

Australian Standard™

Concrete structures for retaining liquids



S t a n d a r d s Australia

This Australian Standard was prepared by Committee CE-022, Concrete Structures for Retaining Liquids. It was approved on behalf of the Council of Standards Australia on 17 November 2000 and published on 13 March 2001.

The following interests are represented on Committee CE-022:

Australian Pre-mixed Concrete Association
Institution of Engineers Australia
University of Queensland
Water Services Association of Australia

Additional interests participating in the preparation of this Standard:

Association of Consulting Engineers Australia
Australian Chamber of Commerce and Industry
Australian Post Tensioning Association
Australian Water and Wastewater Association
Brisbane City Council
Department of Public Works and Services N.S.W.
Melbourne Water
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Originated as AS 3735—1991.
Second edition 2001.

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Published by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 3714 5

PREFACE

This Standard was prepared by the Standards Australia Committee CE-022, Concrete Structures for Retaining Liquids, to supersede AS 3735—1991.

The objective of this standard is to provide designers of reinforced concrete structures used for retaining liquids at ambient temperatures with specifications for design and installation.

For structures that specifically relate to concrete structures used for retaining liquids at ambient temperature, this Standard supplements and takes precedence over the requirements of AS 3600, Concrete structures.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

This draft Standard has been prepared from the previous edition of AS 3735—1991. The Standard is limited to concrete with a concrete stress limited in the range of 20 MPa to 50 MPa at 28 days.

A Commentary, published as Supplement No.1 to AS 3735, provides background information and explanation on the application of this Standard.

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STANDARDS AUSTRALIA

Australian Standard
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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE AND APPLICATION**1.1.1 Scope**

This Standard specifies requirements for concrete structures and members that include reinforcing steel or tendons, or both, used for retaining liquids at ambient temperature.

The Standard supplements and takes precedence over the requirements of AS 3600.

The principles of concrete design and construction embodied in this Standard apply to structures and members made of concrete—

- (a) with a characteristic compressive strength at 28 days (f'_c) in the range of 20 MPa to 50 MPa; and
- (b) of saturated, surface-dry density in the range of 1800 kg/m³ to 2800 kg/m³.

The Standard does not apply to the design of—

- (i) dams;
- (ii) aqueducts, hydraulic tunnels or similar structures;
- (iii) small septic tanks (see AS 1546.1);
- (iv) portable precast concrete water tanks of less than 25 000 L capacity;
- (v) fibre-impregnated concrete that does not comply with the design requirements and procedures of AS 3600; or
- (vi) precast concrete pipes (pressure and non-pressure) (see AS 4058).

1.1.2 Application

This Standard applies to concrete structures for the storage of liquids where the exposure conditions for concrete are within the specified limits. Such structures include those retaining water or sewage, public swimming pools, and swimming pools the area or overall length of which are greater than that specified in AS 2783. However, where applicable, the specifications of the relevant authority shall be used.

NOTE: It is intended that the design of a structure or member to which this Standard applies, be carried out by, or under the supervision of, an engineer as defined in Clause 1.6.2.