Under Revision see DR 85137

AS 3600 –1988

See also MP 28 (Commentary)

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AS 1480—1982
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Australian Standard
1480–1982

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WITHDRAWN APRIL TAS 1991

SAA CONCRETE STRUCTURES CODE

STANDARDS ASSOCIATION OF AUSTRALIA
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This Australian standard was prepared by Committee BD/2, Concrete Structures. It was approved on behalf of the Council of the Standards Association of Australia on 12 January 1982 and published on 15 June 1982.

The following interests were represented on the committee responsible for the preparation of this standard:

Association of Consulting Engineers Australia

Australian Federation of Construction Contractors

Bureau of Steel Manufacturers of Australia

Cement and Concrete Association of Australia

Department of Housing and Construction

Department of Public Works NSW and WA

Division of Building Research CSIRO

Experimental Building Station

Hydro-electric Commission Tasmania

Institution of Engineers, Australia

Metropolitan Water Sewerage and Drainage Board

National Association of Australian State Road Authorities

National Ready Mixed Concrete Association

Public Buildings Department South Australia

Steel Reinforcement Promotion Group

University of Adelaide

University of New South Wales

University of Sydney

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AMENDMENT No. 1
to
AS 1480–1982
SAA CONCRETE STRUCTURES CODE

REVISED TEXT

SUMMARY: This amendment is necessitated by the publication of some new reference standards since the present edition of the standard was published in 1982 and applies to the Preface and Clauses 3.2 and 15.6. Also included is an amendment to Clause 2.1.3 and a typographical correction in Clause 20.2.

Published on 5 May 1986.

AUSTRALIAN STANDARD

THE USE OF REINFORCED CONCRETE IN STRUCTURES

known as the

SAA CONCRETE STRUCTURES CODE

AS 1480—1982

First published	1974
Second edition	1982

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

ISBN 0 7262 2495 2

PREFACE

This edition of this standard was prepared by the Association's Committee on Concrete Structures to supersede the 1974 edition.

It incorporates Amendment Nos 1 to 4 to the 1974 edition as well as alterations to the following:

Clauses 3.5, 3.6, 4.3.1, 4.5.6, 6.4 (d), 9.11.1.1 (a), 11.10.1.3, 26.2.3

Tables 13.2.2, 16.2, G2, G3, G4.

In addition editorial changes have been made to bring the standard into line with current SAA policy.

Although the committee's main task is currently the preparation of a Unified Concrete Structures Code in limit state format, this edition was necessary to take account of—

(a) introduction of Grade 410Y reinforcing bar;

(b) increased concern over durability of concrete structures;

(c) requests for clarification of shear reinforcement requirements;

(d) alterations to AS 1302 in relation to strength of welded or mechanically spliced reinforcement; and

(e) failure criteria for cantilevers under load testing.

The committee has based the provisions relating to the design of structural lightweight concrete on the results of tests made on the types of lightweight structural concrete used in Australia from 1960. Therefore, the standard applies to lightweight structural concrete made with coarse lightweight aggregate and normal-weight fine aggregate (sand) only. It does not apply to cellular concrete, no-fines concrete or concrete made entirely from lightweight aggregate for which there has been little use in Australia. Before lightweight concrete structures incorporating material from any new sources of supply of lightweight aggregate are designed, using the stress criteria of this standard, the lightweight concrete must be tested to prove that it is not inferior to that made from previously established sources of lightweight aggregate. Another point of considerable importance is that the specific provisions in overseas codes, in particular ACI 318, which are intended to ensure safe design within a very wide spectrum of aggregate quality, were not found to be relevant in the light of experience in Australia in recent years, where very different sources of supply have existed. For guidance in the design of lightweight concrete structures made with cellular concrete, no-fines concrete or concrete made entirely with lightweight aggregates (to which this standard does not apply), reference may be made to suitable overseas codes such as ACI 318—~~77~~ 83

SEE AMENDMENT 1

This standard requires reference to the following standards and related documents:

AS 1012 Methods of Testing Concrete
Part 1 — Method for Sampling Fresh Concrete
Part 3 — Determination of Properties Related to the Consistence of Concrete
Part 4 — Determination of Air Content of Freshly Mixed Concrete
Part 8 — Method for Making and Curing Concrete Compression, Indirect Tensile and Flexure Test Specimens in the Laboratory or in the Field
Part 9 — Determination of Compressive Strength of Concrete Specimens
Part 10 — Determination of Indirect Tensile Strength of Concrete Cylinders ("Brazil" or Splitting Test)
Part 11 — Determination of Flexural Strength of Concrete Flexure Test Specimens
Part 12 — Determination of Weight per Unit Volume of Hardened Concrete
Part 14 — Method for Securing and Testing Cores from Hardened Concrete for Compressive Strength or Indirect Tensile Strength

