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METHODS OF TESTING CONCRETE—

Part 12—METHODS FOR THE DETERMINATION OF MASS PER UNIT VOLUME OF HARDENED CONCRETE

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
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The following interests are represented on Committee BD/42:

Association of Consulting Engineers, Australia

Cement and Concrete Association of Australia

CSIRO, Division of Building Research

Confederation of Australian Industry

Department of Housing and Construction

National Association of Australian State Roads Authorities

National Association of Testing Authorities, Australia

National Ready Mixed Concrete Association of Australia

Public Works Department, N.S.W.

University of New South Wales

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Amendment No 1
September 1973

STANDARDS ASSOCIATION OF AUSTRALIA

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AMENDMENT No 1

to

AS 1012, Part 12—1971

METHODS FOR THE DETERMINATION OF WEIGHT PER UNIT VOLUME OF HARDENED CONCRETE (METRIC UNITS)

Page 3. Clause 1.2, APPARATUS.

Delete existing clause and *substitute*:

1.2 APPARATUS. AMDT No 1 SEPT. 1973

1.2.1 Length Measuring Apparatus.

1.2.1.1 *Height of Cast Specimens.* Suitable calipers, jig or rule capable of measuring to an accuracy of 1 mm.

1.2.1.2 *Other Dimensions.* Suitable vernier calipers, micrometer or dial gauge apparatus, capable of measuring to an accuracy of 0·2 mm.

Page 4. Clause 1.7, Records. AMDT No 1 SEPT. 1973

In item (v), in the second line, after 'diameter of a cylinder' *insert* '(rounded to the nearest 0·2 mm)'.

z to 1375—1973 SAA Industrial Fuel Fired Appliances Code (amended December 1976)
2 to 1480—1974 SAA Concrete Structures Code (amended December 1976)
2 to 1499—1973 Buoyancy vests (amended December 1976)
1 to 1512—1973 Life jackets (amended December 1976)
1 to 1659—1974 The alphanumeric section of keyboards operated with both hands (amended December 1976)
8 to C100—1972 Definitions and general requirements for electrical materials and equipment (amended December 1976)
5 to C119—1951 Normal bayonet lampholder adaptors (amended December 1976)
4 to C122—1964 Plug socket adaptors (amended December 1976)

Corrigenda

Corrig. (December 1976) to 1074—1976 Steel tubes and tubulars threaded or suitable for threading with pipe threads of Whitworth form
rrig. (December 1976) to 1596—1973 SAA LP Gas Code
rrig. (December 1976) to 1903 and 1904—1976 Reflective foil laminate
RRECTION: The Corrigendum announced as applying to AS 1301.p405m—72 should have referred to AS P1.p405m—72.

Standards withdrawn

A1—1965 Dimensions of hot-rolled steel shapes and sections for structural purposes. Superseded by AS 1131—1973
A2—1963 Portland cement. Superseded by AS 1315—1973
A64—1971 Ready-mixed concrete. Superseded by AS 1379—1973
A81—1965 Hot-rolled plain steel reinforcing bars for reinforced concrete. Superseded by AS 1302—1973
2—1971 Hard-drawn steel wire for reinforced concrete. Superseded by AS 1303—1973
A83—1966 Cold-worked reinforcing bars for reinforced concrete. Superseded by AS 1302—1973
A84—1966 Hard-drawn steel wire reinforcing fabric for reinforced concrete. Superseded by AS 1304—1973
A92—1965 Hot-rolled deformed steel reinforcing bars for reinforced concrete. Superseded by AS 1302—1973
A97—1965 Minimum requirements for the deformations of deformed steel reinforcing bars for reinforced concrete. Superseded by AS 1302—1973
00—1967 Method for sampling fresh portland cement concrete. Superseded by AS 1012, Part 1—1971
01—1967 Method for the determination of the consistency of portland cement concrete (slump test). Superseded by AS 1012, Part 3—1971
A102—1968 Method for mixing portland cement concrete in the laboratory. Superseded by AS 1012, Part 2—1971
A103—1973 Method for making and curing portland cement concrete compression, indirect tensile and flexure test specimens in the laboratory or in the field. Superseded by AS 1012, Part 8—1973
A104—1969 Method for the determination of the compressive strength of portland cement concrete. Superseded by AS 1012, Part 9—1973
A105—1973 Method for securing and testing cores from hardened portland cement concrete for compressive strength or indirect tensile strength. Superseded by AS 1012, Part 14—1973
A106—1971 Method for the determination of flexural strength of concrete flexure test specimens. Superseded by AS 1012, Part 11—1972
A108—1971 Method for the determination of weight per unit volume of freshly mixed or hardened concrete. Superseded by AS 1012, Part 12—1971
09—1972 Methods for the determination of the air content of freshly mixed concrete. Superseded by AS 1012, Part 4—1972
A111—1972 Method for the determination of indirect tensile strength of concrete cylinders (known as 'Brazil' or splitting test). Superseded by AS 1012, Part 10—1972

