

Stainless steel plumbing fixtures

Legal Notice for Harmonized Standard Jointly Developed by ASME and CSA Group

Intellectual property rights and ownership

As between American Society of Mechanical Engineers ("ASME") and Canadian Standards Association (Operating as "CSA Group") (collectively "ASME and CSA Group") and the users of this document (whether it be in printed or electronic form), ASME and CSA Group are the joint owners of all works contained herein that are protected by copyright, all trade-marks (except as otherwise noted to the contrary), and all inventions and trade secrets that may be contained in this document, whether or not such inventions and trade secrets are protected by patents and applications for patents. The unauthorized use, modification, copying, or disclosure of this document may violate laws that protect the intellectual property of ASME and CSA Group and may give rise to a right in ASME and CSA Group to seek legal redress for such use, modification, copying, or disclosure. ASME and CSA Group reserve all intellectual property rights in this document.

Disclaimer and exclusion of liability

This document is provided without any representations, warranties, or conditions of any kind, express or implied, including, without limitation, implied warranties or conditions concerning this document's fitness for a particular purpose or use, its merchantability, or its non-infringement of any third party's intellectual property rights. ASME and CSA Group do not warrant the accuracy, completeness, or currency of any of the information published in this document. ASME and CSA Group make no representations or warranties regarding this document's compliance with any applicable statute, rule, or regulation.

IN NO EVENT SHALL ASME AND CSA GROUP, THEIR RESPECTIVE VOLUNTEERS, MEMBERS, SUBSIDIARIES, OR AFFILIATED COMPANIES, OR THEIR EMPLOYEES, DIRECTORS, OR OFFICERS, BE LIABLE FOR ANY DIRECT, INDIRECT, OR INCIDENTAL DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES, HOWSOEVER CAUSED, INCLUDING BUT NOT LIMITED TO SPECIAL OR CONSEQUENTIAL DAMAGES, LOST REVENUE, BUSINESS INTERRUPTION, LOST OR DAMAGED DATA, OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER BASED IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR ANY OTHER THEORY OF LIABILITY, ARISING OUT OF OR RESULTING FROM ACCESS TO OR POSSESSION OR USE OF THIS DOCUMENT, EVEN IF ASME OR CSA GROUP HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INJURY, LOSS, COSTS, OR EXPENSES.

In publishing and making this document available, ASME and CSA Group are not undertaking to render professional or other services for or on behalf of any person or entity or to perform any duty owed by any person or entity to another person or entity. The information in this document is directed to those who have the appropriate degree of experience to use and apply its contents, and ASME and CSA Group accept no responsibility whatsoever arising in any way from any and all use of or reliance on the information contained in this document.

ASME and CSA Group have no power, nor do they undertake, to enforce compliance with the contents of the standards or other documents they jointly publish.

Authorized use of this document

This document is being provided by ASME and CSA Group for informational and non-commercial use only. The user of this document is authorized to do only the following:

If this document is in electronic form:

- load this document onto a computer for the sole purpose of reviewing it;
- search and browse this document; and
- print this document if it is in PDF format.

Limited copies of this document in print or paper form may be distributed only to persons who are authorized by ASME and CSA Group to have such copies, and only if this Legal Notice appears on each such copy.

In addition, users may not and may not permit others to

- alter this document in any way or remove this Legal Notice from the attached standard;
- sell this document without authorization from ASME and CSA Group; or
- make an electronic copy of this document.

If you do not agree with any of the terms and conditions contained in this Legal Notice, you may not load or use this document or make any copies of the contents hereof, and if you do make such copies, you are required to destroy them immediately. Use of this document constitutes your acceptance of the terms and conditions of this Legal Notice.



Standards Update Service

ASME A112.19.3-2017/CSA B45.4-17
March 2017

Title: *Stainless steel plumbing fixtures*

To register for e-mail notification about any updates to this publication

- go to shop.csa.ca
- click on **CSA Update Service**

The **List ID** that you will need to register for updates to this publication is **24251-17**

If you require assistance, please e-mail techsupport@csagroup.org or call 416-747-2233.

Visit CSA Group's policy on privacy at www.csagroup.org/legal to find out how we protect your personal information.

ASME/CSA Standard

ASME A112.19.3-2017/CSA B45.4-17 Stainless steel plumbing fixtures



®A trademark of the Canadian Standards Association and CSA America Inc., operating as "CSA Group"

CSA Group

A not-for-profit private sector organization

178 Rexdale Boulevard, Toronto, Ontario, Canada M9W 1R3

1-800-463-6727 • 416-747-4044

Visit the CSA Group Online Store at shop.csa.ca

The American Society of Mechanical Engineers (ASME)

Three Park Avenue

New York, NY 10016-5990, USA

1-800-843-2763

Visit the ASME Online Store at www.asme.org

Commitment for Amendments

This Standard is issued jointly by the American Society of Mechanical Engineers (ASME) and the Canadian Standards Association (Operating as “CSA Group”). Amendments to this Standard will be made only after processing according to the Standards writing procedures of both ASME and CSA Group.

The American Society of Mechanical Engineers
(ASME)
Three Park Avenue
New York, NY 10016-5990
USA
1-800-843-2763
Visit the ASME Online Store at
www.asme.org

Copyright © 2017 by The American Society of
Mechanical Engineers (ASME)

The 2017 edition of this Standard is being issued
with an automatic addenda subscription service.
The use of addenda allows revisions made in
response to public review comments or
committee actions to be published as necessary.

