



# WMTS-524:2018 Bathroom Appliances

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WaterMark Technical Specification

2018





**WMTS-524:2018**

## **Bathroom Appliances**

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Phone 1300 134 631 – Fax 02 6213 7287



## PREFACE

This WaterMark Technical Specification was originally prepared by industry and reviewed by the ABCB WaterMark Technical Advisory Committee (WMTAC).

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 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 ABCB WaterMark Certification Scheme document known as Procedures for Certification of Plumbing and Drainage Products and 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.



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## **ACKNOWLEDGEMENTS**

WaterMark Technical Specification WMTS-524:2018 was prepared by industry, reviewed by the WaterMark Technical Committee (WMTAC) and released for public consultation. It was approved by the ABCB on 18 June 2018



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## **1 SCOPE**

This WaterMark Technical Specification sets out requirements for a bathroom appliance which integrates various fixtures and fittings into a fully functional unit for general use in a bathroom environment. The appliance allows for concealment of the fixtures when not in use.

The bathroom appliance may include the following;

- a) Water Closet Pan and Flushing Device
- b) Washbasin
- c) Included pipework and fittings to enable functionality and ease of connectivity to the Plumbing and Sanitary Drainage System

NOTE: Where the product includes components or accessories they may be subject to other regulatory requirements e.g., Electrical Safety and Electromagnetic Compatibility (EMC).

## **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.

## **3 REFERENCED DOCUMENTS**

The following documents are referred to in this Specification

AS

1172.1	Water Closets (WC) Part 1: Pans
1172.2	Water closets (WCs) Part: 2 Flushing devices and cistern inlet and outlet valves
1432	Copper tubes for plumbing, gas fitting and drainage applications
1565	Copper and copper alloys—Ingots and castings
1572	Copper and copper alloys—Seamless tubes for engineering purposes
1646	Elastomeric seals for waterworks purposes
2345	Dezincification resistance of copper alloys
2738	Copper and copper alloys—Compositions and designations of refinery products, wrought products, ingots and castings
2887	Plastic waste fittings



3688	Water supply and gas systems—Metallic fittings and end connectors
AS/NZS	
1567	Copper and copper alloys—Wrought rods, bars and sections
1568	Copper and copper alloys—Forging stock and forgings
1730	Washbasins
3500.0	Plumbing and Drainage, Part 0: Glossary of terms
3500.2	Plumbing and Drainage, Part 2: Sanitary plumbing and drainage
3718	Water supply—Tap ware
WMTS	
040	Waste pipe connection outlets and gratings, separate or integral
NCC	
PCA	Plumbing Code of Australia

## **4 DEFINITIONS**

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

### **4.1 Bathroom Appliance**

A product that integrates dedicated fixtures appliances and fittings into a functional unit for easy connection to the plumbing infrastructure

## **5 MATERIALS**

### **5.1 General**

This section specifies requirements for materials utilised in the construction of the bathroom appliance.

### **5.2 Metallic Materials**

Metallic materials in contact with water shall be corrosion resistant. For the purposes of this specification the following materials are considered corrosion resistant;

- a) Copper specified in Clause 5.2.1

- b) Copper alloy as specified in Clause 5.2.2 and 5.2.3
- c) Stainless steel as specified in Clause 5.2.4

#### **5.2.1 Copper**

Copper shall comply with the following:

- a) Wrought products AS 2738.
- b) Tubular components Copper tube shall comply with AS 1432.

#### **5.2.2 Copper alloy**

Copper alloy shall comply with the following:

- a) Castings AS 1565 or capable of passing the requirements of Clause 5.1.1.3 provided that the alloy contains not less than 58% copper and not more than 1% aluminium.
- b) Hot pressings AS/NZS 1568.
- c) Rod for machined parts AS/NZS 1567 or an alloy complying with AS 2345.
- d) Tubular components Copper alloy tube shall comply with AS 1572 alloy designation C26130. Where bent or stamped in the fabrication process, the tube shall be sufficiently stress-relieved so that it is capable of passing the mercurous nitrate test specified in AS 2136 after all fabrication processes are complete. For the purpose of this test, the entire tube component shall be tested before any coating or plating operation.

#### **5.2.3 Dezincification-resistant (DR) copper alloy**

Copper alloys in contact with water shall comply with AS 2345.

#### **5.2.4 Stainless steel**

Stainless steel shall have a recognised corrosion resistance equivalent to or greater than grade 304.

