



WMTS-026:2016

Cold water storage tanks

WaterMark Technical Specification

2016



ABCB



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Cold water storage tanks

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IMPORTANT NOTICE AND DISCLAIMER

On 25 February 2013 management and administration of the WaterMark Certification Scheme transferred to the Australian Building Codes Board (ABCB). From this date all new technical specifications will be named WaterMark Technical Specifications (WMTS). Within two years all existing ATS will be renamed WMTS. During this initial period both terms may be used and accepted. All new and recertified Certificates of Conformity will reference WMTS. Certificates of Conformity that currently reference ATS will be re-issued referencing the equivalent WMTS during this initial period. The WaterMark Schedule of Specifications lists all current WMTS and, where appropriate, the former ATS name.

This Technical Specification supersedes Standards Australia ATS 5200.026 – 2004.

The rebranding of this Technical Specification has included additional information about the transition as well as changes to specific details including replacing references to Standards Australia and the National Plumbing Regulators Forum (NPRF) with the ABCB, changing the term Australian Technical Specification (ATS) to WaterMark Technical Specification (WMTS), replacing references to technical committees WS-014 and WS-031 with the WaterMark Technical Advisory Committee (WMTAC).

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PREFACE

WaterMark Technical Specification WMTS-026:2016 Technical Specification for plumbing and drainage products, Cold water storage tanks was originally prepared by the Joint Standards Australia/Standards New Zealand Committee WS-031, Technical Procedures for Plumbing and Drainage Products Certification as ATS 5200.026—2004.

The objective of this Technical Specification is to enable product certification in accordance with the requirements of the Plumbing Code of Australia (PCA).

The word 'VOID' set against a clause indicates that the clause is not used in this Technical Specification. The inclusion of this word allows a common use clause numbering system for the WaterMark Technical Specifications.

The term 'normative' has been used in this Technical Specification to define the application of the appendices to which they apply. A 'normative' appendix is an integral part of a Technical Specification.

The test protocol and information in this Technical Specification was arranged by committee members to meet the authorization requirements given in the PCA.

The WaterMark Schedule of Specifications and List of Exempt Products are dynamic lists and change on a regular basis. Based on this function, these lists have been removed from the WaterMark Certification Scheme document known as Technical Specification for Plumbing and Drainage Products and are now located on the ABCB website (www.abcb.gov.au). These lists will be version controlled with appropriate historic references.

ACKNOWLEDGEMENTS

Australian Technical Specification ATS 5200.026-2004, on which this technical specification is based, was prepared by Standards Australia Committee WS-031, Technical Procedures for Plumbing and Drainage Products Certification. It was approved on behalf of the Council of Standards Australia on 10 October 2003.

The following organisations were represented on Committee WS-031 in the preparation of Australian Technical Specification ATS 5200.026-2004:

- AUSTAP
- Australian Industry Group
- Certification Bodies (Australia)
- Copper Development Centre—Australia
- Fire Contractors Federation
- Master Plumbers, Gasfitters and Drainlayers New Zealand
- New Zealand Water & Waste Association
- Plastics Industry Pipe Association of Australia
- Plumbing Industry Commission
- South Australian Water Corporation
- Water Services Association of Australia

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1 SCOPE

This Technical Specification sets out requirements for prefabricated cold water storage tanks, which may or may not be intended to have a float control valve.

2 APPLICATION

This Technical Specification will be referenced on the WaterMark Certification Scheme Schedule of Specifications.

Appendix A sets out the means by which compliance with this Specification can be demonstrated by a manufacturer for the purpose of product certification.

3 REFERENCED DOCUMENTS

The following documents are referred to in this Specification.

AS

- 1397 Steel sheet and strip—Hot-dipped zinc-coated or aluminium/zinc coated
- 1566 Copper and copper alloys—Rolled flat products
- 2345 Dezincification resistance of copper alloys

AS/NZS

- 4020 Testing of products for use in contact with drinking water
- 3500 Plumbing and Drainage
 - 3500.0 Part 0: Glossary of terms
 - 3500.1 Part 1: Water supply
- 4766 Polyethylene storage tanks for water and chemicals

ASTM

- A240/A240M Chromium and chromium-nickel stainless steel plate, sheet and strip for pressure vessels and for general applications

4 DEFINITIONS

For the purpose of this Standard, the definitions given in AS/NZS 3500.0 apply.

5 MATERIALS

5.1 Copper

Copper sheet shall be alloy C12200 complying with AS 1566.

5.2 Galvanized steel

Galvanized steel sheet shall comply with AS 1397, and have a minimum nominal coating mass of 550 g/m².

5.3 Stainless steel

Stainless steel sheet shall be manufactured from alloy 316 complying with ASTM A240/A240M.

5.4 Plastics

Polyethylene tanks shall comply with AS/NZS 4766.

Other plastic materials shall comply with the relevant Standards.

