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AS 1546—1983
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# Australian Standard 1546—1983

# SMALL SEPTIC TANKS



STANDARDS ASSOCIATION OF AUSTRALIA
*Incorporated by Royal Charter*



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This Australian standard was prepared by Committee WS/13, Septic Tanks. It was approved on behalf of the Council of the Standards Association of Australia on 11 January 1983 and published on 5 April 1983.

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The following interests are represented on Committee WS/13:

Confederation of Australian Industry
Consulting engineers
Department of Health, N.S.W.
Department of Public Works, N.S.W.
Fibreglass Reinforced Sheet Manufacturers Association
Health Commission of Victoria
Health Services Department, Tasmania
Master Plumbers Association of South Austra[illegible]
Metropolitan Water Sewerage and Drainage [illegible]
Public Health Department, W.A.
Queensland Water Resources Commissi[illegible]
South Australian Health Commissi[illegible]

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*This standard was issued in draft form for comment as DR 81034.*

AUSTRALIAN STANDARD

# SMALL SEPTIC TANKS

## AS 1546—1983


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# PREFACE

This edition of this standard was prepared by the Association's Committee on Septic Tanks to supersede AS 1546—1976.

The object of the standard is to establish requirements which make for simplicity, economy of design and satisfactory performance of septic tanks.

The main purpose of this edition is to introduce test requirements for concrete tanks for application of the AS Mark (see Clause 1.15). In addition appendices have been added to provide details of typical outlet fittings and of minimum septic tank capacities permitted by regulatory authorities.

# CONTENTS

STANDARDS ASSOCIATION OF AUSTRALIA

# Australian Standard for SMALL SEPTIC TANKS

## SECTION 1. SCOPE AND GENERAL PROVISIONS

**1.1 SCOPE.** This standard specifies requirements for septic tanks suitable for the reception of sewage and sullage from households not exceeding 10 persons.

**1.2 APPLICATION.** Septic tanks shall comply with the general requirements of Section 1 and with the specific requirements of the following Sections, as appropriate:

Section 2—Cylindrical Precast Concrete Septic Tanks
Section 3—Rectangular Cast-in-situ Concrete Septic Tanks
Section 4—Rectangular Brick Septic Tanks
Section 5—Rectangular Precast Concrete Septic Tanks
Section 6—Glass Fibre Reinforced Plastics Septic Tanks

NOTE: Inclusion of further Sections for septic tanks approved by a Regulatory Authority will be considered on application to SAA.

**1.3 REFERENCED DOCUMENTS.** The following documents are referred to in this standard:

AS 1012 Methods of Testing Concrete
Part 8—Method for making and curing concrete compression, indirect tensile and flexure test specimens in the laboratory or in the field
Part 9—Determination of compressive strength of concrete specimens
Part 14—Method for securing and testing cores from hardened concrete for compressive strength or indirect tensile strength
AS 1260 Unplasticized PVC (UPVC) Pipes and Fittings for Sewerage Applications
AS 1304 Hard-drawn Steel Wire Reinforcing Fabric for Concrete
AS 1415 Unplasticized PVC (UPVC) Pipe and Fittings for Soil, Waste and Vent (SWV) Applications
AS 1547 Code of Practice for Disposal of Effluent from Small Septic Tanks
AS 1741 Vitrified Clay Pipes
AS 2782 Methods for the Determination of the Flexural Properties of Plastics
BS 2782 Methods of Testing Plastics
BS 3396 Woven Glass Fibre Fabrics for Plastics Reinforcement
BS 3496 E Glass Fibre Chopped Strand Mat for the Reinforcement of Polyester Resin Systems
BS 3532 Unsaturated Polyester Resin Systems for Low Pressure Fibre Reinforced Plastics
BS 3691 Glass Fibre Rovings for Reinforcement of Polyester and of Epoxide Resin Systems
BS 3749 Woven Roving Fabrics of E Glass Fibre for the Reinforcement of Polyester Resin
BS 4408 Recommendations for Non-destructive Methods of Testing Concrete
Part 4—Surface Hardness Methods
BS 4994 Vessels and Tanks in Reinforced Plastics
PS 15:69 Custom Contact-moulded Reinforced-polyester Chemical Resistant Process Equipment (U.S. Department of Commerce).

**1.4 DEFINITIONS.** For the purpose of this standard the following definitions apply:

**1.4.1 Septic tank**—a one-storey chamber, or chambers, through which sewage and/or sullage is allowed to flow slowly to permit settleable suspended matter to settle and be retained so that the organic matter in the sewage and/or sullage can be decomposed (digested) by anaerobic bacterial action into liquid, soluble, or gaseous substances.

**1.4.2 Sewage**—liquid wastes containing human faeces and urine.

**1.4.3 Scum**—a floating mass of sewage and/or sullage solids in a septic tank buoyed up by entrained gas, grease and/or other substances.

**1.4.4 Sludge**—semi-liquid solids settled from sewage and/or sullage in a septic tank.

**1.4.5 Sullage**—liquid wastes from bathrooms, laundries and kitchens, including floor wastes from these sources.

**1.5 NEW MATERIALS AND DESIGNS.** This standard shall not be interpreted to prevent the use of materials or designs for septic tanks not specifically referred to herein.

If it is desired to use materials or features of design not dealt with by this standard, details of such materials or designs shall be submitted to the appropriate Statutory Authority for approval.

**1.6 CAPACITY OF SEPTIC TANK.** The septic tank shall have a capacity measured below the invert of the outlet of the tank in accordance with the requirements of the appropriate Statutory Authority detailed in Appendix F.

**1.7 OPERATING DEPTH.** The depth of sewage and/or sullage in a septic tank, measured below the