#### **5.2.5 Plastic Materials**

Plastic materials shall comply with the relevant standard for the product type or type of plastics used.

#### **5.2.6 Elastomeric Materials**

The materials used for seals or gaskets shall comply with AS 1646



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## **6 MARKING**

Each bathroom appliance shall be durably and legibly marked with the following:

- a) Manufacturer's name, brand or trademark.
- b) Model Identification
- c) Batch Identification or serial number
- d) WaterMark
- e) Certificate Number
- f) Number of the WaterMark Technical Specification, i.e., WMTS 524

## **7 PACKAGING**

Each bathroom appliance shall be packaged in such a manner so as to avoid damage during transportation and handling.

## **8 DESIGN**

### **8.1 General**

The design of the bathroom appliance shall be such that it integrates dedicated fixtures and fittings into a functional unit for easy connection to the plumbing infrastructure.

Where the product includes integral plumbing components, accessories or fittings that require certification as identified in the Plumbing Code of Australia, they shall comply with the applicable requirements of the specification for that product as identified in WaterMark Technical Specification series

### **8.2 Water Closet Pan and Flushing Device**

The included Water Closet Pan and Flushing Device shall comply with the requirements of AS 1172.1 and AS 1172.2 and be able to be retracted after use whilst maintaining integrity of pipework water seal backflow prevention and watertightness of the bathroom appliance.

### **8.3 Wash Basin**

The included Wash Basin, tapware, waste outlet and associated pipework and fittings shall comply with relevant standards for the product including where applicable AS 1730, AS/NZS 3718, WMTS 040 and AS 2887. Where the discharge of the washbasin is combined with discharge of the Water Closet Pan an Air Admittance Valve (AAV) shall be included unless when tested to Clause 9.4 and Appendix D it can be shown to have no effect on the integrity of the water seal.

## **8.4 Connection Pipework**

### **8.4.1 Water Supply Pipework**

Pipework utilised for connectivity shall be able to withstand pressures subjected to in normal use and comply with the relevant WaterMark Specification and AS/NZS 3500.1 for cold water pipework and AS/NZS 3500.4 for heated water pipework. Pipework shall be designed to allow for movement in transition and be capable of withstanding multiple retractions in accordance with Clauses 9.5 and 9.6 without deterioration.

### **8.4.2 Waste Pipework**

Pipework utilised for connectivity shall be watertight self-draining and comply with the relevant WaterMark Specification and AS/NZS 3500.2 for sanitary plumbing and drainage. Any joints shall allow smooth transition and not include any areas that may pose risk of build-up of waste and blockage. Pipework shall be designed to allow for movement in transition and be capable of withstanding multiple retractions in accordance with Clauses 9.5 and 9.6 without deterioration.

## **8.5 Backflow Prevention**

### **8.5.1 General**

Backflow prevention, where required for individual protection, shall be of the type specified in AS/NZS 3500.1.

### **8.5.2 Basin**

The integral basin shall include an air gap of 20mm from the point of discharge to the spill level of the basin or included overflow.

### **8.5.3 Water Closet Cistern**

The cistern shall include an air gap in accordance with AS1172 and shall be maintained when either in user position, when retracted or during transition

## **8.6 Integral Water Seal**

Sanitary Fixtures shall include water seals where required and this water seal shall be maintained when either in user position, when retracted or during transition.



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### **8.7 Connection Ends**

#### **8.7.1 General**

The connection to the water supply or sanitary drainage shall be in accordance with AS/NZS 3500 series and be able to maintain a watertight seal.

#### **8.7.2 Water Supply**

The connection to the water supply shall be by means of a threaded connection complying with AS 3688.

#### **8.7.3 Sanitary Drainage**

The connection to the sanitary drainage shall be by way of a plain spigot complying with AS 1172.

### **8.8 Retraction Mechanisms**

Included fixtures that are provided with retraction mechanisms shall be able to be easily operated by the user and function in accordance with the manufacturer's instructions. The retraction mechanisms shall be durable and when operating not include any safety issues that pose a risk to the user.

### **8.9 Access**

The bathroom appliance shall be designed so that components that require regular maintenance are able to be accessed.

