



**Summary of Substantive Changes  
between the 2011 and the 2017 edition of  
CSA B45.11/IAPMO Z401, Glass plumbing fixtures**

**Presented to the IAPMO Standards Review Committee on August 7, 2017**

**General:** The changes to this standard may have an impact on currently listed products. The substantive changes are:

- Revised warpage test procedure to be consistent with other standards like CSA B45.5/IAPMO Z124 (see Section 5.2).
- Revised the structural integrity test, the point impact test and the thermal shock test to require conducting the test with the waste fitting installed (see Sections 5.5, 5.6 and 5.7)

Section 5.2, Warpage test: Revised the test procedure to be consistent with other standards like CSA B45.5/IAPMO Z124 as follows:

**5.2.1 Procedure**

*The specimen shall be placed on a flat and level surface to ascertain the amount of deviation from the horizontal or vertical plane at its edges.*

*~~If a feeler gauge of a thickness equal to the total warpage allowed in Table 1, as applicable, will not slide under the specimen unless forced, the specimen shall be deemed to comply with the warpage requirements of Table 1, as applicable.~~*

*If the specimen rocks on two opposite corners, the warpage in the horizontal or vertical plane shall be determined by placing one feeler gauge, as thick as the total warpage allowed, under a corner that does not touch the flat and level surface. This gauge shall be inserted by not more than 1.6 mm (1/16 in). ~~and then~~ Forcing the specimen down on this gauge if a second feeler gauge of the same thickness will not slide under the specimen at any other point, ~~the specimen shall be deemed to comply with the warpage requirements of Table 1, as applicable.~~*

Section 5.5, Structural integrity test: Replaced the test set-up with installation in accordance with the manufacturers instructions, added a requirement to install the waste fitting prior to testing, and removed the final 10 min load period as follows:

**5.5.2 Set-up**

*The specimen shall be mounted in a wood frame simulating installation as follows:*

*(a) ~~the frame shall allow for clearance under the specimen for the dial gauges;~~*

*(b) ~~the manufacturer's installation instructions shall be used for spacing the 2 x 4 dimensional lumber of the frame and for fastening the specimen to the frame. If such instructions are not available, the specimen shall be fastened along the flange to each stud of the frame by 38 mm (1.5 in) long Number 6 steel wood screws using 10 mm (0.38 in) steel washers. The spacing of the studs in the frame shall be not greater than 406 mm (16 in) between centres;~~*

*(c) ~~the top of the frame shall be at least 305 mm (12 in) higher than the top of the installed specimen;~~*



- ~~(d) — if legs or other component parts of the specimen are within 3 mm (0.13 in) of the floor line after installation, rigid vertical support shall be provided; and~~  
~~(e) — if the front apron of the specimen is not touching the test frame, the apron shall be supported in a continuous bed of plaster of Paris.~~

#### 5.5.35.5.2 Procedure

The structural integrity test for lavatories and sinks shall be conducted as follows:

- (a) Mount the specimen, including a waste fitting, in accordance with the manufacturer's installation instructions.
- ~~(a)~~ (b) Maintain the temperature of the test area and specimen at  $24 \pm 6$  °C ( $75 \pm 10$ °F).
- ~~(b)~~ (c) Inspect the surfaces of the specimen. Note all defects and damage.
- ~~(c)~~ (d) Centre the distribution pad over the centre of the specimen bottom.
- ~~(d)~~ (e) Preload the specimen as follows:
- (i) for specimens with a span of 762 mm (30.0 in) or more, apply a load of 890 N (200 lb) at the centre of the distribution pad;
  - (ii) for specimens with a span of less than 762 mm (30.0 in), apply a load of 445 N (100 lb) at the centre of the distribution pad; and
  - (iii) for double-compartment sinks, test each bowl based on its span in accordance with the applicable requirements specified in Item (i) or (ii) for a single fixture of comparable dimensions.
- ~~(e)~~ (f) Leave the load in place for 5 min and then remove the load to permit the specimen to settle in the frame for 2 min.
- ~~(f)~~ (g) Reload the specimen in accordance with Item ~~(d)~~ (e).
- ~~(g)~~ (h) Remove the load after 5 min and again permit the specimen to settle in the frame for 2 min.
- ~~(h)~~ ~~Reload the specimen in accordance with Item (d).~~
- ~~(i) — Remove the load after 10 min.~~
- ~~(j)~~ (i) Inspect the finished surface of the specimen in accordance with Clause ~~5.5.55.5.4~~.

Section 5.6, Point impact load test: Added a requirement to install the waste fitting prior to testing and clarified the test procedure and weight of the steel ball as follows:

#### 5.6.1 Procedure

The point impact load test shall be conducted as follows:

- (a) Install a waste fitting onto the specimen in accordance with the manufacturer's installation instructions.
- (b) Drop a steel ball with a diameter of 38 mm (1.5 in) ~~steel ball shall be dropped~~ and weight of  $2.20 \pm 0.05$  N ( $0.50 \pm 0.01$  lbf) three times from a height of 150 mm (6 in) to strike
- (i) three different points on flat areas on the top of the specimen and any supporting structures; and
  - (ii) three times in different places inside the bowl, as follows:
    - 1. ~~For the bowl test, one impact drop shall be made~~ 50 mm (2 in) from the drain; ~~;~~
    - 2. another ~~drop~~ impact 100 mm (4 in) from the drain; ~~;~~ and
    - 3. the last ~~dro~~ impact on a sloping area of the lavatory or sink.
- (c) The fixture shall be filled with water and left standing for 5 min.



Section 5.7, Thermal shock resistance test: Added a requirement to install the waste fitting prior to testing as follows:

*5.7.1 Procedure*

*The thermal shock resistance test for lavatories and sinks shall be conducted in accordance with Clauses 5.16.1 and 5.16.2 of CSA B45.5/IAPMO Z124 except that a waste fitting shall be installed onto the specimen in accordance with the manufacturer's instructions prior to conducting the test.*