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Amendment 1 - May 1984
" 2 - May 1988.

AS 1315—1982
UDC 666.942

Australian Standard 1315—1982

PORTLAND CEMENT

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

B

This Australian standard was prepared by Committee BD/10, Cement. It was approved on behalf of the Council of the Standards Association of Australia on 12 May 1982 and published on 12 July 1982.

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

Bureau of Steel Manufacturers of Australia

Cement and Concrete Association of Australia

Confederation of Australian Industry

Co-ordinator General's Department, Queensland

CSIRO, Division of Building Research

Department of Transport and Construction

Department of Public Works, N.S.W.

Engineering and Water Supply Department, S.A.

Housing Commission of Victoria

Hydro-Electric Commission, Tasmania

Institution of Engineers, Australia

Maritime Services Board of New South Wales

Melbourne and Metropolitan Board of Works

Metropolitan Water, Sewerage and Drainage Board, N.S.W.

National Association of Australian State Road Authorities

National Ready Mixed Concrete Association

Railways of Australia Committee

Royal Australian Chemical Institute

Royal Australian Institute of Architects

State Electricity Commission of Victoria

State Rivers and Water Supply Commission, Victoria

Water Resources Commission, N.S.W.

University of Adelaide

University of Melbourne

University of Sydney

University of Tasmania

University of Western Australia

This standard was issued in draft form for comment as DR 79025.

STANDARDS ASSOCIATION OF AUSTRALIA
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AMENDMENT No 2 to AS 1315—1982 PORTLAND CEMENT

REVISED TEXT

The 1982 edition of AS 1315 is amended as follows; the amendments should be inserted in the appropriate place.

SUMMARY: This Amendment applies to Table 2 and Table 3.

Published on 9 May 1988.

AMDT No 2 MAY 1988

Page 5. Table 2.

Under Column 2, for Compressive strength: *Delete* 'Table 3' and insert 'Table 3A or Table 3B'.

AMDT No 2 MAY 1988

Page 5. Table 3.

Delete existing Table 3 and *substitute*:

TABLE 3A

COMPRESSIVE STRENGTH
(based on AS 2350.6—1980—Boehme Hammer Test)

1	2	3	4	5
Age at test days	Minimum compressive strength, MPa			
	Type A	Type B	Type C	Type D
3	—	40	—	—
7	45	50	25	35
28	55	—	45	45

TABLE 3B

COMPRESSIVE STRENGTH
(based on AS 2350.11—1988—ISO/CEN Test Method)

1	2	3	4	5
Age at test days	Minimum compressive strength, MPa			
	Type A	Type B	Type C	Type D
3	—	20	—	—
7	25	30	10	20
28	38	—	30	30

STANDARDS ASSOCIATION OF AUSTRALIA
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AMENDMENT No 1
to
AS 1315—1982
PORTLAND CEMENT

REVISED TEXT

SUMMARY: These amendments apply to Table 1.1 and Table 3.

Published on 11 May 1984.

Page 4. Table 1.1.

AMDT No 1 MAY 1984

Delete existing Table 1.1 and *substitute:*

TABLE 1
CHEMICAL COMPOSITION
1.1 Chemical Properties

1	2	3	4
Chemical property	**Maximum percentage**	**Maximum percentage**	**Method of test**
TYPES A, B, C and D			
Loss on ignition	3.0		AS 2350.2, Clause 4
Insoluble residue	2.0		AS 2350.2, Clause 5
Magnesia	4.2		AS 2350.1, Clause 7
Sulphuric anhydride (SO_3)			
Types A and B	3.5		AS 2350.2, Clause 6
Types C and D	3.0		AS 2350.2, Clause 6

Page 5. Table 3.

AMDT No 1 MAY 1984

Delete existing Table 3 and *substitute:*

Table 3A and Table 3B > SEE AMENDMENT 2

TABLE 3
COMPRESSIVE STRENGTH

1	2	3	4	5
Age at test days	**Minimum compressive strength, MPa**			
	Type A	**Type B**	**Type C**	**Type D**
3	–	40	–	–
7	45	50	25	35
28	55	–	45	45

AUSTRALIAN STANDARD

PORTLAND CEMENT

AS 1315—1982

First published 1973
Second edition 1982

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PREFACE

This edition of this standard was prepared by the Association's Committee on Cement to supersede AS 1315—1973.

Sampling requirements and methods of test have been revised and published separately as AS 2349 and AS 2350 respectively.