## **9 PERFORMANCE REQUIREMENTS AND TEST METHODS**

### **9.1 Water Closet Pan and Cistern – Performance Test**

The Water Closet Pan and included flushing device shall comply with the performance requirements of AS 1172.1 and AS 1172.2

### **9.2 Water Supply Pipework - Hydrostatic strength test**

When tested in accordance with Appendix B, the water supply pipework of the Bathroom Appliance shall not leak or show signs of distortion, splitting, cracking, breakage or other failure when tested at twice the manufacturers recommended Maximum Operating Pressure (MOP) and Maximum Operating Temperature (MOT).

### **9.3 Sanitary Drainage Pipework - Watertightness test**

When tested in accordance with Appendix C, the sanitary drainage pipework of the Bathroom Appliance shall not leak when subjected to a pressure of 20kPa for 5 +1, -0min.

### **9.4 Retention of Water Seal - Venting Test**

When tested in accordance with Appendix D the Water Seal of the Washbasin shall not be affected by the flushing of the Water Closet Pan.

### **9.5 Retractable WC Pan and Flushing Device - Durability Test**

When tested in accordance with Appendix E the retraction operating mechanism and Water Closet Pan and Flushing device shall show no signs of deterioration or functional failure after a minimum of 20,000 cycles.

### **9.6 Retractable Washbasin – Durability Test**

When tested in accordance with Appendix F the retraction operating mechanism and Washbasin with included components shall show no signs of deterioration or functional failure after a minimum of 20,000 cycles.

## **10 TEST SEQUENCE AND TEST SAMPLE PLAN**

### **10.1 Test samples**

Samples of each design shall be selected for testing and confirmation of requirements of Clause 9.

### **10.2 Test Sequence**

The testing of the sample can be done in any order.

## **11 PRODUCT DOCUMENTATION**

### **11.1 General**

Technical information relating to the bathroom appliance and correct installation methods shall be readily available to aid the user and installer. The information may be in the form of a technical data sheet or equivalent document and be written in plain English and supplemented by figures and diagrams as applicable. The information provided shall satisfy the requirements of a warranty as referenced in the Plumbing Code of Australia (PCA) and those requirements of the AS/NZS 3500 series of Standards.



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### **11.2 Product data**

Product data shall be available that identifies critical product characteristics as a minimum—

- a) Product range and model identification
- b) Limitations of pressure and temperature
- c) Methods of connection
- d) Weight of Appliance

### **11.3 Installation instructions**

Instructions shall be provided that give full details of installation procedures for the fitting including;

- a) References to AS/NZS 3500 Parts 1, 2, and 4.
- b) Detailed step by step instruction.
- c) 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 WaterMark Technical Specification shall be demonstrated by a manufacturer under the WaterMark product 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 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 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.

### **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.



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**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	Materials	Review materials parts lists and compliance certificates	At any change in materials specification
Design	8.2	Water Closet Pan and Flushing Device	AS 1172	At any change in the design
	8.3	Washbasin	AS/NZS 1730	
	8.4	Connection Pipework	Clause 8.4	
	8.5	Backflow Prevention	AS/NZS 3500.1	
	8.6	Integral Water Seal	Clause 8.6	
	8.7	Connection Ends	Clause 8.7	
	8.8	Retraction Mechanisms	Clause 8.8	
	8.9	Access	Clause 8.9	
Performance	9.1	Water Closet Pan and Cistern – Performance Test	AS 1172.1/as 1172.2	At any change in design or manufacturing process
	9.2	Water Supply Pipework-Hydrostatic Strength Test	Appendix B	Every 5 Years prior to Renewal of Certification
	9.3	Sanitary Drainage Pipework-Watertightness Test	Appendix C	Every 5 Years prior to Renewal of Certification
	9.4	Retention of Water Seal - Venting Test	Appendix D	Every 5 Years prior to Renewal of Certification
	9.5	Retractable WC Pan and Flushing Device-Durability Test	Appendix E	At any change in design or manufacturing process
	9.6	Retractable Washbasin-Durability Test	Appendix F	At any change in design or manufacturing process
Product documentation	11	Product data/Installation/instructions	Product documentation	At any change to installation requirements

**TABLE A2  
BATCH RELEASE TESTS**

<b>Characteristic</b>	<b>Clause</b>	<b>Requirement</b>	<b>Test method</b>	<b>Frequency</b>
Materials	5	Materials	Review materials parts lists and compliance certificates	Each delivery batch
Performance	9.2	Water Supply Pipework-Hydrostatic Strength Test	Appendix B	Each Appliance
	9.3	Sanitary Drainage Pipework-Watertightness Test	Appendix C	Each Appliance

