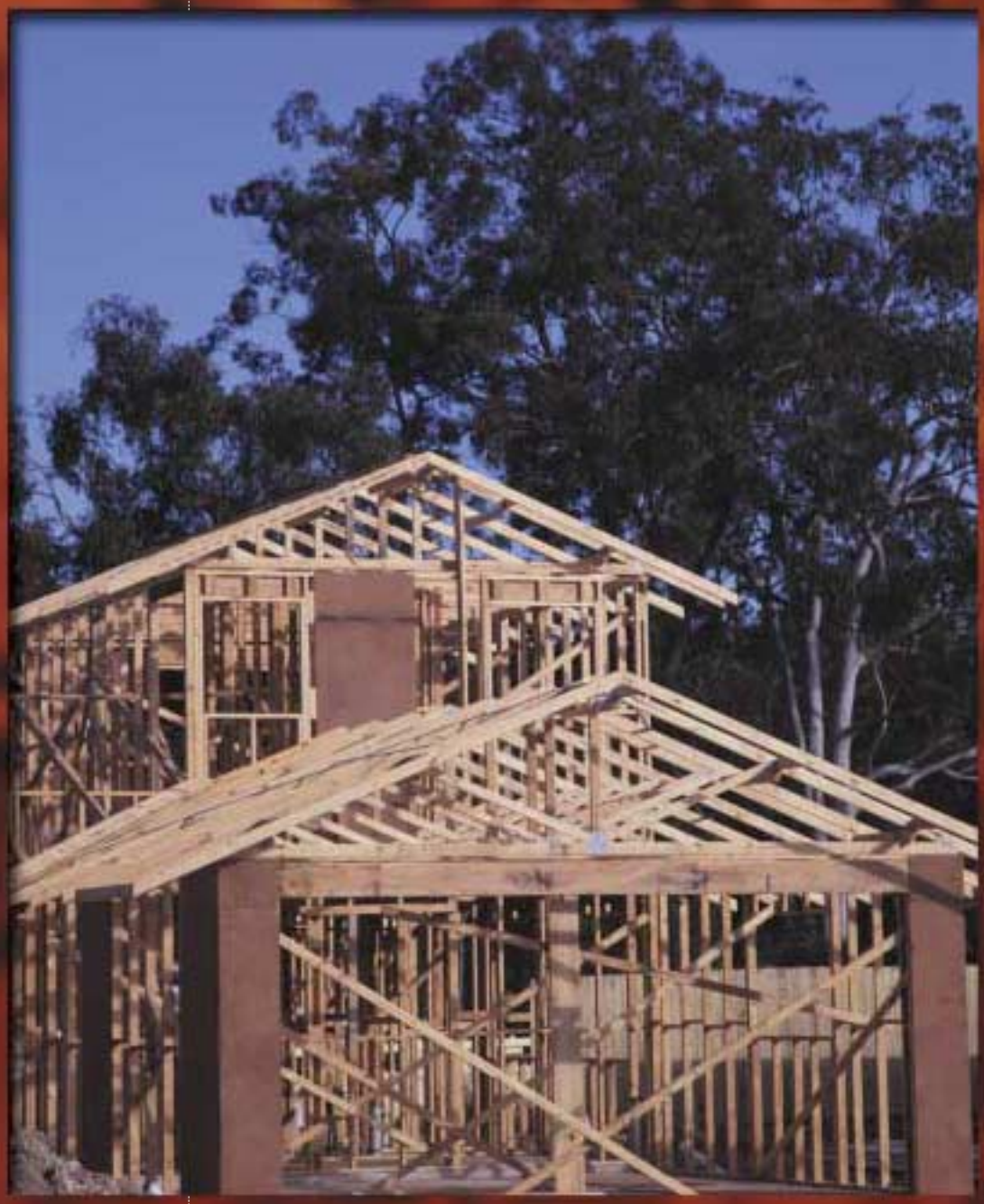
AS 1684.1—1999 ***Residential timber-framed construction***



Part 1

Design criteria

(Incorporating Amendment No.1)

Standards Australia

This Australian Standard was prepared by Committee TM/1, Timber Structures. It was approved on behalf of the Council of Standards Australia on 10 October 1999 and published on 5 December 1999.

The following interests are represented on Committee TM/1:

Australian Building Codes Board

Australian Timber Importers' Federation

Building Research Association of New Zealand

CSIRO, Building, Construction and Engineering

Curtin University of Technology

Institution of Engineers, Australia

Master Builders Australia

Monash University

New Zealand Forest Research Institute

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AS 1684.1—1999
(Incorporating Amendment No. 1)

Australian Standard™

Residential timber-framed construction

Part 1: Design criteria

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TM/1, Timber Structures.

This Standard incorporates Amendment No. 1 (February 2002). 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.

This Standard is the result of a consensus of representatives on the Joint Committee that it be produced as an Australian Standard.

The objective of this Standard is to provide users with the design methods, assumptions and other design criteria, which have been used in the preparation of the Span Tables, uplift forces and racking pressures contained within AS 1684.2, AS 1684.3 and AS 1684.4.

Continued development of timber framing systems and the need to cater for a widening variety of materials and design conditions have led to a total revision of structural framing design. These developments include —

(a) provision for limit state design methods;

(b) revised/new structural grades for timber;

(c) provisions catering for open plan living—larger spans, wider openings and bigger rooms, which need a more rational approach to bracing design;

(d) special ‘engineered’ and fabricated timber products;

(e) recognition of a wider range of high wind and cyclonic design; and

(f) computer-aided design software for member sizes, bracing and tie-down.

This Standard is a companion publication to the following:

AS		
1684		Residential timber-framed construction
1684.2	Part 2	Non-cyclonic areas
1684.3	Part 3	Cyclonic areas
1684.4	Part 4	Simplified—Non-cyclonic areas

The term ‘normative’ ‘has been used in this Standard to define the application of the appendix to which it applies, A ‘normative’ appendix is an integral part of a Standard.

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1.1 SCOPE AND APPLICATION

1.1.1 Scope

This Standard sets out the design methods, assumptions and other criteria used in the preparation of the Span Tables, uplift forces and racking pressures contained within AS 1684.2, AS 1684.3 and AS 1684.4.

The design criteria apply for the preparation of design data for traditional timber-framed construction where the loading and performance requirements correspond to those for Class 1 and Class 10 buildings as defined by the Building Code of Australia.

This Standard should be read in conjunction with AS 1684.2, AS 1684.3 and AS 1684.4, the AS 1170 series, and AS 1720.1.

NOTE: Whilst this Standard may be used as a reference for the design of Class 10 buildings, less conservative levels of design for this building class may be permitted by building regulations and other Australian Standards.

1.1.2 Application

The design criteria contained herein may be used as a basis for the preparation of Span Tables and design data for structural wood products, having stress grades and sizes other than those included in AS 1684.2, AS 1684.3 and AS 1684.4 where the application and performance are claimed to be consistent with AS 1684.2, AS 1684.3 and AS 1684.4.

NOTE: The use of the design criteria contained in this Standard may provide evidence of satisfactory safety and serviceability performance.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS
1170 Minimum design loads on structures (known as the SAA Loading Code)
1170.1 Part 1: Dead and live loads and load combinations
1170.2 Part 2: Wind loads
1170.3 Part 3: Snow loads
1170.4 Part 4: Earthquake loads

1684 Residential timber-framed construction
1684.2 Part 2: Non-cyclonic areas
1684.3 Part 3: Cyclonic areas
1684.4 Part 4: Simplified—Non-cyclonic areas

1720 Timber structures
1720.1 Part 1: Design methods

