



**WMTS-536:2022**

**Plastic waste fittings – Fixture connector adaptor**

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**WaterMark Technical Specification**

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## PREFACE

This WaterMark Technical Specification (WMTS) was prepared in accordance with the Manual for the WaterMark Certification Scheme, Appendix 4, Protocol for Developing Product Specifications.

The objective of this WaterMark 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 WaterMark 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 WaterMark Technical Specification to define the application of the appendices to which they apply. A 'normative' appendix is an integral part of a WaterMark Technical Specification.

The test protocol and information in this WaterMark Technical Specification was arranged to meet the authorisation requirements given in the PCA.

The WaterMark Schedule of Products and the WaterMark Schedule of Excluded Products are dynamic lists and change on a regular basis. Based on this function, these schedules are now located on the ABCB website ([www.abcb.gov.au](http://www.abcb.gov.au)). These lists will be version controlled with appropriate historic references.



## ACKNOWLEDGEMENTS

WaterMark Technical Specification WMTS-536:2021 was prepared by industry and was approved by the Administering Body on **XX Month 2022.**

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## 1 SCOPE

This Specification sets out requirements for smooth bore plastic bodied fixture connector adaptors with an adjustable offset. These adaptors are used to provide flexibility at the point of installation of fixtures to the sanitary plumbing system. Typical applications include water closet pans, baths and showers.

## 2 APPLICATION

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

When used in conjunction with a water closet pan the adaptor is installed at floor level and not directly connected to the fixture but to a pan connector. For shower and bath applications the adaptor would be connected to the fixture waste outlet.

## 3 REFERENCED DOCUMENTS

The following documents are referred to in this Specification.

### AS

- 681.1 Elastomeric seals-Material requirements for pipe joint seals used in water and drainage applications Vulcanised rubber
- 681.2 Elastomeric seals-Material requirements for pipe joint seals used in water and drainage applications Thermoplastic elastomers
- 2887 Plastic waste fittings
- 2888.8 Methods of testing plastics waste fittings, Method 8: Thermal cycling test
- 3996 Access covers and grates

### AS/NZS

- 1260 PVC-U pipes and fittings for drain, waste and vent application
- 3500.0 Plumbing and drainage, Part 0: Glossary of terms.
- 3500.2 Plumbing and drainage, Part 2: Sanitary plumbing and drainage

### NCC

- PCA Plumbing Code of Australia

WMTS

517            Offset Pan Connectors

## 4            DEFINITIONS

For the purpose of this WaterMark Technical Specification, the definitions given in the WaterMark Scheme Rules, AS/NZS 3500.0 and those below apply.

### 4.1          Fixture connector adaptor

A fitting that has been designed to enable connection of fixtures to the sanitary plumbing system pipework and cater for misalignment. The fitting includes in the design a fixed outlet connection, a pan or dish to enable smooth transition of waste and an inlet connection that can be adjusted to enable connection of the waste outlet of the fixture or pan connector.

## 5            MATERIALS

### 5.1          Fitting body

#### 5.1.1        General

The plastics used in the construction of the body of the fitting shall be suitable for the conditions of use and expected service life of the fitting. Conditions that are to be considered are temperature and type of wastewater, use of cleaning chemicals, external environment ie if embedded in concrete or use in outdoor applications.

#### 5.1.2        Unplasticized polyvinyl chloride (PVC-U)

Fitting bodies manufactured from PVC-U shall comply with the material requirements of AS/NZS 1260.

#### 5.1.3        Other plastics materials

Fitting bodies manufactured from plastics materials other than PVC-U shall comply with the material requirements of AS 2887.

### 5.2          Requirements for Elastomeric Seals

Materials for any included elastomeric seal shall comply with the imperfections and defects, hardness, tensile strength and elongation at break, compression set and accelerated ageing in air requirements of AS 681.1 or AS 681.2.



## 6 MARKING

Markings to be placed on products or packaging shall, as a minimum, be in accordance with clause 9.6 of the [Manual for the WaterMark Certification Scheme](#).

In addition each fitting shall be permanently marked with the following:

- a) Plastics material used in the body of the fitting e.g. PE, PP, ABS ASA PVC.
- b) The manufacturer's name or registered trademark or both.
- c) Nominal size in the form 'DN 100' or '100', as appropriate.
- d) The month and year of manufacture.

## 7 PACKAGING

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

## 8 DESIGN

### 8.1 End connections

End connections shall enable connection to the sanitary drainage system pipe work. Connection ends shall comply with the requirements of AS 2887 or AS/NZS 1260 as applicable based on the connection type and application.

### 8.2 Waterway

The fitting shall comply with the waterway requirements of AS 2887 as applicable to the application of the fitting in the 'as installed' condition.

- a) For shower or bath adaptors Table 3.1 AS 2887:1993 applies
- b) For water closet pan adaptors Clause 4.4.2 AS 2887:1993 applies

### 8.3 General design

#### 8.3.1 Self-cleaning

The fitting shall be designed so that there is a smooth transition and continuous fall to the sanitary drainage system so that wastewater or waste material cannot pool/reside in the fitting.

### 8.3.2 Self-supporting

The fitting shall be designed to self-supporting and not rely on the fixture for support.

### 8.4 Freedom from defects

Any defects shall not affect performance, function or safe handling of the fitting in service. Fittings shall be free from blisters and heat marks. Jointing surfaces of fittings, sockets and tapered spigots for solvent cement jointing shall taper uniformly from the mouth to the root.