**TABLE A3**  
**MINIMUM ANNUAL INSPECTION REQUIREMENTS BY CAB**

Characteristic	Clause	Requirement	Verification method	Frequency
Marking	6	Clause 6	Visual	Each Surveillance
Packaging	7	Clause 6	Visual	Each Surveillance
Design	8.2 to 8.9	General Design and Components in accordance with manufacturers specification	Inspection of sample	Each Surveillance
Product documentation	11	Product data/Installation/instructions	Product documentation	Each Surveillance

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

<b>Characteristic</b>	<b>Clause</b>	<b>Requirement</b>	<b>Test method</b>
Performance	9.1	Water Closet Pan and Cistern – Performance Test	AS 1172.1/AS 1172.2
	9.2	Water Supply Pipework- Hydrostatic Strength Test	Appendix B
	9.3	Sanitary Drainage Pipework- Watertightness Test	Appendix C

## **APPENDIX B WATER SUPPLY PIPEWORK – HYDROSTATIC STRENGTH TEST**

(Normative)

### **B.1 SCOPE**

This Appendix sets out the method for determining the ability of components and joints of the assembly to withstand hydrostatic pressure without leakage or permanent distortion.

### **B.2 PRINCIPLE**

The components and joints subject to permanent hydrostatic pressure within the assembly are subjected to a hydrostatic pressure for a period of time at a determined temperature and inspected for leakage and permanent distortion

### **B.3 APPARATUS**

The following apparatus is required:

- a) Water supply sufficient to maintain the required pressure and temperature.
- b) Pressure gauge.

### **B.4 PROCEDURE**

The procedure shall be as follows:

- a) Connect the supply water at required temperature to the assembly.
- b) Circulate in the assembly for a period of 20 minutes the close shut off valve.
- c) Slowly increase the pressure until it reaches the test pressure.
- d) Maintain this pressure for 60 +5, -0 min.
- e) Release the pressure.
- f) Record the test pressure, temperature and duration at this pressure.
- g) Inspect the assembly for any leaks or permanent distortion

### **B.5 REPORT**

The following shall be reported:

- a) Manufacturer, model and description of bathroom appliance, pipework and components.



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- b) Any leakage or structural damage.
- c) Reference to this test method, i.e., WMTS 524, Appendix B

## **APPENDIX C SANITARY DRAINAGE – WATER TIGHTNESS TEST**

(Normative)

### **C.1 SCOPE**

This Appendix sets out the method for determining the watertightness of sanitary drainage assembly within a bathroom appliance.

### **C.2 PRINCIPLE**

The components and joints are subjected to water pressure for a period of time at a determined inspected for leakage.

### **C.3 APPARATUS**

The following apparatus is required:

- a) Water supply.
- b) End cap/s to seal pipe outlet/s

### **C.4 PROCEDURE**

The procedure shall be as follows:

- a) Mount Bathroom Appliance in test rig and connect water supply and power
- b) Open WC Pan and flush at least 3 times
- c) Check for any leakage from joints or pipework
- d) Seal Outlet of WC Pan and pressurise to 20kPa for 5 +1, -0min
- e) Check for any leakage
- f) Drain water from WC Pan
- g) Open Washbasin and run water for 60 seconds
- h) Check for any leakage from joints or pipework
- i) Seal Outlet of Washbasin and pressurise to 20kPa for 5 +1, -0min
- j) Check for any leakage
- k) Drain water from Washbasin



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**C.5 REPORT**

The following shall be reported:

- a) Manufacturer, model and description of bathroom appliance and waste pipework/components.
- b) Any leakage.
- c) Reference to this test method, i.e., WMTS 524, Appendix C

## **APPENDIX D RETENTION OF WATER SEAL – VENTING TEST**

(Normative)

### **D.1 SCOPE**

This Appendix sets out the method for determining the effect of flushing of the Water Closet Pan has on the integrity of the Washbasin Water Seal when they share a common drainage outlet in the bathroom appliance.

### **D.2 PRINCIPLE**

The bathroom appliance is installed in accordance with the manufacturer's instructions and Water Closet Pan flushed to establish effect on the Washbasin water seal.

