AS 3700—2011
(Incorporating Amendment Nos 1 and 2)

AS 3700—2011

Australian STANDARD

Masonry structures

STANDARDS Australia

This Australian Standard® was prepared by Committee BD-004, Masonry Structures. It was approved on behalf of the Council of Standards Australia on 21 September 2011.
This Standard was published on 14 October 2011.

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- Australian Building Codes Board
- Australian Institute of Building Surveyors
- Building Designers Association of Australia
- Cement Concrete and Aggregates Australia—Cement
- Concrete Masonry Association of Australia
- Consult Australia
- Department of Finance and Services NSW
- Engineers Australia
- Housing Industry Association
- Masonry Contractors Association of NSW
- Master Builders Australia
- Think Brick Australia
- University of Newcastle

This Standard was issued in draft form for comment as DR AS 3700.

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®

Masonry structures

First published in part as AS CA32—1963.
Previous edition AS 3700—2001.
Fourth edition 2011.
Reissued incorporating Amendment No. 1 (September 2012).
Reissued incorporating Amendment No. 2 (April 2015).

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Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 0 7337 9936 5

PREFACE

This Standard was prepared by the Standards Australia Committee BD-004, Masonry Structures, to supersede AS 3700—2001.

This Standard incorporates Amendment No. 1 (September 2012) and Amendment No. 2 (April 2015). 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 minimum requirements for the design and construction of unreinforced, reinforced and prestressed masonry, including built-in components.

The principal changes from earlier editions of the Standard include the following:

(a) Increased capacity reduction factor for compression.

(b) Increased strength factor for M4 mortars.

(c) Added a definition for adequate lateral support.

(d) Added specification for deemed-to-satisfy waterproof coatings.

(e) Added guidance on design of control joint spacings.

(f) Mandatory screw fixing of face-fixed masonry veneer ties in some locations.

(g) Restructured durability requirements.

(h) Improved requirements for fire protection of structural steelwork.

(i) Removed allowance for panel action in masonry walls designed for compression.

(j) Improved ease of design for masonry walls in compression.

(k) Added provisions for design of cavity walls under lateral loading.

(l) Improved strength design provisions for wall ties.

(m) Moved the earthquake detailing provisions from an appendix into the Standard.

(n) Improved and clarified provisions for verification of properties during construction.

(o) Simplified the provisions for tolerances during construction.

(p) Removed Section 12 for simplified design (see AS 4773.1, *Masonry in small buildings, Part 1: Design*).

(q) Rearranged and renumbered the appendices.

Acknowledgment is made of the assistance gained from the publications of *Think Brick Australia* and the *Concrete Masonry Association of Australia.*

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

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 a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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Australian Standard
Masonry structures

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out minimum requirements for the design and construction of masonry of the following types:

(a) Unreinforced, reinforced and prestressed masonry using manufactured units of clay or concrete laid in mortar.

(b) Unreinforced masonry using manufactured calcium silicate units laid in mortar.

(c) Autoclaved aerated concrete (AAC) masonry laid in thin-bed mortar.

(d) Square-dressed natural stone laid in mortar.

This Standard does not provide for the following:

(i) Design values or material properties for the design and construction of masonry incorporating square-dressed natural stone. The wide variations in properties of natural stone require that each case be considered individually for the determination of relevant design values.

(ii) Specific requirements for prefabricated masonry panels or masonry in composite action with steel or concrete structural members; however, the principles of this Standard may be used for such types of construction.

The provisions of this Standard do not include specification for design and construction of AAC laid in other than thin-bed mortar; however, for masonry so constructed the principles of this Standard may be used.

NOTE: This Standard assumes the structural design of masonry is entrusted to experienced structural engineers or similar appropriately qualified persons, and that the execution of such work is carried out under the direction of appropriately qualified persons who are experienced in masonry construction and who understand the structural requirements specified herein.

1.2 NORMATIVE REFERENCES

The following are the normative documents referenced in this Standard:

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

AS

1170	Structural design actions
1170.4	Part 4: Earthquake actions in Australia
1316	Masonry cement
1478	Chemical admixtures for concrete, mortar and grout
1478.1	Part 1: Admixtures for concrete
1530	Methods for fire tests on building materials, components and structures
1530.4	Part 4: Fire-resistance tests of elements of building construction