## 9 PERFORMANCE REQUIREMENTS AND TEST METHODS

### 9.1 WC pan connector adaptors – Flushing test

Connector adaptors for use with water closet pans shall be tested to the requirements of WMTS 517 Clauses 9.1 to 9.4 when installed with referenced water closet suites. The connector adaptor shall be tested at the greatest offset position and there shall be no test media residing in the fitting, no evidence of pooling and the water seal depth of the water closet pan shall not be affected by the connection of the fixture connector adaptor.

### 9.2 Leakage test

#### 9.2.1 WC pan connector adaptors

The connector adaptor shall be capable of withstanding a hydrostatic pressure of 20kPa for 5 +1, -0 min without leakage when assembled in accordance with the manufacturer's instructions.

#### 9.2.2 Shower, bath and other connector adaptors

The connector adaptor shall be comply with the pressure and air/vacuum test of AS 2887

### 9.3 Thermal cycling test

Where the connector adaptor is intended to be used with heated wastewater it shall be tested to AS 2888.8. At the completion of testing the fitting shall be tested for leakage in accordance with the Leakage Test of Clause 9.2 and not exhibit any cracking or distortion and the surface finish shall not split, flake or peel.

### 9.4 Load test

Where the connector adaptor may be subjected to live loads, fitting shall be tested and comply with Load Test of WMTS-040.

## 10 TEST SEQUENCE AND TEST SAMPLE PLAN

Independent samples covering the range of sizes and types shall be used for testing of the performance requirements of Clauses 9.1 to 9.4.

## 11 PRODUCT DOCUMENTATION

Information shall be available to aid the installer and user in the correct installation, operation and ongoing maintenance of the product and include critical data on the products, use and application and any limitations. The information shall be readily available and be in plain English and supplemented by figures and diagrams as applicable.

### 11.1 Product data

Product data shall be available that identifies the following critical product characteristics as a minimum:

- a) Jointing methods and adaptation to other piping systems.
- b) Product range and model identification.
- c) Suitable application/s ie water closet pan, bath, shower.
- d) Product limitations ie pressure, temperature or ongoing maintenance.
- e) Access for maintenance.

### 11.2 Installation

Full installation instructions shall be provided with the device including the following:

- a) References to installation in accordance with the PCA.

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) Detailed step by step instructions.
- c) Contact details for after sales service.

## **APPENDIX A MEANS FOR DEMONSTRATING COMPLIANCE WITH THIS PRODUCT SPECIFICATION**

(Normative)

### **A.1 SCOPE**

This appendix sets out the means by which compliance with this WaterMark Technical 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 WaterMark Technical Specification.

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

The sampling and testing plan, as detailed in Paragraph A.5 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 A.5 and Table A2.

### **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**

A 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.

#### **A.4.5 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.4.6 Type testing (TT)**

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

### **A.5 TESTING**

#### **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 WaterMark Technical 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 batch release 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 WaterMark Technical 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**

<b>Characteristic</b>	<b>Clause</b>	<b>Requirement</b>	<b>Test method</b>	<b>Frequency</b>
Materials	5.1.1	Fitting body-General	Clause 5.1.1	At any change in material specification
	5.1.2	Fitting body-PVC-U	Clause 5.1.2	
	5.1.3	Fitting body-Other plastics	Clause 5.1.3	
	5.2	Elastomeric element	AS 681	
Markings	6	Labelling/markings	Review of documentation/physical examination	At any change in design/specification
Packaging	7	avoid damage during transportation and handling	Review of documentation/physical examination	At any change in design/specification
Design	8.1	End Connections	AS 2887 or AS/NZS 1260	At any change in design
	8.2	Waterway	AS 2887	
	8.3.1	Self cleaning	Review of design documentation/physical examination	
	8.3.2	Self-supporting	Review of design documentation/physical examination	
	8.4	Freedom from defects	Clause 8.4	
Performance	9.1	WC Pan adaptor connectors – Flushing test	WMTS 517	At any change in design
	9.2	Leakage test	Clause 9.2/AS 2887	
	9.3	Thermal cycling test	AS 2888.8	At any change in design/Material
	9.4	Load test	WMTS 040	At any change in design
Product documentation	11	Product data/Installation and maintenance instructions	Product documentation	At any change to installation requirements

**TABLE A2**  
**BATCH RELEASE TESTS**

Characteristic	Clause	Requirement	Test method	Frequency
Markings	6	Labelling/markings	Clause 6	Each unit
Design	8.4	Freedom from defects	Clause 8.4	Each unit
Product documentation	11	Product data/Installation and maintenance instructions	Product documentation	At any change to installation requirements

**TABLE A3**  
**MINIMUM ANNUAL INSPECTION REQUIREMENTS**

Characteristic	Clause	Requirement	Verification method
Design	8.1-8.4	General design/construction	Visual and dimensional examination
Product marking	6	Product marking, use of the WaterMark logo and licence number	Visual inspection of marked product, relevant packaging and documentation
Product documentation	11	Product data/Installation and maintenance instructions	Product documentation

**TABLE A4**  
**RE-EVALUATION TESTING**

Characteristic	Clause	Requirement	Test method
Performance	9.2	Leakage test	Clause 9.2/AS 2887