

AS 2783—1992

Australian Standard<sup>®</sup>

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**Use of reinforced concrete for  
small swimming pools**

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This Australian Standard was prepared by Committee CE/22, Concrete Structures for Retaining Liquids. It was approved on behalf of the Council of Standards Australia on 27 March 1992 and published on 15 June 1992.

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The Association of Consulting Engineers, Australia  
Australian Post-Tensioning Association  
Board of Works, Melbourne  
Brisbane City Council  
Cement & Concrete Association of Australia  
Confederation of Australian Industry  
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## PREFACE

This Standard was prepared by the Standards Australia Committee on Concrete Structures for Retaining Liquids, and is intended to be used for small swimming pools and is intended to be used with AS 3600, *Concrete structures*. For longer or unusual structures or structures with a longer design life, AS 3735, *Concrete structures for retaining liquids* shall be used.

Topics covered are design and supervision, materials (including specification for pneumatically applied concrete), construction joints, construction tolerances, curing, embedments in concrete, loads, allowable stresses in reinforcement and design details for reinforcement.

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## STANDARDS AUSTRALIA

## Australian Standard

## Use of reinforced concrete for small swimming pools

**1 SCOPE** This Standard sets out requirements for the structural design and construction of swimming pools constructed wholly or partly of either *in situ* or pneumatically applied reinforced concrete. The pools will normally contain disinfected water with a pH not less than 6.5 and a salinity not greater than sea water and have—

- (a) a surface area of not greater than 100 m<sup>2</sup>; and
- (b) an overall length not greater than 16.7 m.

Such pools are hereinafter referred to as structures.

These requirements may be applied to larger structures but may not be sufficient for such structures.

## NOTES:

- 1 For pools using salt water chlorinators the salinity of the water, in general, is 6 000 ±4 000 mg/L compared with 37 000 mg/L for seawater.
- 2 Milligrams per litre is equivalent to parts per million.
- 3 The expected design life of small swimming pools is of the order of 20 years to 30 years.
- 4 This Standard may be applied to pools partially or wholly above ground provided that the supporting elements are designed in accordance with AS 3600 and regard is taken for shrinkage and movement.
- 5 The overall length is measured at the waterline and the limit of 16.7 m has been adopted to be in line with one-third Olympic-sized pools.

**2 APPLICATION** The structure shall be designed and constructed in accordance with the requirements of this Standard and the requirements of AS 3600 and AS 3735, as applicable.

**3 NEW MATERIALS OR METHODS**

**3.1 General** This Standard shall not be interpreted to prevent the use of materials or of methods of design or construction not specifically referred to in this Standard.

**3.2 Steel fibre concrete** Steel fibre concrete which complies with Clause 9.7 may be used provided that such concrete meets the strength, durability and other relevant requirements of this Standard.

**4 REFERENCED AND RELATED DOCUMENTS**

**4.1 Referenced documents** The following documents are referred to in this Standard:

|        |   |
|--------|---|
| AS     |   |
| 1170   | SAA Loading Code  |
| 1302   | Steel reinforcing bars for concrete                               |
| 1303   | Steel reinforcing wire for concrete                               |
| 1304   | Welded wire reinforcing fabric for concrete                       |
| 1478   | Chemical admixtures for use in concrete                           |
| 3000   | SAA Wiring Rules  |
| 3582   | Supplementary cementitious materials for use with portland cement |
| 3582.1 | Part 1: Fly ash   |
| 3582.2 | Part 2: Slag – Ground granulated iron blast-furnace               |
| 3600   | Concrete structures   |
| 3610   | Formwork for concrete   |
| 3735   | Concrete structures for retaining liquids                         |

**4.2 Related documents** Attention is drawn to the following related documents:

|       |   |
|-------|---|
| AS    |   |
| 1926  | Fences and gates for private swimming pools   |
| 2020  | Safety covers for private swimming pools and wading pools (for the protection of children 5 years of age and under) |
| 2160  | Contract for the supply and construction of a swimming pool   |
| 2160C | Australian standard contract for supply and construction of a swimming pool   |
| 2818  | Guide to swimming pool safety   |

**5 DEFINITIONS** For the purpose of this Standard, the definitions given in AS 3600 and those below apply.

**5.1 Aggressive water** — corrosive ground water, sea water, or salt water with a concentration of sodium chloride (NaCl) greater than 10 000 mg/L.



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