WMTS-101:2025

Appliances & commercial catering equipment

WaterMark Technical Specification 2025

ABCB

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WaterMark Technical Specification

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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). The WaterMark Schedule of Products lists all current WMTS.

While the ABCB, the participating Governments and other groups or individuals who have endorsed or been involved in the development of the WMTS, have made every effort to ensure the information contained in this document is accurate and up to date, such information does in no way constitute the provision of professional advice.

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The ABCB welcomes suggestions for improvement in the WMTS, and encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact the ABCB via phone on 1300 134 631, email at watermark@treasury.gov.au or write to the WaterMark Administering Body, ABCB, The Treasury, Langton Crescent, PARKES ACT 2600 .

PREFACE

WaterMark Technical Specification WMTS-101:2025 Technical Specification for Appliances and commercial catering equipment was prepared by industry to supersede WMTS-101:2021.

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

The major changes to this revision are as follows:-

(i) Scope expansion to include commercial catering equipment.
(ii) Commercial catering equipment technical requirements added to body of specification.
(iii) *Inclusion of compliance Tables A3 & A4*.

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 authorisation requirements given in the PCA.

The WaterMark Schedule of Products and Schedule of Excluded Products are dynamic lists and change on a regular basis. These lists are located on the ABCB website (www.abcb.gov.au). These lists are version controlled with appropriate historic references.

ACKNOWLEDGEMENTS

Australian Technical Specification ATS 5200.101–2005, 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 14 December 2004.

The following organisations were represented on Committee WS-031 in the preparation of Australian Technical Specification ATS 5200.101–2005.

- AUSTAP
- Australian Electrical and Electronic Manufacturers Association
- Australian Industry Group
- CSIRO Manufacturing and Infrastructure Technology
- Certification Interests (Australia)
- Consumer Electronics Suppliers Association
- Copper Development Centre—Australia
- Gas Appliances and Services Association
- Master Plumbers Australia
- Master Plumbers and Mechanical Services Association of Australia
- Master Plumbers, Gasfitters and Drainlayers New Zealand
- National Fire Industry Association
- New Zealand Water and Waste Association
- Plastics Industry Pipe Association of Australia
- Plumbing Industry Commission
- South Australian Water Corporation
- Water Services Association of Australia

WaterMark Technical Specification WMTS-101:2025 was prepared by industry and reviewed by the ABCB WaterMark Technical Advisory Committee. It was approved by the ABCB on 11 August 2025.

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1 SCOPE

This Technical Specification sets out minimum product requirements for appliances and commercial catering equipment connected to the water service and/or sanitary plumbing piping. Appliances covered by this Technical Specification are listed on the WaterMark Schedule of Products.

Note 1. This Technical Specification does not cover sanitation aspects beyond the water system within the commercial catering equipment i.e. from the mains water supply connection(s) to all water use type outlets within the appliance.

Note 2. Products within this scope may also be a subject to other applicable regulations, e.g. electrical safety, gas safety, pressurised vessels, etc.

2 APPLICATION

Products covered by this Technical Specification are those not intended to directly supply drinking water.

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

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

3 REFERENCED DOCUMENTS

The following documents are referred to in this Technical Specification:

AS

1589 Copper and copper alloy waste fittings

2845.2 Water supply—Backflow prevention devices, Part 2: Air gaps and break tanks

2887 Plastic waste fittings

3499 Electric appliances connected to the water mains - Avoidance of back siphonage and failure of hose-sets

IEC

61770 Electric appliances connected to the water mains—Avoidance of back siphonage and failure of hose-sets

BS

6920–1 Suitability of non-metallic materials and products for use in contact with water intended for human consumption with regard to their effect on the quality of the water, Part 1: Specification

NSF/ANSI

51 Food Equipment Material

61 Drinking Water System Components – Health Effects

NCC

PCA Plumbing Code of Australia

4 DEFINITIONS

For the purpose of this Technical Specification, the definitions given in AS/NZS 3500.0 and the following apply.

4.1 Commercial catering equipment

Appliances and equipment used in the Foodservice Industry for preparation, cooking, storage and serving of food.

5 MATERIALS

VOID

6 MARKING

Markings to be placed on product shall be in accordance with the Manual for the WaterMark Certification Scheme. Additionally, each product shall be permanently and legibly marked with the backflow prevention method used to comply with clause 8.2. See example in the Note.

Note: "This product incorporates backflow prevention complying with WMTS-101, Clause 8.2 (*)". Where * denotes the method used.

7 PACKAGING

Products shall be packaged in such a manner so as to avoid damage and contamination during transportation and handling.

8 DESIGN

The following design requirements shall be adhered to.

Note: Electrical components of the appliance or commercial catering equipment should comply with the relevant requirements of the electrical regulator, where required.

8.1 End connectors

Water service connections shall be capable of making a watertight seal to a fitting end connection complying with AS 3688.

