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Concrete

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METHODS OF TESTING CONCRETE

METHOD FOR THE DETERMINATION OF MASS PER UNIT VOLUME OF FRESHLY MIXED CONCRETE

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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
University of New South Wales

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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 its ongoing revision of the AS 1012 series of standards on the testing of concrete. It supersedes AS 1012, Part 5—1971.

The main alteration from the 1971 edition has been to allow alternative measuring cylinders, as the committee recognized that this test is often performed in conjunction with one of the methods of AS 1012, Part 3, and Part 4. The procedure has also been extensively rewritten and clarified.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
METHOD OF TESTING CONCRETE

PART 5—METHOD FOR THE DETERMINATION OF MASS PER UNIT VOLUME OF FRESHLY MIXED CONCRETE

1 SCOPE. This standard sets out the method for determining the mass per unit volume of freshly mixed concrete which is in the plastic state.

The standard provides for the compacting of the sample either by rodding or vibration.

NOTE: The result obtained may be dependent on the compaction method used.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1012 Methods of Testing Concrete
Part 1—Method for Sampling Fresh Concrete
Part 2—Method for Mixing Concrete in the Laboratory
Part 3—Methods for the Determination of Properties Related to the Consistence of Concrete
Part 4—Methods for the Determination of Air Content of Freshly Mixed Concrete

3 APPARATUS.

3.1 Measure.

3.1.1 *General.* The measure shall be made of metal not less than 3 mm thick, and shall be watertight and sufficiently rigid to maintain its shape with rough usage. The inside surface shall be smooth and free from corrosion and the rim of the measure shall be machined to a plane surface perpendicular to the axis of the cylinder. The measure shall be provided with carrying handles.

The diameter of the measure shall be between 0.75 and 1.25 times the height.

For testing concrete with aggregates of nominal size not exceeding 40 mm, the capacity of the bowl shall be not less than 5 L.

For testing concrete with larger aggregate, a larger air meter shall be used; e.g. for concrete with maximum 75 mm nominal size aggregate, a measure of capacity not less than 10 L shall be used.

3.1.2 *Calibration.* The measure shall be calibrated at a known temperature by determining the mass in kilograms of water required to precisely