No changes have been made to the specified material characteristics except that the requirement in the 1973 edition that 'the percentage of aluminium oxide (Al_2O_3) divided by the percentage of ferric oxide (Fe_2O_3) shall be greater than 0.66' has been deleted in keeping with its recent deletion from BS 12, Portland Cement, and the absence of a limit in ANSI/ASTM C 150—77, Standard Specification for Portland Cement. The tabular format adopted in this new edition has simplified the presentation of specification limits.

CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard for PORTLAND CEMENT

1 SCOPE. This standard specifies requirements for portland cement.

2 CLASSIFICATION. Portland cement shall be classified as follows:

Type A—normal cement
Type B—high early strength cement
Type C—low heat cement
Type D—sulphate-resisting cement

NOTE: 'Portland cement' is hereinafter referred to as 'cement'.

3 REFERENCED DOCUMENTS. The following documents are referred to in this standard:

AS 1378	Method for the Spectrophotometric Analysis of Cement (Metric Units)
AS 2349	Method of Sampling Portland and Blended Cements
AS 2350	Methods of Testing Portland and Blended Cements
ASTM C 465	Specifications for Processing Additions for Use in the Manufacture of Portland Cement.

4 APPLICATION. This standard sets only the minimum standards of quality for each of the four types of cement and does not purport to provide for all the requirements which may be needed for special usage of cement.

NOTE: In such cases the minimum standards may be quoted for the requirements which are applicable, but any additional requirements to meet the end-use should be stated by the purchaser in his enquiry and purchasing contract documents.

5 DESCRIPTION.

5.1 General. Each of the four types of cement shall be prepared by intimately mixing together calcareous and argillaceous and/or other silica-bearing, alumina-bearing, and/or iron oxide-bearing materials, burning them at a clinkering temperature, and grinding the resulting clinker to produce a cement capable of complying with the requirements of this standard.

5.2 Additions. Additions of materials, other than water and/or calcium sulphate containing not less than 30 percent sulphuric anhydride (SO_3), shall not be permitted except that, at the option of the manufacturer, processing additions may be used, provided that such materials in the proportions used have been shown to be not deleterious in accordance with ASTM C 465.

Where a processing addition is used, the manufacturer shall state on the bag or, for bulk cement, in writing to the purchaser, that a processing addition has been incorporated in the cement. At the request of a purchaser, the manufacturer shall state in writing the nature, proportion and identity of any processing addition that may have been used and shall, on request, supply test data showing compliance of such processing addition(s) with ASTM C 465.

6 SAMPLING AND TESTING. Sampling and testing of cement for compliance with this standard shall be carried out in accordance with AS 2349 and AS 2350.

7 CHEMICAL COMPOSITION. When analysed in accordance with the methods of test described in Table 1, the cement shall conform to the limits set out therein.

NOTE: The chemical composition may be determined in accordance with AS 1378, and the results used to determine whether the cement complies with Clause 7 and Table 1 of this standard. In case of dispute, the classical methods specified in column 4 of Table 1 of this standard should be used as the referee method.

8 PHYSICAL PROPERTIES. When tested in accordance with the methods of test prescribed in Table 2, the cement shall comply with the requirements set out therein.

9 PACKING, MARKING AND DELIVERY OF BAGGED CEMENT. Bagged cement shall be delivered in sound packages undamaged by moisture or other causes, and each package shall be plainly marked with the type of cement, the name of the manufacturer, and if used, a statement that a processing addition has been incorporated.

NOTES:

1. Unless otherwise agreed, the cement is packed in bags averaging 1 t net per 25 bags.
2. Manufacturers who place the number of this Australian standard on portland cement, packaging or literature related thereto should ensure that the portland cement is manufactured to comply with the standard.

   Attention is particularly drawn to the scheme for independent assurance provided by the AS Mark which is a registered certification trademark owned by the Standards Association of Australia.

   The presence of the AS Mark on or in relation to a product is an assurance that the goods have been produced under a system of supervision, control and testing applied during manufacture and including periodical inspections at the manufacturer's works in accordance with the certification mark scheme of the SAA.

   The AS Mark can be used only by manufacturers licensed under the certification mark scheme operated by the SAA, and only when accompanied by the number of the relevant Australian standard. It will usually be a requirement that the words 'Manufactured to Australian Standard' accompany the number of the standard and enclose the Mark as shown below; however, this is a matter for negotiation with the Association.

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