



**Summary of Substantive Changes
between
CSA B45.5-02, "Plastic Plumbing Fixtures",
IAPMO/ANSI Z124.1.2-2005, "Plastic Bathtub and Shower Units",
IAPMO/ANSI Z124.3-2005, "Plastic Lavatory Units",
IAPMO/ANSI Z124.4-2006, "Plastic Water Closet Bowls and Tanks",
IAPMO/ANSI Z124.6-2007, "Plastic Sinks", and
IAPMO/ANSI Z124.9-2004, "Plastic Urinal Fixtures",
and
CSA B45.5-11/IAPMO Z124-2011, "Plastic plumbing fixtures"**

January 26, 2012

General: This is the first edition of the harmonized standard CSA B45.5/IAPMO Z124, which integrated the requirements of the IAPMO/ANSI standards for plastic plumbing fixtures (Z124.1.2, Z124.3, Z124.4, Z124.6, and Z124.9) and CSA B45.5-02. A number of the changes that may affect currently listed products are listed below:

Summary of changes by fixture type:

Bathtubs and Shower Bases:

- A warpage tolerance test was added.
- A limitation of 4% for the maximum slope to the waste outlet was added.
- A step for the point impact load test was added for shower bases.
- A bonding test and a water absorption test were added for units with flexible core construction
- The number of times for dropping a No.2 Phillips screwdriver for the puncture resistance test was increased from one to three and the method for the examination to determine puncture resistance was changed.

Lavatories:

- A warpage tolerance test was added.
- The number of cycles for the wear test were increased from 10,000 to 12,000.
- For units with flexible core construction, tests for resistance to fungi and bacteria growth, puncture resistance, and bonding were added.
- The water resistance test was removed.

Water Closet Bowls and Tanks:

- The allowable warpage was decreased.
- A waste fitting connection test was added.
- For units with flexible core construction, a bonding test and a water absorption test were added.



- Several tests for fixture connection loads were removed including bowl connections, tank connections, and one piece water closets.
- Two static load tests were removed: trapway leak resistance and hydrostatic load.
- The tests for torque loads, impact, water absorption, and water resistance were removed.

Sinks:

- A warpage tolerance test was added
- The wear test cycles were increased from 10,000 to 20,000. The chemical resistance test regents and the thermal shock resistance water temperature were changed. For units with flexible core construction tests for resistance to fungi and bacteria growth, puncture resistance, and bonding were added. A water resistance test was removed.

Urinals:

- The allowable warpage was decreased.
- The chemical resistance test regents were changed.
- For units with flexible core construction, tests for resistance to fungi and bacteria growth, puncture resistance, and bonding were added
- The water resistance test was removed.
- The static load test-trapway leak resistance test was removed.
- The torque loads-flange connection test was removed.
- The impact-impact on urinal test was removed.
- For waterless urinals, the odor evaluation test was replaced with evaluation testing for ammonia (refer to ASME A112.19.19-06, Section 6.5).

Summary of changes by section:

Section 4.4.2, Slope to the waste outlet: clarified the requirement that bathtubs and shower bases shall have a maximum slope of 4% to the waste outlet.

¹Section 5.3, Warpage tolerance test: added this test for bathtubs and shower bases, lavatories, and sinks to ascertain the amount of deviation from the horizontal plain that exists along the specimen's edges.

Section 5.3.2, Performance: changed the allowable warpage for water closets bowls and tanks and urinals surfaces in contact with walls or floors from ~~3 mm per 305 mm (1/8 in per foot)~~ to 5 mm/m (0.06 in/ft), and added allowable warpage for other edges and linear dimensions of fixture.

Section 5.6, Waste fitting connection test

Section 5.6.2, Procedure for other fixtures: changed the applied load from 220 N to 110 N (50 to 25 lb) for lavatories and sinks with outlets greater than 76 mm (3 in)

Section 5.7, Point impact load test: removed this test for water closets bowls and tanks, and changed the number of times and locations to strike the specimen.

¹ The warpage tolerance test was mandatory in CSA B45.5-02 and therefore conducted on products listed for Canada. However, it was not required in the IAPMO Z124 standards.



