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METHODS OF TESTING CONCRETE

METHODS FOR THE DETERMINATION OF PROPERTIES RELATED TO THE CONSISTENCE OF CONCRETE

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA
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Association of Consulting Engineers, Australia
Confederation of Australian Industry
Cement and Concrete Association of Australia
CSIRO, Division of Building Research
Department of Transport and Construction
Department of Public Works, N.S.W.
National Association of Australian State Road Authorities
National Association of Testing Authorities, Australia
National Ready Mixed Concrete Association of Australia
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PREFACE

This edition of this standard was prepared by the Association's Committee on Methods of Testing Concrete as part of an ongoing revision of the AS 1012 series of standards on the testing of concrete. It supersedes AS 1012, Part 3—1976.

The main alteration to Method 1 — Slump Test has been to limit its application to a nominal aggregate size of 40 mm. The procedures have been clarified and diagrams of collapse and shear slumps have been included.

Method 2 — Compacting Factor Test has been only slightly altered by relating the time for the test for concrete mixed in the laboratory to the completion of mixing, rather than the addition of the mixing water. The procedure has also been clarified.

The procedure for Method 3 — Vebe Test has been altered so that the mould is now filled in three layers. This follows proposed changes to BS 1881.

A new method, Compactibility Index, has been included in this edition. It is intended to provide a field consistence test for nil-slump concretes, such as those used in kerb extrusion machines.

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PART 3 — METHODS FOR THE DETERMINATION OF PROPERTIES RELATED TO THE CONSISTENCE OF CONCRETE

SECTION 1. METHOD 1 — SLUMP TEST

1.1 SCOPE AND REFERENCED DOCUMENTS.

1.1.1 Scope of Section. This Section sets out the method for determining the slump of concrete, when the nominal size of aggregate does not exceed 40 mm.

1.1.2 Referenced Documents. The following standards are referred to in this Section:

AS 1012 Methods of Testing Concrete
Part 1 — Method for Sampling Fresh Concrete
Part 2 — Method for Mixing Concrete in the Laboratory.

1.2 APPARATUS.

1.2.1 Mould. The mould shall be a hollow frustum of a cone manufactured from galvanized steel sheet not less than 1.5 mm thick, the bottom and the top of the mould being open and at right-angles to the axis of the cone. The mould shall be provided with suitable footpieces and handles and its internal surface shall be smooth. The internal dimensions of the mould shall be as follows:

Bottom diameter:	200 ± 5 mm
Top diameter:	100 ± 5 mm
Vertical height:	300 ± 5 mm.

NOTES:
1. A suitable mould is illustrated in Fig. 1.1.
2. Attachments to the mould preferably should be welded. If rivets are used in the construction of the mould, they must be countersunk flush on the inside of the cone. To facilitate the filling of the mould in a vertical direction, suitable guide attachments may be provided.

1.2.2 Rod. The rod used for compacting concrete in the mould shall be a metal rod 16 ± 1 mm in diameter, approximately 600 mm long and having at least one end tapered for a distance of approximately 25 mm to a spherical shape having a radius of approximately 5 mm.

NOTE: The rod may be extended with a handle of plastics conduit, provided that the overall length does not exceed 1000 mm.

1.2.3 Scoop.