

Australian/New Zealand Standard™

Rotationally moulded buried, partially buried and non-buried storage tanks for water and chemicals



AS/NZS 4766:2020

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- Association of Rotational Moulders Australasia
- Australian Building Codes Board
- Australian Wastewater Treatment Association
- Composites Australia
- Environmental Health Professionals Australia
- Master Plumbers Australia and New Zealand
- Plastics Industry Pipe Association of Australia
- Plastics New Zealand
- Rainwater Harvesting Association of Australia
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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee PL-046, Rotationally Moulded Storage Tanks, to supersede AS/NZS 4766:2006, *Polyethylene storage tanks for water and chemicals*.

The objective of this Standard is to specify requirements for the design and manufacture of storage tanks that are rotationally moulded in one-piece single or multi-layer seamless construction. This includes the following:

- (a) Where the tank is non-buried, ensure secure storage of contents.
- (b) Where the tank is partially buried or buried, ensure secure storage of contents and prevent inflow or infiltration of surface water and soil water.
- (c) Ensure performance and workmanship of the finished tank is adequate for the intended application.
- (d) Ensure tank fittings are suitable for the intended application.
- (e) Specify design criteria and material selection to ensure the above.

The major changes in this edition are as follows:

- (i) Inclusion of buried and partially buried tanks.
- (ii) Changes to design criteria of all tanks.
- (iii) Ability to manufacture with multiple layers of material.

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

This Standard includes a commentary. The commentary directly follows the relevant clause, is designated by “C” preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

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1 Scope and general

1.1 Scope

This Standard specifies requirements for the design and manufacture of storage tanks that are rotationally moulded in one-piece single or multi-layer seamless construction.

This Standard applies to tanks for non-buried installation capable of containing water, liquids used in food and beverage manufacture, waste oil treatment, fat, oil and grease, diesel and liquid chemicals at atmospheric pressure.

This Standard also applies to tanks for buried and partially-buried installation capable of containing water, liquids used in food and beverage manufacture, waste oil treatment, fat, oil and grease at atmospheric pressure.

Methods for demonstrating conformance to this Standard are specified in [Appendix A](#).

1.2 Exclusions

This Standard does not apply to the following:

- (a) Portable tanks for the transport of liquids or tanks permanently mounted to vehicles.
- (b) Partially buried or buried liquid chemical and diesel storage tanks.
- (c) Tanks where liquid contents are heated above their flash points.
- (d) Tanks where liquid contents have service temperatures above —
 - (i) 40 °C; or
 - (ii) the rated service temperature of the tank material.
- (e) Tanks where superimposed pressure exceeds 0.25 m head of water, or 2.5 kPa above the maximum recommended fill level.
- (f) Tanks subject to superimposed mechanical forces, such as agitation.
- (g) Installation or dispensing of specific tanks and tank systems, such as the following:
 - (i) Installation and dispensing systems of non-buried diesel storage tanks in accordance with AS 1940.
 - (ii) Installation of septic tanks in accordance with AS/NZS 1546.1.
 - (iii) Installation of wastewater treatment tanks in accordance with AS 1546.3.

1.3 Normative references

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

NOTE Documents for informative purposes are listed in the Bibliography.

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