AS 1379—1991

Australian Standard®

The specification and manufacture of concrete

STANDARDS AUSTRALIA

This Australian Standard was prepared by Committee BD/49, Manufacture of Concrete. It was approved on behalf of the Council of Standards Australia on 19 April 1991 and published on 12 July 1991.

The following interests are represented on Committee BD/49:

Australian Construction Services

Austroads

Cement and Concrete Association of Australia

Master Builders Construction and Housing Association Australia

Metal Trades Industry Association of Australia

National Ready Mixed Concrete Association

Royal Australian Institute of Architects

The Association of Consulting Engineers Australia

University of New South Wales

University of Sydney

Additional interests participating in preparation of Standard:

Bemac Laboratories

The Fowler Mixer Co.

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PREFACE

This Standard was prepared by the Standards Australia Committee on the Manufacture of Concrete to supersede AS 1379—1973, *Ready-mixed concrete*.

The scope of this Standard represents a significant expansion of the scope of AS 1379—1973 in that it covers the manufacture of site-mixed and factory-mixed concrete in addition to truck-mixed concrete. It also covers the manufacture of flexural and indirect-tensile strength grades as well as compressive grades of concrete, including those compressive grades which fall outside the range covered by AS 3600—1988, *Concrete Structures*.

All of the specification, classification (normal and special-class), ingredient materials and quality control, requirements of AS 3600 have now been incorporated into this Standard. This is an essential step in the rationalization process of formulating AS 3600 as a purely structural design Standard and this Standard as an independent material/product Standard.

Another rationalization which will follow the publication of this Standard will be the withdrawal of the 'Codes of Practice' for the use of chemical admixtures and fly ash in concrete (AS 1499 and AS 1130). As these materials are most frequently incorporated into concrete at the manufacturing stage, their usage is now covered by this Standard.

Many modern concrete plants are either partially or fully automated with electronic control and digital readouts. In addition to the traditional batch mixers, continuous and split-drum mixers are also finding their place in concrete manufacture. This Standard takes account of these developments in plant technology, which have occurred since the previous edition.

Sampling and testing regimes aim at achieving satisfactory levels of quality control over slump, air content and strength. All concrete specified by compressive strength is now required to be assessed for quality by the manufacturer, at levels appropriate to the rate of production. Additional assessments may also need to be carried out where specifiers require the concrete manufactured for a specified project to be separately assessed.

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1.1 SCOPE This Standard sets out minimum requirements for—

(a) the materials, plant and equipment used in the manufacture of concrete;

(b) the production and, if applicable, the delivery of concrete in the plastic state;

(c) specifying, sampling, testing and compliance with specified properties, of plastic and hardened concrete; and

(d) the uniformity of mixing.

This Standard applies to the manufacture of all concrete. It is not intended to apply to mortars or grouts.

NOTES:

1 Requirements for mortars for masonry construction are given in AS 3700 and the methods for sampling and testing mortars in AS 2701.

2 Requirements for grouts to be used for the grouting of prestressing tendons in ducts, are given in Clause 9.1.11 of AS 3600.

3 It is not intended that this Standard should take precedence over existing Australian Standards for the manufacture of specific concrete products.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard.

AS
1012 Methods of testing concrete
1012.1 Part 1: Method for sampling fresh concrete
1012.3 Part 3: Methods for the determination of properties related to the consistence of concrete
1012.4 Part 4: Methods for the determination of air content of freshly mixed concrete
1012.5 Part 5: Method for determination of mass per unit volume of freshly mixed concrete
1012.8 Part 8: Method for making and curing concrete compression, indirect tensile and flexure test specimens in the laboratory or in the field
1012.9 Part 9: Method for the determination of the compressive strength of concrete specimens
1012.10 Part 10: Method for the determination of indirect tensile strength of concrete specimens ('Brazil' or splitting test)
1012.11 Part 11: Method for the determination of the flexural strength of concrete specimens
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