Section 5.7.1.2, Bathtubs and shower bases: added the following step to the test for showers; [Drop the steel ball from a height of 600 mm \(24 in\) to strike three different locations on radii in the bottom of the specimen.](#)

Section 5.8, Structural integrity tests

Section 5.8.1, Load test for bathtub and shower seats

Section 5.8.1.1, Procedure: changed this test by removing the second 2 min application of the test load.

Section 5.8.6, Load test for sinks

Section 5.8.6.1, Procedure: Changed the time for application of the 890 kN (200 lb) test load from 2 to 5 min.

Section 5.10, Colourfastness test: changed to include all types of sinks by removing the condition that only kitchen and bar sinks be tested.

Section 5.10.4 Performance: clarified that discolouration that can be removed to a depth of 0.125 mm (0.005 in) shall be acceptable.

Section 5.11, Stain resistance test

Section 5.11.1, Procedure: Changed the abrasive used for conditioning the specimen for bathtubs and shower bases, lavatories, water closet bowls and tanks, sinks, urinals. Changed the reagents used for testing water closet bowls and tanks, urinals in CSA B45.5-02.

Section 5.12.1 Wear test

Section 5.12.1.3 Procedure

²Section 5.12.1.3.1: changed the number of cycles for lavatories from 10,000 to 12,000, for sinks from 10,000 to 20,000, and for shower stalls from 10,000 to 7,600.

Section 5.15, Chemical resistance test: was added.

Section 5.15.2, Procedure: changed the regents used in chemical test for water closet bowls and tanks, sinks, and urinals.

Section 5.15.3, Performance: changed the sandpaper used to remove superficial changes from 600 to 400 grit.

Section 5.16, Thermal shock resistance test: added this test for water closet bowls and tanks.

Section 5.16.2 Procedure: Changed the water test temperatures for laundry and utility sinks from 88 °C (190°F) and 21 °C (70°F) to 65.5 °C (150°F) and 10 °C (50°F).

Section 5.17, Water resistance test for bathtubs and showers: removed the water resistance test for lavatories, and water closet bowls and tanks.

Section 5.17.2, Procedure: changed the water temperature for testing Type 2 bathtubs and shower bases from boiling to 65 °C (150°F), and changed the abrasive compound to be used for conditioning the specimen prior to testing.

Section 5.17.3, Performance: changed the time after the test to the evaluation of color change from 4 to 72 h for bathtubs and shower bases.

² Number of cycles for products formerly listed to U.S. and Canada are unchanged except for water closets and urinals changed from 12,000 to 10,000.



Section 5.19, Overflow test: added this test for bathtubs and shower bases, lavatories, water closet bowls and tanks with an overflow opening, and sinks with an overflow opening.

Section 5.23, Heated pan test (for kitchen sinks only)

Section 5.23.1, Procedure: Changed the pan temperature from 230 °C (446°F) to 185 °C (365°F)

Section 5.25, Tests for flexible core construction fixtures

Section 5.25.1, Resistance to fungi and bacteria growth: added this test for lavatories, water closet bowls and tanks, sinks, and urinals.

Section 5.25.2, Puncture resistance test: added two additional drops of the No.2 Phillips screwdriver for bathtubs and showers, and also added the test for lavatories, water closet bowls and tanks, sinks, and urinals.

Section 5.25.2.2, Examination: added this method of examination to determine puncture resistance for bathtubs and showers.

Section 5.25.3, Bonding test: added this test for bathtubs and showers, lavatories, water closet bowls and tanks, sinks, and urinals.

Section 5.25.4, Water absorption test: added this test for bathtubs and showers and removed this test for lavatories, water closet bowls and tanks, sinks, and urinals.

Section 6, Markings

Section 6.1, General: Updated permanent marking requirements

Section 6.2 Non-standard fixtures: added this section with a requirement to provide literature for use and replacement of (non-standard) components, and mark non-conforming component fixtures with "N".

Section 6.4, Packaging: added requirements

Section 6.5, Installation instructions: added the requirement for manufacturer to provide installation instructions for water closet bowls and tanks.