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Swimming pools — Premoulded fibre-reinforced plastics — Design and fabrication



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- Australian Fibreglass Manufacturers Group
- Australian Institute of Building Surveyors
- Composites Australia
- Engineers Australia
- Swimming Pool and Spa Association of Australia
- University of Southern Queensland

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Swimming pools — Premoulded fibre-reinforced plastics — Design and fabrication

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Preface

This Standard was prepared by the Standards Australia Committee PL-041, Glass Reinforced Swimming Pools, to supersede AS/NZS 1838:1994.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this document as an Australian Standard rather than an Australian/New Zealand Standard.

The objective of this document is to set out procedures for the design and fabrication of premoulded fibre-reinforced plastics (FRP) swimming pools.

The major changes in this edition are as follows:

- (a) Additions and amendments to scope (see [Clause 1.1](#)), normative references (see [Clause 1.2](#)) and to terms and definitions, see [Clause 1.3](#).
- (b) Additions and amendments to materials, see [Clause 2](#).
- (c) Additions and amendments to design (see [Clause 3](#)), including the addition of hydrodynamic loads.
- (d) Additions and amendments to construction requirements (see [Clause 4](#)), including the addition of clear and textured gelcoats.
- (e) Significant changes to performance requirements (see [Clause 5](#)) in conjunction with [Appendices E](#) and [F](#).
- (f) Addition of a new appendix providing external factors that affect in-service performance, see [Appendix G](#).

The terms “normative” and “informative” are used in Standards to define the application of the appendix to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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Section 1 Scope and general

1.1 Scope

This document specifies requirements for premoulded plastic swimming pools exceeding 300 mm in depth and constructed from fibre-reinforced plastics (FRP) based on thermosetting resin systems. It covers materials, design and performance requirements.

NOTE For installation of fibre-reinforced plastic pools and swimming pools conforming to this document, refer to AS 1839.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements in this document.

AS 1170.4, *Structural design actions, Part 4: Earthquake actions in Australia*

AS 1839, *Swimming pools — Premoulded fibre-reinforced plastics — Installation*

AS 1926.3, *Swimming pool safety, Part 3: Water recirculation systems*

AS 3600, *Concrete structures*

ISO 178, *Plastics — Determination of flexural properties*

ASTM D 2583, *Test method for indentation hardness of rigid plastics by means of a Barcol impressor*

1.3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

1.3.1 at rest

state of soil condition prior to disturbance

1.3.2 bond beam

structural member that supports the coping

Note 1 to entry: See [Clause 3.5](#).

1.3.3 competent person

person who has acquired, through education, training, qualification or experience or a combination of these, the knowledge and skill enabling that person to perform the task required

Note 1 to entry: An example would be a professional engineer who is —

- (i) a corporate member of the Institution of Engineers, Australia; or
- (ii) eligible to become a corporate member of the Institution of Engineers, Australia, and has appropriate experience and competence in the relevant field.