ASME A112.19.3-2008/ CSA B45.4-08

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Stainless steel plumbing fixtures

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Update No. 2
ASME A112.19.3-2008/CSA B45.4-08
March 2011

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Title: *Stainless steel plumbing fixtures* — originally published August 2008

Revisions issued: Update No. 1 — July 2009
If you are missing any updates, please contact CSA Information Products Sales or visit **www.ShopCSA.ca**.

The following revisions have been formally approved and are marked by the symbol delta (Δ) in the margin on the attached replacement pages:

Revised	Clause 4.8.3
New	None
Deleted	Clauses 4.8.3.1 and 4.8.3.2

ASME A112.19.3-2008/CSA B45.4-08 originally consisted of **30 pages** (xii preliminary and 18 text), each dated **August 2008**. It now consists of the following pages:

August 2008	iii–xii, 3, 4, and 7–18
July 2009	1 and 2
March 2011	5 and 6

- Update your copy by inserting these revised pages.
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4.4 Waste fitting openings, drainage, and overflows

4.4.1 Waste fitting openings and drainage

4.4.1.1

Fixtures shall

(a) have a waste fitting opening (outlet), the centre of which shall be located at the lowest point of the fixture; and

(b) drain to the waste outlet.

4.4.1.2

Except when proprietary (i.e., non-standard) waste fittings are provided by the manufacturer, the dimensions of waste outlets shall be as shown in Figure 1.

4.4.1.3

Factory-supplied waste fittings shall comply with ASME A112.18.2/CAN/CSA-B125.2.

4.4.2 Overflows

4.4.2.1 Provision and positioning

Overflows in lavatories, sinks, and bidets may be provided at the option of the manufacturer. When overflows are provided, the manner in which they are positioned shall be at the option of the manufacturer.

4.4.2.2 Cleaning

When provided, overflows in sinks intended for food preparation (e.g., kitchen and bar sinks) shall not be concealed and shall be accessible for disassembly and cleaning after installation.

4.5 Additional requirements for water closets

Water closets and their flushing devices shall comply with the applicable requirements of ASME A112.19.2/CSA B45.1, except that the

(a) structural integrity test shall be conducted in accordance with Clause 5.5.1; and

(b) minimum thickness requirements for vitreous china shall not apply.

4.6 Additional requirements for urinals

Urinals and their flushing devices shall comply with the applicable requirements of ASME A112.19.2/CSA B45.1, except that the

(a) structural integrity test shall be conducted in accordance with Clause 5.5.3; and

(b) minimum thickness requirements for vitreous china shall not apply.

4.7 Additional requirements for lavatories, sinks, and bidets

4.7.1 Openings and mounting surfaces for supply fittings

4.7.1.1

When provided, openings and mounting surfaces for lavatory, sink, and bidet supply fittings shall be as shown in Figures 2 to 6, except when proprietary (i.e., non-standard) supply fittings are provided by the manufacturer.

4.7.1.2

Factory-supplied lavatory, sink, and bidet supply fittings shall comply with ASME A112.18.1/CAN/CSA-B125.1.

4.7.1.3
Mounting surfaces for supply fittings that rely on an air gap for backflow protection shall be not more than 13 mm (0.5 in) below the flood level rim.
Note: *Care should be taken to ensure that the minimum air gap specified in ASME A112.18.1/CAN/CSA-B125.1 or in the applicable plumbing code is not compromised when supply fittings are installed on fixtures with mounting surfaces below the flood level rim.*

4.7.2 Laundry or utility sink capacity
The minimum capacity of at least one compartment of a laundry or utility sink shall be 60 L (15.9 gal).

4.8 Additional requirements for bathtubs and shower bases

4.8.1 Minimum dimensions for bathtubs
The minimum dimensions for bathtubs shall be as shown in Figure 7.

4.8.2 Slope to the waste outlet
Bathtubs and shower bases shall have a maximum slope of 4% to the waste outlet.
Note: *There should be a minimum slope of 1% to the waste outlet.*

Δ 4.8.3 Flanges
Bathtubs and shower bases intended for installation against a wall shall incorporate a flange raised at least 8 mm (0.3 in) above the rim. The flange shall be
(a) integral with the bathtub or shower base;
(b) added to an island tub or shower base in the factory; or
(c) field installed using a flange kit that complies with Clause 5.4 and includes all necessary parts and fasteners.

