IAPMO IGC 235-202y



Industry Standard for

Wood Plumbing Fixtures

IAPMO Standard

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Contents

Preface

IAPMO Standards Review Committee

1 Scope

1.1 Scope
1.2 Alternative Materials
1.3 Terminology
1.4 Units of Measurement

2 Reference Publications

3 Definitions and Abbreviations

4 General Requirements

4.1 Dimensions
4.2 Elastomers
4.3 Metal Components
4.4 Fixtures
4.5 Coatings
4.6 Factory-Supplied Fittings

5 Testing Requirements

5.1 Absorption Test
5.2 Load and Physical Characteristic Tests
5.3 Drainage Test for Tub
5.4 Fungus, Microorganism, and Mold Growth Test

6 Markings

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Preface

This is the fourth edition of IAPMO IGC 235, Wood Plumbing Fixtures. This standard supersedes IAPMO IGC 235-2015 (R2020), Wood Plumbing Fixtures. The previous editions of this standard August 2009, and May 2006.

This Standard was developed by the IAPMO Standards Review Committee (SRC) in accordance with the policies and procedures regulating IAPMO industry standards development, Policy S-001, Standards Development Process. This Standard was approved as an IAPMO Industry Standard on Month, day, year.

Notes:

(1) The use of the singular does not exclude the plural (and vice versa) when the sense allows.

(2) The use of IAPMO Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

(3) This standard was developed using an open process and in accordance with IAPMO Standards Policy S-001, Standards Development Process*, which is available on the IAPMO Standards website (www.IAPMOstandards.org).*

(4) During its development, this Standard was made available for public review, thus providing an opportunity for additional input from stakeholders from industry, academia, regulatory agencies, and the public at large. Upon closing of public review, all comments received were duly considered and resolved by the IAPMO Standards Review Committee.

(5) This Standard was developed in accordance with the principles of consensus, which is defined as substantial agreement; consensus implies much more than a simple majority, but not necessarily unanimity. It is consistent with this definition that a member of the IAPMO Standards Review Committee might not be in full agreement with all sections of this Standard.

(6) Although the intended primary application of this Standard is stated in its scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.

(7) IAPMO Standards are subject to periodic review and suggestions for their improvement will be referred to the IAPMO Standards Review Committee. To submit a proposal for change to this Standard, you may send the following information to the International Association of Plumbing and Mechanical Officials, Attention Standards Department, at standards@IAPMOstandards.org or, alternatively, at 4755 East Philadelphia Street, Ontario, California, 91761, and include "Proposal for change" in the subject line:

- *(a) standard designation (number);*
- *(b) relevant section, table, or figure number, as applicable;*
- *(c) wording of the proposed change, tracking the changes between the original and the proposed wording; and*
- *(d) rationale for the change.*

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- *(a) the edition of the standard for which the interpretation is being requested;*
- *(b) the definition of the problem, making reference to the specific section and, when appropriate, an illustrative sketch explaining the question;*
- *(c) an explanation of circumstances surrounding the actual field conditions; and*
- *(d) the request for interpretation phrased in such a way that a "yes" or "no" answer will address the issue.*

(9) IAPMO does not "approve", "rate", or endorse any item, construction, proprietary device, or activity.

(10) IAPMO does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this Standard and does not undertake to insure anyone utilizing this Standard against liability for infringement of any applicable patents, nor assumes any such liability. Users of this Standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their responsibility.

(11) Participation by federal or state agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this Standard.

(12) Proposals for amendments to this Standard will be processed in accordance with the standards-writing procedures of IAPMO industry standards development, Policy S-001, Standards Development Process.

IAPMO IGC 235-20xx
Wood Plumbing Fixtures

1 Scope

1.1 Scope
This Standard covers wood plumbing fixtures and specifies requirements for materials, physical characteristics, performance testing, and markings.

1.2 Alternative Materials
The requirements of this Standard are not intended to prevent the use of alternative materials or methods of construction provided such alternatives meet the intent and requirements of this Standard.

1.3 Terminology
In this Standard,

(a) "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy to comply with the Standard;

(b) "should" is used to express a recommendation, but not a requirement;

(c) "may" is used to express an option or something permissible within the scope of the Standard; and

(d) "can" is used to express a possibility or a capability.

Notes accompanying sections of the Standard do not specify requirements or alternative requirements; their purpose is to separate explanatory or informative material from the text. Notes to tables and figures are considered part of the table or figure and can be written as requirements.

1.4 Units of Measurement
SI units are the primary units of record in global commerce. In this Standard, the inch/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application, but each unit system is to be used independently. All references to gallons are to U.S. gallons.