5.5 Dezincification-resistant (DR) copper alloy

Where dezincification-resistant copper alloys are specified they shall comply with AS 2345.

6 MARKING

All tanks shall be marked with the following:

- (a) Manufacturer's name, brand or trademark.
- (b) WaterMark.
- (c) Licence number.
- (d) DRINKING WATER ONLY (where applicable).
- (e) The number of this Technical Specification, i.e., WMTS-026.

7 VOID

8 DESIGN

Relevant to the materials used, tank design shall meet the requirements given in AS/NZS 3500.1.

8.1 Air gap

Compliance with air gap dimensional requirements in AS/NZS 3500.1.

8.2 Sludge valve

A sludge valve shall be fitted when the capacity of a tank exceeds 500 L, with a minimum size complying with the requirements of AS/NZS 3500.1, Clause 8.7.

8.3 Structural strength

The manufacturer's warranty shall state that each unit is designed by a qualified person (in Australia, this should be accredited structural engineers, who have either chartered membership of The Institution of Engineers Australia or registration on the National Professional Engineers Register) to ensure each unit is structurally capable of withstanding all forces that may be exerted on it during installation and operation.

9 PERFORMANCE REQUIREMENTS AND TEST METHODS

9.1 Materials in contact with drinking water

When tested at the highest surface area to volume ratio appropriate to the tank shape and capacity, protective coatings, metal and plastic materials in contact with drinking water shall comply with AS/NZS 4020.

10 VOID

11 VOID

Appendix A MEANS FOR DEMONSTRATING COMPLIANCE WITH THIS TECHNICAL SPECIFICATION

(Normative)

A.1 SCOPE

This Appendix sets out the means by which compliance with this Technical Specification is to be demonstrated by a manufacturer under the WaterMark Certification Scheme.

A.2 RELEVANCE

The long-term performance of plumbing systems is critical to the durability of building infrastructure, protection of public health and safety, and protection of the environment.

A.3 PRODUCT CERTIFICATION

The purpose of product certification is to provide independent assurance of the claim by the manufacturer that products comply with this Technical Specification.

The certification scheme serves to indicate that the products consistently conform to the requirements of this Technical Specification.

The frequency of the sampling and testing plan, as detailed in Paragraph A5, shall be used by the WaterMark Conformity Assessment Body.

A.4 DEFINITIONS

A.4.1 Batch release test

A test performed by the manufacturer on a batch of components, which has to be satisfactorily completed before the batch can be released.

A.4.2 Production batch

Clearly identifiable collection of units, manufactured consecutively or continuously under the same conditions, using material or compound to the same specification.

A.4.3 Sample

One or more units of product drawn from a batch, selected at random without regard to quality.

NOTE: The number of units of product in the sample is the sample size.

A.4.4 Sampling plan

A specific plan that indicates the number of units of components or assemblies to be inspected, as defined in Clause 8.

A.4.5 Type test batch

Schedule of units of the same type, identical dimensional characteristics, all the same size, from the same compound. The batch is defined by the manufacturer.

A.4.6 Type testing

Testing performed to demonstrate that the material, component, joint or assembly is capable of conforming to the requirements given in the Technical Specification.

A.5 TESTING

A.5.1 Batch release testing

Table A2 sets out the minimum sampling and testing frequency plan for a manufacturer to demonstrate compliance of product(s) to this Technical Specification on an ongoing basis. However, where the manufacturer can demonstrate adequate process control to the WaterMark Conformity Assessment Body, the frequency of the sampling and testing nominated by the manufacturer's quality plan and/or documented procedures shall take precedence for the purposes of WaterMark product certification.

A.5.2 Retesting

In the event of a test failure, the products within the batch shall be tested at an appropriate acceptable quality level (AQL) and only those batches found to comply may be claimed and/or marked as complying with this Technical Specification.

A.5.3 Type testing

Table A1 sets out the requirements for type testing and frequency of re-verification.

Table A1—TYPE TESTS

Characteristic	Clause	Requirements	Test method	Frequency
Routine tests				
Materials	5.3	Materials	Review materials parts lists and compliance certificates	At any change in materials Technical Specification
	5.5	Dezincification resistance of copper alloys	AS 2345	
Marking	6	Legibility or tagging	Visual examination	Each tank
Design	8	Design requirements	AS/NZS 3500.1	At any change in the design
	8.1	Air gap	AS/NZS 3500.1	
	8.2	Sludge valve	AS/NZS 3500.1	
	8.3	Structural strength	Clause 4.3	
Performance	9.1	Contamination of water	AS/NZS 4020	At any change in materials or tank capacity or shape or every 5 yrs whichever occurs first

Table A2—BATCH RELEASE TESTS

Characteristic	Clause	Requirement	Test method	Frequency
Materials	5	Composition, temper, etc	Delivery acceptance tests or supplier's quality certificate	Each production batch
Marking	6	Marking	Visual examination	One sample per production batch

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