Fixtures using field-installed flanges shall be marked in accordance with Clause 6.4.
Note: *Flanges are also referred to as beads.*

4.9 Additional requirements for drinking fountains

4.9.1
Drinking fountains shall
(a) include a supply fitting, which shall be at least 25 mm (1.0 in) above the flood level rim; and
(b) comply with the dimensions shown in Figure 8.
Note: *Drinking fountain supply fittings are also known as drinking fountain bubblers.*

4.9.2
Factory-supplied drinking fountain supply fittings shall comply with ASME A112.18.1/CAN/CSA-B125.1, including the toxicity requirements.

4.10 Accessible design fixtures
Fixtures designed to be accessible shall comply with the dimensional requirements specified in CAN/CSA B651 or ICC/ANSI A117.1.

Update No. 1
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July 2009

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Title: *Stainless steel plumbing fixtures* — originally published August 2008

The following revisions have been formally approved and are marked by the symbol delta (Δ) in the margin on the attached replacement pages:

Revised	Clause 1.2
New	None
Deleted	None

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ASME A112.19.3-2008/CSA B45.4-08
Stainless steel plumbing fixtures

0 Introduction

0.1
This harmonized Standard was developed in response to an industry request for a Standard for evaluation of plumbing fixtures that would be acceptable for use in both Canada and the United States. Harmonized Standards for plumbing fixtures made of other materials are also available or under development.

0.2
The concept of harmonization for plumbing fixtures arose in the early 1990s, when a free trade agreement between Canada, Mexico, and the United States began to be discussed. Standards development organizations (SDOs) were at the forefront of these discussions and an opportunity soon arose for those SDOs involved in developing requirements for plumbing products to establish a process for harmonization. However, the effort to develop a trinational Standard stalled until 2001, when ASME and CSA decided to develop a binational Standard for plumbing fittings.

0.3
Harmonization activities for plumbing fixtures standards were undertaken in 2004 by a Joint Harmonization Task Group (JHTG) on Plumbing Fixtures, in which the ASME and CSA plumbing fixtures committees were equally represented. The responsibility for procedural matters and final approval of technical content was assumed by technical committees at higher levels within each SDO.

1 Scope

1.1
This Standard covers plumbing fixtures made of stainless steel alloys and specifies requirements for materials, construction, performance, testing, and markings.
Note: *The term "corrosion-resisting steel" is also applied to stainless steel.*

Δ **1.2**
This Standard covers the following plumbing fixtures:
(a) bathtubs;
(b) bidets;
(c) drinking fountains and water coolers;
(d) lavatories;
(e) shower bases;
(f) sinks:
  (i) kitchen and bar sinks;
  (ii) laboratory sinks;
  (iii) laundry sinks;
  (iv) service sinks; and
  (v) utility sinks;
(g) urinals; and
(h) water closets.

1.3
In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; "may" is used to express an option or that which is permissible within the limits of the standard; and "can" is used to express possibility or capability. Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and may be written as requirements. Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

1.4
SI units are the units of record in Canada. In this Standard, the yard/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application; however, each system is to be used independently. Combining values from the two measurement systems can result in non-conformance with this Standard.

All references to gallons are to U.S. gallons.

For information on the unit conversion criteria used in this Standard, see Annex A.

2 Reference publications
This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA (Canadian Standards Association)
CAN/CSA-B125.3-05
Plumbing fittings

CAN/CSA-B651-04
Accessible design for the built environment

C22.2 No. 0.15-01 (R2006)
Adhesive labels

ASME/CSA (American Society of Mechanical Engineers/Canadian Standards Association)
ASME A112.18.1-2005/CAN/CSA-B125.1-05
Plumbing supply fittings

ASME A112.18.2-2005/CAN/CSA-B125.2-05
Plumbing waste fittings

ASME A112.19.2-2008/CSA B45.1-08
Ceramic plumbing fixtures

ASTM International (American Society for Testing and Materials)
A 240/A 240M-08
Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ICC/ANSI (International Code Council/American National Standards Institute)
A117.1-2003
Accessible and Usable Buildings and Facilities

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ASME A112.19.3-2008/CSA B45.4-08
Stainless steel plumbing fixtures

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Preface

This is the first edition of ASME A112.19.3/CSA B45.4, *Stainless steel plumbing fixtures*.