AS 1129 Fly Ash for Use in Concrete

AS 1130 Code of Practice for Use of Fly Ash in Concrete

AS 1141 Methods for Sampling and Testing Aggregates

AS 1163 Structural Steel Hollow Sections

AS 1170 SAA Loading Code
Part 1 — Dead and Live Loads
Part 2 — Wind Forces

AS 1302 Steel Reinforcing Bars for Concrete

AS 1303 Hard-drawn Steel Reinforcing Wire for Concrete

AS 1304 Hard-drawn Steel Wire Reinforcing Fabric for Concrete

AS 1315 Portland Cement

AS 1317 Blended Cements

AS 1379 Ready-mixed Concrete

SEE AMENDMENT 1

~~AS 1465 Dense Natural Aggregates for Concrete~~

~~AS 1467 Lightweight Aggregates for Structural Concrete~~

AS 1475 SAA Blockwork Code

AS 1478 Chemical Admixtures for Use in Concrete

AS 1479 Code of Practice for the Use of Chemical Admixtures in Concrete

AS 1481 SAA Prestressed Concrete Code

AS 1509 SAA Formwork Code

AS 1510 Code of Practice for Control of Concrete Surfaces
Part 1 — Formwork

AS 1530 Methods for Fire Tests on Building Materials and Structures

AS 1554 SAA Structural Steel Welding Code
Part 3 — Welding of Reinforcing Steel

AS 2121 SAA Earthquake Code

AS 2758 Aggregates and rock for engineering purposes
Part 1 – 1985, Concrete aggregates

SEE AMENDMENT 1

AS 3000	SAA Wiring Rules
BS 1881	Methods of Testing Concrete Part 5 — Method of Testing Hardened Concrete for Other Than Strength

83 SEE AMENDMENT 1
ACI 318-~~77~~ Building Code Requirements for Reinforced Concrete

Attention is also drawn to SAA MP28, Commentary on AS 1480, SAA Concrete Structures Code.

AMDT No 1 MAY 1986

Page 2. PREFACE.

At the end of the paragraph preceding the list of reference standards, *substitute* 'ACI 318—83' for 'ACI 318—77'.

In the list of references:—

Delete 'AS 1465 Dense Natural Aggregates for Concrete'

Delete 'AS 1467 Lightweight Aggregates for Structural Concrete'

After 'AS 2121 SAA Earthquake Code' *insert*:-

'AS 2758 Aggregates and Rock for Engineering Purposes
Part 1—1985, Concrete Aggregates'.

AMDT No 1 MAY 1986

Page 3. PREFACE.

At the end of the list of references, *substitute* 'ACI 318-83' for 'ACI 318-77'.

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
THE USE OF REINFORCED CONCRETE IN STRUCTURES

PART 1 — GENERAL

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE.

1.1.1 Application. This standard sets out requirements for the use of reinforced concrete and plain concrete in any structure, except those excluded by Clause 1.1.2, in which the density of the concrete lies within the range 1250 kg/m³ to 2600 kg/m³.

NOTE: It is intended that very light concrete and extremely dense concrete used in special structures should not be covered by this standard.

1.1.2 Exclusions. This standard is not intended to apply to the design of—

(a) special structures such as highway and railway bridges;

(b) hydraulic structures such as tanks and pipes;

(c) prestressed concrete structures; and

(d) ferrocement structures.

1.2 NEW MATERIALS OR METHODS.

1.2.1 General. This standard shall not be interpreted to prevent the use of materials or of methods of design or construction not specifically referred to in this standard.

1.2.2 Use of New Materials or Methods. If it is desired to use materials other than those specified, or methods of design or construction not covered by this standard, details of these materials or methods may be submitted to the SAA Committee on Concrete Structures for an expression of opinion as to compliance with the intention and spirit of this standard.

NOTE: The Building Authority must always make the ultimate decision as to whether or not a material or method of design or construction may be used.

1.3 SUPERVISION.

1.3.1 General. All concrete structures designed in accordance with this standard shall be so supervised as to ensure that all the requirements of the design as contained in the specification and the structural drawings are achieved in the construction.

NOTE: The supervisor, where he is not the designer, should, if any doubt arises—

(a) as to the adequacy of any part of the design; or

(b) as to the interpretation of the documents;

refer the matter to the designer for a decision.

1.3.2 Records. The person or persons responsible for supervision shall ensure that the contractor keeps a record of—

(a) the details (including types) of reinforcing steel;

(b) the quality of concrete materials (with locations in the structure of test samples, test results and copies of manufacturers' certificates);

(c) the mixing, placing and compaction of concrete; and

(d) the general progress of the work (with dates of casting of each section);

and this record shall be available for inspection during the progress of the work, and for 2 years after completion of the work.

AMDT No 1 MAY 1986 **Page 7. Clause 2.1.3.**

In the definitions of '*Reinforcement, main*' and '*Reinforcement, secondary*', *insert* the word '*Steel*' before '*reinforcement*'.