(A108 - 1971). Australian standard. Method for the determination of weight per unit volume of freshly mixed or hardened concrete. Imperial units.

See Also AS. 1012, Pts 5 & Pt 12-1971. A/C

Amendment 1- June 1972. Concrete Addendum 1 - Jan. 1973.

" 2 - Sept. 1973.

WITHDRAWN. MIS Dec. 1976.
Superseded by AS 1012-Pt.12-1971.

Concrete - Testing

Supersedes A108 - 1957.
Doc.1601 of Sept. 1970.

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Second edition AS A108 - 1971
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AS 1012.12 - 1971 superseded AS A108 - 1971 in
MISDecember 1976
Second edition AS 1012.12 - 1986

PREFACE

This edition of this standard was prepared by the Association's Committee on Methods of Testing Concrete, and it supersedes AS 1012, Part 12—1971, Methods for the Determination of Weight per Unit Volume of Hardened Concrete.

This standard gives two methods for the determination of mass per unit volume: Method 1, Rapid Measuring Method (intended for use with regular shaped specimens such as those used for strength testing) and Method 2, Water Displacement Method (suitable for regular and irregular shaped specimens).

This standard differs from the previous edition in the following respects:

(a) Change of title. (It is the mass rather than the weight that is determined.)

(b) The addition, in Method 2, of provisions related to sealing or wrapping of specimens to control the moisture condition and/or effect of surface voids, where appropriate.

(c) The deletion of Method 3 which was originally introduced to cover the rapid determination of mass per unit volume of lightweight aggregate concrete.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
METHODS OF TESTING CONCRETE

PART 12—METHOD FOR THE DETERMINATION OF MASS PER UNIT VOLUME OF HARDENED CONCRETE

SECTION 1. METHOD 1—HARDENED CONCRETE IN REGULAR SHAPED SPECIMENS (RAPID MEASURING METHOD)

1.1 SCOPE OF SECTION. This Section sets out a rapid method for determining the mass per unit volume of hardened concrete which are regular shaped specimens with a minimum of defects.

NOTE: Because of possible variation in results, it is envisaged that the mass per unit volume of concrete should be based on the average value determined from a group of at least two representative specimens.

1.2 REFERENCED DOCUMENTS. The following standards are referred to in this Section:

AS 1012 Methods of Testing 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 Method for the Determination of the Compressive Strength of Concrete Specimens

1.3 ACCEPTANCE OF SPECIMENS. Specimens shall be accepted for testing if—

(a) they appear to have been moulded in accordance with the provisions described in AS 1012, Part 8; and

(b) they have been capped, in accordance with the provisions described in AS 1012, Part 9; or

(c) they are of regular shape prepared by drilling or saw cutting of hardened concrete and appear to be free from defects likely to introduce significant errors in the calculation of their volume from straightforward measurements.