This Standard replaces

(a) CAN/CSA-B45.4-02, *Stainless Steel Plumbing Fixtures*; and

(b) ASME A112.19.3-2000, *Stainless Steel Plumbing Fixtures (Designed for Residential Use).*

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the ASME/CSA Joint Harmonization Task Group on Plumbing Fixtures, under the jurisdiction of the ASME Standards Committee on Plumbing Materials and Equipment and the CSA Technical Committee on Plumbing Fixtures. The CSA Technical Committee operates under the jurisdiction of the CSA Strategic Steering Committee on Water Management Products, Materials, and Systems. This Standard has been formally approved by the ASME Standards Committee and the CSA Technical Committee. This Standard was approved as an American National Standard by the American National Standards Institute on July 31, 2008.

August 2008

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- *phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings, which are necessary to explain the question; however, they should not contain proprietary names or information.*

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(2) *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.*

(3) *This publication was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.*

(4) *CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee.*

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    (v) utility sinks.

1.3
In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; "may" is used to express an option or that which is permissible within the limits of the standard; and "can" is used to express possibility or capability. Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material. Notes to tables and figures are considered part of the table or figure and may be written as requirements. Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

1.4
SI units are the units of record in Canada. In this Standard, the yard/pound units are shown in parentheses. The values stated in each measurement system are equivalent in application; however, each system is to be used independently. Combining values from the two measurement systems can result in non-conformance with this Standard.

All references to gallons are to U.S. gallons.

For information on the unit conversion criteria used in this Standard, see Annex A.

2 Reference publications
This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below, including all amendments published thereto.

CSA (Canadian Standards Association)
CAN/CSA-B125.3-05
Plumbing fittings

CAN/CSA-B651-04
Accessible design for the built environment

C22.2 No. 0.15-01 (R2006)
Adhesive labels

ASME/CSA (American Society of Mechanical Engineers/Canadian Standards Association)
ASME A112.18.1-2005/CAN/CSA-B125.1-05
Plumbing supply fittings

ASME A112.18.2-2005/CAN/CSA-B125.2-05
Plumbing waste fittings

ASME A112.19.2-2008/CSA B45.1-08
Ceramic plumbing fixtures

ASTM International (American Society for Testing and Materials)
A 240/A 240M-08
Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ICC/ANSI (International Code Council/American National Standards Institute)
A117.1-2003
Accessible and Usable Buildings and Facilities

UL (Underwriters Laboratories Inc.)
969 (1995)
Standard for Marking and Labeling Systems

3 Definitions

The following definitions apply in this Standard:

Air gap — the unobstructed vertical distance, through the open atmosphere, between the lowest opening of a water supply and the flood level of the fixture.

Bidet — a fixture with a hot and cold water supply intended for genital and perineal hygiene.

Defect —

Blemish — a dent, depression, or raised portion on the visible stainless steel surface of a fixture.

Crack — a fracture in the surface or substrate material of a fixture.

Die mark — a visible scoring of the stainless steel surface of a fixture.

Pinhole — a hole in the stainless steel surface of a fixture whose largest dimension is 1.5 mm (0.06 in) or less.

Wrinkle — a corrugation in the stainless steel surface of a fixture that is visible or can be felt.

Fitting — a device that controls and guides the flow of water.
Note: *See ASME A112.18.1/CAN/CSA-B125.1 and CAN/CSA-B125.3 for definitions of specific types of fittings.*

Fixture — a device that receives water, waste matter, or both and directs these substances into a drainage system.
Note: *See ASME A112.19.2/CSA B45.1 for definitions of specific types of fixtures.*

Flange —
(a) the flat area on the front or sides of a compartment in a sink or lavatory; or
(b) the raised vertical section for retaining water in a tub or shower base.

Flat-rim sink (rim-back sink) — a single- or double-compartment sink with flanges on all sides but no back ledge (ledge-back).

Flood level — the level at which water will overflow a fixture.

Flushometer valve — a flushing device attached to a pressurized water supply pipe that, when actuated, opens the pipe for direct flow into the fixture at a rate and in a quantity that enables proper operation of the fixture. The valve then gradually closes to provide trap reseal in the fixture and avoid water hammer.
Note: *The pipe to which the flushometer valve is connected should be large enough to enable it to deliver water at a sufficient rate of flow for flushing.*

Horizontal surface — a surface forming an angle with the horizontal of less than 45°.

Integral rim — a mounting rim that is an integrally formed part of a sink flange and has clamp-down devices for attaching the sink to the countertop.

Lavatory — a washbowl or basin.

Ledge — the flat area of a sink or lavatory on which supply fittings are normally mounted.

Ledge-back sink — a single- or double-compartment sink with a ledge along the back that has openings for mounting supply fittings.