AS 3700—1988

Australian Standard®

SAA Masonry Code

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The following interests are represented on Committee BD/4:

Association of Consulting Engineers, Australia
Australian Clay Brick Association
Australian Uniform Building Regulations Coordinating Council
Building Management Authority, W.A.
Clay Brick and Paver Institute
CSIRO, Division of Building, Construction and Engineering
Calcium Silicate Brick Manufacturers
Cement and Concrete Association of Australia
Concrete Masonry Association of Australia Co-op
Confederation of Australian Industry
Deakin University
Joint Committee P.W.D./A.C.S.E. of New South Wales
Master Builders—Construction and Housing Association, Australia
National Building Technology Centre
Public Works Department, N.S.W.
University of Melbourne
University of Newcastle

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Australian Standard®

MASONRY IN BUILDINGS

(known as the SAA MASONRY CODE)

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PREFACE

This Standard was prepared by the Association's Committee on Masonry Structures as a revision and amalgamation of AS 1475, *SAA Blockwork Code*, Part 1—1977, *Unreinforced blockwork*, and Part 2—1983, *Reinforced blockwork* and AS 1640—1974, *SAA Brickwork Code*.

In the preparation of this Standard valuable assistance was given to the committee by organizations and individuals experienced in various aspects of the design and construction of masonry, and the committee wishes to record its indebtedness to them.

Acknowledgement is also made of the assistance gained from the following documents and publications:

(a) BS 5628, *Code of practice for the structural use of masonry*.

(b) NZ 4230 P, *Provisional New Zealand Standard for design of masonry structures*.

(c) *'Masonry Code of Practice'*, published by a joint committee of the Public Works Department, N.S.W. and the Association of Consulting Structural Engineers, N.S.W.

(d) Publications of: Brick Development Research Institute; Concrete Masonry Association of Australia Co-op Limited; Masonry Research Centre of Deakin University; CSIRO Division of Building, Construction and Engineering; the National Building Technology Centre (formerly Experimental Building Station); The Department of Architecture and Building of the University of Melbourne; and the Department of Civil Engineering and Surveying of the University of Newcastle.

Significant new developments incorporated into the Standard include the following:

(a) The amalgamation of the requirements for brickwork and blockwork into one Standard.

(b) An increased use of performance type specification of requirements, rather than prescription specification, to encourage sound on-going development in all aspects of masonry construction.

(c) The specification of a minimum flexural tensile strength requirement for all masonry, and a new (alternative) procedure for testing the flexural strength of masonry–the bond wrench test.

(d) The acceptance of limit state concepts for structural design.

CONTENTS

Page

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
MASONRY IN BUILDINGS

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This Standard specifies requirements for the design and construction of masonry, both unreinforced and reinforced, using manufactured units of clay, calcium silicate or concrete, or units of square-dressed natural stone, laid in mortar.

NOTES:

1. It has been assumed in the drafting of this Standard that the structural design of masonry is entrusted to experienced structural engineers or similar appropriately qualified persons, for whose guidance Sections 4, 5 and 6 have been prepared, and that the execution of such work is carried out under the direction of appropriately qualified persons who are experienced in high-quality masonry construction and who understand the structural requirements.
2. The Standard does not give specific requirements for pre-stressed masonry, prefabricated masonry panels, masonry in composite action with steel or concrete structural members. The principles of this Standard should be followed, as far as they are applicable, for such types of construction.

1.2 REFERENCED DOCUMENTS. The following documents are referred to in this Standard:

AS

1129 Fly ash for use in concrete

1170 SAA Loading Code
Part 1: Dead and live loads (AS 1170.1)
Part 2: Wind forces (AS 1170.2)
Part 3: Snow loads (AS 1170.3)
Part 4: Earthquake loads (AS 1170.4)

1191 Acoustics—Method for laboratory measurement of airborne sound transmission loss of building partitions

1225 Clay building bricks

1226 Methods of sampling and testing clay building bricks

1302 Steel reinforcing bars for concrete

1303 Hard-drawn steel reinforcing wire for concrete

1304 Welded wire reinforcing fabric for concrete

1315 Portland cement

1316 Masonry cement

1317 Blended cement

1397 Steel sheet and strip–Hot-dipped zinc-coated or aluminium/zinc coated

1530 Methods for fire tests on building materials, components and structures
Part 4: Fire-resistance tests of elements of construction (AS 1530.4)

1650 Galvanized coatings

1653 Calcium silicate building bricks

1672 Building limes

1790 Electroplated coatings–Cadmium on iron or steel

2193 Methods for calibration and grading of force-measuring systems of testing machines

2464 Methods of testing thermal insulation
Method 5: Steady-state thermal transmission properties by means of the heat flow meter (AS 2464.5)

2601 SAA Demolition Code

2699 Wall ties for masonry construction

2701 Methods of sampling and testing mortar for masonry constructions
Method 10: Methods for chemical analysis of mortars (AS 2701.10)

2733 Concrete masonry units

2837 Wrought alloy steels–Stainless steel bars and semi-finished products

2904 Damp-proof courses and flashings

2975 Accessories for masonry construction

3600 Concrete Structures

ISO

4356 Bases for the design of structures—Deformations of buildings at the serviceability limit states

BS

1014 Specification for pigments for portland cement and portland cement products

5390 Code of practice for stone masonry

5628 Code of practice for the structural use of masonry
Part 1: Structural use of unreinforced masonry

NZ

4230P Code of practice for the design of masonry structures

1.3 ALTERNATIVE MATERIALS AND METHODS.

1.3.1 General. This Standard shall not be interpreted so as to prevent the use of new materials or methods of design or construction not specifically referred to herein.

1.3.2 Existing structures. Where the strength or serviceability of an existing structure is to be evaluated, the general principles of this Standard shall be applied. Appropriate values for the properties of the materials in the structure shall be used.