Sanitary plumbing connections shall be capable of making a watertight connection to a waste fitting complying with AS 1589, AS 2887, a sanitary plumbing pipe or fitting complying with AS/NZS 1260 or the relevant applicable specification listed on the WaterMark Schedule of Products.

8.2 Backflow prevention

Appliances and commercial catering equipment shall—

a) comply with the backflow prevention requirements of IEC 61770; or

b) comply with the backflow prevention requirements of EN 61770; or

c) comply with the backsiphonage test of AS 2845.2:1996; or

NOTE: 8.2(c) can only be used for testing where the appliance or commercial catering equipment incorporates an air gap or a break tank incorporating an air-gap.

d) be supplied with a backflow prevention device complying with AS/NZS 2845.1 and of a type required by the PCA.

Where backflow prevention devices are required to be installed external to the appliance, commercial catering equipment, or apparatus, the devices shall be supplied with the appliance, commercial catering equipment, or apparatus and include appropriate installation instructions.

8.3 Water seal

If the appliance, or commercial catering equipment has an integral waste trap, the water seal shall comply with AS 1589, AS 2887, or the relevant applicable specification listed on the WaterMark Schedule of Products.

8.4 Integral cleaning systems

Water supplied for integral cleaning systems within commercial catering equipment shall be downstream of the backflow prevention device and shall be separated from the water used for food preparation.

Water supplied for food preparation shall not be cross connected with any other lines, e.g. with any cleaning detergent line.

9. PERFORMANCE REQUIREMENTS AND TEST METHODS

9.1 Water using appliances and commercial catering equipment

Products upstream and downstream of the backflow prevention device shall comply with the following requirements to ensure water quality and safety.

9.1.1 Products upstream of the backflow prevention device

Products upstream of the backflow prevention device are considered to be products in contact with drinking water and shall comply with AS/NZS 4020. Hoses shall be tested as an end-of-line product.

Products shall be deemed to comply with this requirement where the volume contained in the water supply pipework up to the backflow prevention device is less than 1 L and provided that the components have been tested to a recognised Standard or in the absence of an equivalent Australian Standard, International Specification that assesses the products for their effect on the quality of water.

> NOTE 1: The only products considered to be in contact with drinking water are those upstream of the backflow prevention device.
>
> NOTE 2: International Specifications that assess products for their effect on the quality of water may include BS 6920-1, NSF/ANSI 61 and WRAS approvals.

9.1.2 Products downstream of the backflow prevention device used directly for food preparation, e.g. cooking

Products in contact with water downstream of the backflow prevention device and up to the water outlet e.g tap, spout, hand shower, shall comply with an applicable Specification or tested to a recognised Specification that assesses the product for its effect on the quality of water, as safe for food preparation.

> NOTE: NSF/ANSI 51 – Food Equipment Materials is a specification that may be used to determine suitability of materials in contact with water used for food preparation.

9.2 Appliance hose connections

Hoses connected to appliances or commercial catering equipment shall comply with the hose-sets requirements of AS 3499 or IEC 61770 or EN 61770. This includes hoses connecting the appliance or commercial catering equipment to the main water supply and any hose outlet from the appliance or commercial catering equipment, where the hose may be subjected to hydrostatic pressure from a valve located downstream, e.g. a hand shower for cleaning.

9.3 Strength of assembly

The water circuit assembly within an appliance or commercial catering equipment, when tested at twice the maximum working pressure, and at the maximum working temperature, for minimum 5 minutes, parts of the water circuit assembly subject to permanent mains supply pressure, shall not leak.

9.4 Watertightness

When tested at maximum working pressure and ambient temperature , the water system shall not leak under any product operating conditions.

10 TEST SEQUENCE AND TEST SAMPLE PLAN

Performance tests may be completed in any sequence.

11 PRODUCT DOCUMENTATION

11.1 Product data

Product data, which identifies critical product characteristics as follows, shall be available:

a) Drainage requirements including size. position of piping and connection to drainage system.

b) Maximum and minimum water supply temperature, pressure and flow rate.

NOTE: Some products may not have a maximum flow rate requirement.

c) Minimum water supply quality.

NOTE 1: Water quality may include pH, hardness, conductivity, oxidation-reduction potential (ORP) and chlorine levels.

NOTE 2: Some products may not have a minimum water supply quality requirement.

d) Maximum waste discharge temperature in degrees Celsius (°C).

e) Backflow prevention method used to comply with clause 8.2 shall be included on the Certificate of Conformity.

f) Hot and cold water used (litres) per operation.

11.2 Installation instructions

Detailed installation instructions shall be provided, which shall include the following:

(a) References to installation in accordance with the PCA, including any limitations on the product.

NOTE: A product that is listed on the WaterMark Product Database and is marked in accordance with the WaterMark Certification Scheme is recognised by authorities having jurisdiction as being authorised for use in a plumbing or drainage installation. This is because the product complies with the applicable product specification. The installation of an authorised product must meet the requirements of the PCA. Where the PCA does not contain installation requirements applicable to the authorised product, acceptance of the installation is at the discretion of the authority having jurisdiction.