~~1.5 Amendments~~
~~Proposals for amendments to this Standard will be processed in accordance with the standards-writing procedures of IAPMO.~~

~~1.6 Patents~~
~~The user's attention is called to the possibility that compliance with this Standard might require use of an invention covered by patent rights. By publication of this Standard, no position is taken with respect to the validity of any such claim(s) or of any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license, then details can be obtained from IAPMO.~~

2 Reference Publications

This Standard refers to the following publications and, where such reference is made, it shall be to the current edition of those publications, including all amendments published thereto.

ANSI A108/~~,~~ A118/~~, &~~ A136.1 ~~Specifications for~~ the Installation of Ceramic Tile

ANSI A118.10	Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation
ASME A112.18.1/CSA B125.1	Plumbing supply fittings
ASME A112.18.2/CSA B125.2	Plumbing waste fittings
ASME A112.19.1/CSA B45.2	Enamelled cast iron and enameled steel plumbing fixtures
ASME A112.19.2/CSA B45.1	Ceramic plumbing fixtures
ASTM D3273	Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
ASTM D6763	Standard Guide for Testing Exterior Wood Stains and Clear Water Repellents
CSA B45.5/IAPMO Z124	Plastic plumbing fixtures

3 Definitions and Abbreviations

Reserved

4 General Requirements

4.1 Dimensions

4.1.1 The minimum wall thickness of solid Burma teak shall be 31.8 mm (1.25 in).

4.1.2 The minimum wall thickness of bamboo shall be 19.0 mm (0.75 in).

4.2 Elastomers

Elastomers shall be made of silane-modified polyether with a density of 1.5 g/cm^3 (93.6 lb/ft^3) at 20 ºC (68ºF) and insoluble in water.

4.3 Metal Components

4.3.1 Stainless steel alloys shall comply with or exceed the properties of Type 304 alloy.

4.3.2 Copper alloys shall contain at least 56% copper.

4.4 Fixtures

4.4.1 Bathtubs shall comply with the applicable requirements of ASME A112.19.1/CSA B45.2.

4.4.2 Sinks and lavatories shall comply with the applicable requirements of ASME A112.19.2/CSA B45.1.

4.5 Coatings

Coatings shall comply with the absorption test specified in Section 5.1.

Note: *Examples of acceptable coatings are linseed oil, polyacrylic, and other synthetic resin coatings.*

4.6 Factory-Supplied Fittings

4.6.1 Factory-supplied supply fittings shall comply with the applicable requirements of ASME A112.18.1/CSA B125.1.

4.6.2 Factory-supplied waste fittings shall comply with the applicable requirements of ASME A112.18.2/CSA B125.2.

5 Testing Requirements

5.1 Absorption Test

5.1.1 Test Procedure

The absorption test shall be conducted as follows:

(a) Measure and weigh (independently) two blocks approximately 75 × 75 mm (3 × 3 in). The blocks shall be weighed on a balance to an accuracy of 0.01 g.
(b) Completely submerge the blocks in water for 24 h.
(c) Upon completion of the 24 h period, remove the blocks from the water.
(d) Measure and weigh the blocks once again.

5.1.2 Performance Requirement

The change in size or weight of the blocks shall not exceed 0.05%.

5.2 Load and Physical Characteristic Tests

Wood plumbing fixtures shall comply with Section 10.6 of ASTM D6763 and the following tests, specified in CSA B45.5/IAPMO Z124:

(a) structural integrity tests (Clause 5.8);
~~(b) colourfastness test (Clause 5.10);~~
~~(c)~~(b) stain resistance test (Clause 5.11);
~~(d)~~(c) cleanability and wear tests (Clause 5.12);
~~(e)~~(d) ignitability test (Clause 5.13);
~~(f)~~(e) cigarette test (Clause 5.14);
~~(g)~~(f) chemical resistance test (Clause 5.15); and
~~(h)~~(g) thermal shock resistance test (Clause 5.16).

5.3 Drainage Test for Tub

5.3.1 Test Procedure

The drainage test for wood bathtubs shall be conducted as follows:

(a) Close all drain openings and fill the test specimen to 75% of its capacity with water at ambient laboratory conditions.
(b) Allow the water to stand for 5 min.
(c) Open the drain(s) and completely drain the test specimen.
(d) Observe for any water left standing on the bottom.

5.3.2 Performance Requirement

There shall be no visible water left standing on the bottom of the test specimen.

5.4 Fungus, Microorganism, and Mold Growth Test

5.4.1 Test Procedure

The fungus and microorganism growth resistance test shall be conducted on elastomeric components in accordance with ASTM D3273 or Section 4.1 of ANSI A118.10.

5.4.2 Performance Requirements

Elastomeric components of wood plumbing fixtures shall not support growth of fungi, microorganisms, or mold.

6 Markings

6.1 Wood plumbing fixtures complying with this Standard shall be marked with the manufacturer's name or trademark.

6.2 Markings shall be permanent, legible, and visible after installation.



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