### **D.3 APPARATUS**

The following apparatus is required:

- a) Water supply.
- b) Equipment to measure water seal
- c) Manometer installed downstream of Washbasin Trap in mm increments

### **D.4 PROCEDURE**

The procedure shall be as follows:

- a) Mount Bathroom Appliance in test rig and connect water supply and power
- b) Operate Wash Basin Tap to charge trap water seal and take a datum measurement
- c) Conduct 5 sequential full flushes of the Water Closet Pan and observe Manometer reading during each flush
- d) Measure Water seal difference from datum point

### **D.5 REPORT**

The following shall be reported:

- a) Manufacturer, model and description of bathroom appliance and waste pipework/components.
- b) Manometer reading during each flush



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- c) Washbasin water seal change from datum.
- d) Reference to this test method, i.e., WMTS 524, Appendix D

## **APPENDIX E RETRACTABLE WC PAN AND FLUSHING DEVICE – DURABILITY TEST**

(Normative)

### **E.1 SCOPE**

This Appendix sets out the method for determining the ability of a retractable WC Pan and Flushing Device to withstand multiple cycles of operations.

### **E.2 PRINCIPLE**

The bathroom appliance is cycled through normal operation then inspected for any structural damage or performance deterioration.

### **E.3 APPARATUS**

The following apparatus is required:

- a) Test rig in order to retain the bathroom appliance.
- b) Mechanism that can be utilised to commence/recommence function and count cycles undertaken.

### **E.4 PROCEDURE**

The procedure shall be as follows:

- a) Mount Bathroom Appliance in test rig and connect water supply and power
- b) Open WC Pan and flush at least 3 times and observe for correct function and no leakage
- c) Conduct the following tests ;
  - i. Water tightness test of Appendix C
  - ii. Water Seal in accordance with AS 1172 in user position, when retracted or during transition
    - i. Performance test in accordance with Clause 9.1 (AS 1172)
- d) Commence cycling of WC Pan having a min of 5 second duration at opening/closing



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- e) After 10,000 cycles  $\pm$  100 cycles stop mechanism and conduct water tightness test to Appendix C and visually inspect for any structural damage or functional deterioration
- f) Recommence cycling of WC Pan having a min of 5 seconds duration at opening/closing
- g) At completion of cycling stop mechanism and visually inspect for any structural damage and conduct the following tests;
  - i. Watertightness test of Appendix C
  - ii. Water Seal in accordance with AS 1172 in user position, when retracted or during transition
  - iii. Performance test in accordance with Clause 9.1 (AS 1172)

### **E.5 REPORT**

The following shall be reported:

- a) Manufacturer, model and description of bathroom appliance and retraction mechanism.
- b) Number of cycles completed
- c) Any structural damage
- d) Any functional deterioration
- e) Reference to this test method, i.e., WMTS 524, Appendix E

## **APPENDIX F RETRACTABLE WASHBASIN – DURABILITY TEST**

**(Normative)**

### **F.1 SCOPE**

This Appendix sets out the method for determining the ability of a retractable Washbasin as included in a bathroom appliance to withstand multiple cycles of operations.

### **F.2 PRINCIPLE**

The retractable washbasin is cycled through normal operation then inspected for any structural damage or performance deterioration.

### **F.3 APPARATUS**

The following apparatus is required:

- a) Test rig in order to retain the bathroom appliance.
- b) Mechanism that can be utilised to commence/recommence function and count cycles undertaken.

### **F.4 PROCEDURE**

The procedure shall be as follows:

- a) Mount Bathroom Appliance in test rig and connect water supply and power
- b) Conduct the following tests;
  - i. Watertightness test of Appendix C
  - ii. Water Seal in accordance with AS 2887 in user position, when retracted or during transition
- c) Commence cycling of Washbasin having a min of 5 seconds duration at opening/closing
- d) After 10,000 cycles  $\pm$  100 cycles stop mechanism and conduct water tightness test to Appendix E and visually inspect for any structural damage or functional deterioration
- e) Recommence cycling of Washbasin having a min of 5 seconds duration at opening/closing
- f) At completion of cycling stop mechanism visually inspect for any structural damage and conduct the following tests;
  - i. Water tightness test of Appendix C



- ii. Water Seal in accordance with AS 2887 in user position, when retracted or during transition

#### **F.5 REPORT**

The following shall be reported:

- a) Manufacturer, model and description of bathroom appliance and retraction mechanism.
- b) Number of cycles completed
- c) Any structural damage
- d) Any functional deterioration
- e) Reference to this test method, i.e., WMTS 524, Appendix F

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Canberra ACT 2601  
[www.abcb.gov.au](http://www.abcb.gov.au)