(b) Step-by-step instructions.

(c) Commissioning procedures and adjustments required.

(d) Troubleshooting guide.

(e) Contact details for after-sales service.

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 specification shall 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 specification.

The WaterMark Certification Scheme serves to indicate that the products consistently conform to the requirements of this specification.

The sampling and testing plan, as detailed in Paragraph A5 and Table A1, shall be used by the WaterMark Conformity Assessment Body.

Where a batch release testing program is required it shall be carried out by the manufacturer as detailed in Paragraph A5 and Table A2.

Minimum annual inspection requirements, as detailed in Paragraph A5 and Table A3, shall be used by the WaterMark Conformity Assessment Body for annual product conformity surveillance.

Re-evaluation testing, as detailed in Paragraph A5 and Table A4, shall be used by the WaterMark Conformity Assessment Body in conjunction with renewal of the certification.

A.4 DEFINITIONS

A.4.1 Batch release test

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

A.4.2 Product inspection

Examination of certified product, conducted during annual product conformity surveillance, to determine its conformity with the specific requirements of its current certification and WaterMark Licence.

A.4.3 Production batch

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

A.4.4 Re-evaluation testing

Testing carried out in conjunction with renewal of the certification.

A.4.5 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.4.6 A.4.6 Sampling plan

A specific plan that indicates the number of units of components or assemblies to be inspected.

A.4.7 Type test batch

Schedule of units of the same type, identical dimensional characteristics, all the same nominal diameter and wall thickness, from the same compound. The batch is defined by the manufacturer.

A.4.8 Type testing (TT)

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

A.5 TESTING AND INSPECTION

A.5.1 Type testing

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

A.5.2 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 specification on an ongoing basis. However, where the manufacturer can demonstrate adequate process control to the certifying 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.5.3 Retesting

In the event of a test failure, the products within the batch may be retested at a frequency agreed to with the WaterMark Conformity Assessment Body and only those batches found to comply may be claimed and/or marked as complying with this specification.

A.5.4 Minimum annual inspection requirements

Table A3 sets out the minimum annual inspection requirements to be undertaken.

A.5.5 Re-evaluation testing

Table A4 sets out the requirements for re-evaluation testing.

TABLE A1

TYPE TESTS

Characteristic	Clause	Requirement	Test method	Frequency
Marking	6	Marking	Visual inspection	At any change of the marking process or requirements
Design	8.1	End connectors	Design review	At any change of design
	8.2	Backflow protection		
	8.3	Water seal		
	8.4	Integral cleaning systems		
Performance	9.1	Water using appliances and commercial catering equipment	Clause 9.1	At any change of design or materials specification or on renewal of certification whichever occurs first
	9.1.1	Products upstream of the backflow prevention device	Clause 9.1.1	
	9.1.2	Products downstream of the backflow prevention device used directly for food preparation	Clause 9.1.2	
	9.2	Appliance hose connections	AS 3499 or IEC 61770 or EN 61770	
	9.3	Strength of assembly	Clause 9.3	
	9.4	Watertightness	Clause 9.4	
Product documentation	11	Product data and Installation instructions	Visual inspection	At any change of installation or operation specification

TABLE A2
BATCH RELEASE TESTS

Characteristic	Clause	Requirement	Test method	Frequency
Marking	6	Marking	Visual inspection	Each unit
Design	8.1	End connectors	Visual inspection	Once per batch
	8.2	Backflow protection		
	8.3	Water seal		
	8.4	Integral cleaning systems		
Performance	9.4	Watertightness	Visual inspection	Each unit
Product documentation	11	Product data and Installation instructions supplied with appliance / equipment	Visual inspection	Each unit

TABLE A3

MINIMUM ANNUAL INSPECTION REQUIREMENTS

Characteristic	Clause	Requirement	Verification method	Frequency
Marking	6	Marking	Visual inspection	Sample from product family, covering all families within 5 year certification cycle
Design	8.1	End connectors	Visual inspection	
	8.2	Backflow protection		
	8.3	Water seal		
	8.4	Integral cleaning systems		
Product documentation	11	Product data and Installation instructions supplied with appliance / equipment	Visual inspection	

TABLE A4
RE-EVALUATION TESTING

Characteristic	Clause	Requirement	Test method
Marking	6	Marking	Visual inspection
Design	8.1	End connectors	Design review
	8.2	Backflow protection	
	8.3	Water seal	
	8.4	Integral cleaning systems	
Performance	9.1	Water using appliances and commercial catering equipment	Clause 9.1
	9.1.1	Products upstream of the backflow prevention device.	Clause 9.1.1
	9.1.2	Products downstream of the backflow prevention device used directly for food preparation	Clause 9.1.2
	9.2	Appliance hose connections	AS 3499 or IEC 61770 or EN 61770
	9.3	Strength of assembly	Clause 9.3
	9.4	Watertightness	Clause 9.4
Product documentation	11	Product data and Installation instructions	Visual inspection

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