Published in February 2017 by
CSA Group
A not-for-profit private sector organization
178 Rexdale Boulevard
Toronto, Ontario, Canada
M9W 1R3
1-800-463-6727 or 416-747-4044
Visit the CSA Group Online Store at
shop.csa.ca

ISBN 978-1-4883-0739-3

© CSA Group — 2017

All rights reserved. No part of this publication
may be reproduced in any form whatsoever
without the prior permission of the publisher.

Contents

ASME A112 Standards Committee on Plumbing Materials and Equipment	3
ASME A112.19.3 Project Team on Stainless Steel Plumbing Fixtures	7
CSA Technical Committee on Plumbing Fixtures	9
CSA/ASME Harmonization Task Group on Plumbing Fixtures	14
Preface	16
1 Scope	18
2 Reference publications	19
3 Definitions	19
4 General requirements	21
4.1 Materials	21
4.2 Stainless steel thickness	21
4.2.1 Lavatories and sinks	21
4.2.2 Other fixtures	21
4.3 Tolerances	21
4.4 Waste fitting openings, drainage, and overflow	22
4.4.1 Waste fitting openings and drainage	22
4.4.2 Overflows	22
4.5 Additional requirements for water closets	22
4.6 Additional requirements for urinals	23
4.7 Additional requirements for lavatories, sinks, and bidets	23
4.7.1 Openings and mounting surfaces for supply fittings	23
4.7.2 Laundry or utility sink capacity	23
4.8 Additional requirements for bathtubs and shower bases	23
4.8.1 Minimum dimensions for bathtubs	23
4.8.2 Slope to the waste outlet	23
4.8.3 Flanges	23
4.9 Additional requirements for drinking fountains	24
4.10 Accessible design fixtures	24
5 Tests	24
5.1 Surface examination	24
5.1.1 Procedure	24
5.1.2 Performance	24
5.2 Warpage test	24
5.2.1 Procedure	24
5.2.2 Performance	25
5.3 Field-installed flange test	25
5.3.1 Procedure	25
5.3.2 Performance	25

5.4	Overflow test (lavatories, sinks, and bidets)	25
5.4.1	Procedure	25
5.4.2	Performance	25
5.5	Structural integrity tests	26
5.5.1	Water closets	26
5.5.2	Lavatories and sinks	26
5.5.3	Wall-mounted urinals	27
5.5.4	Bathtubs and shower bases	27
6	Markings, packaging, and installation instructions and other literature	28
6.1	General	28
6.2	Non-standard fixtures	29
6.3	Additional markings for water closets and urinals	29
6.4	Field-installed flanges	29
6.5	Packaging and installation instructions and other literature	29
6.5.1	General	29
6.5.2	Packaging	29
6.5.3	Installation instructions	30

Annex A (informative)	— Unit conversion criteria	36
-----------------------	----------------------------	----

ASME A112 Standards Committee on Plumbing Materials and Equipment

W.M. Smith	American Society of Plumbing Engineers, Montgomery, Alabama, USA	<i>Chair</i>
S.M. Rawalpindiwala	Kohler Co. Plumbing Division, Kohler, Wisconsin, USA	<i>Vice-Chair</i>
C. McLeod	Kohler, Dana Point, California, USA <i>Alternate to: S. Rawalpindiwala</i>	<i>Alternate</i>
R.K. Adler	City of San Jose, San Jose, California, USA	
J.A. Ballanco	JB Engineering & Code Consulting, PC, Munster, Indiana, USA	
J.E. Bertrand	Moen Incorporated, North Olmsted, Ohio, USA	
A. Bonlender	Bradley Corporation, Menomonee Falls, Wisconsin, USA	
R. Burnham	Zurn Industries, LLC, Erie, Pennsylvania, USA	
M. Campos	Code Evaluation Service, LLC, Irvine, California, USA	
S.L. Cavanaugh	Cavanaugh Consulting, Santa Fe, New Mexico, USA	<i>Contributing Member</i>
W.E. Chapman	Professional Code Consulting, LLC, Cullman, Alabama, USA	
P. DeMarco	IAPMO, Dayton, New Jersey, USA	
N.E. Dickey	CSA Group, Toronto, Ontario, Canada	

F. DiFolco	CSA Group, Toronto, Ontario, Canada <i>Alternate to: N.E. Dickey</i>	<i>Alternate</i>
G.S. Duren	Code Compliance, Inc., South Pasadena, Florida, USA	
R. Emmerson	Consultant, Mundelein, Illinois, USA	
R.L. George	Plumb-Tech Design and Consulting Services L.L.C, Newport, Michigan, USA	
G.W. Harrison	Wayne Harrison Consulting, Edmond, Oklahoma, USA	
L. Himmelblau	Chicago Faucet, Des Plaines, Illinois, USA	
C.L. Jahrling	ASSE International, Chicago, Illinois, USA	<i>Contributing Member</i>
J.M. Koeller	Koeller and Co., Yorba Linda, California, USA	
N.M. Kummerlen	Consultant, Lorain, Ohio, USA	<i>Contributing Member</i>
C.J. Lagan	American Standard, Piscataway, New Jersey, USA	
M. Malatesta	American Standard, Piscataway, New Jersey, USA <i>Alternate to: C J Lagan</i>	<i>Alternate</i>
J.W. Lauer	Sloan Valve Company, Anaheim, California, USA	
D. Lieberman	Sloan Valve Company, Huntington Beach, California, USA <i>Alternate to: J.W. Lauer</i>	<i>Alternate</i>
W.H. LeVan	Cast Iron Soil Pipe Institute, Panama City Beach, Florida, USA	

D. Marbry	Fluidmaster, Inc., San Juan Capistrano, California, USA	
R. Mata	CSA Group, Cleveland, Ohio, USA	
D. Liang	CSA Group, Guangzhou, Guangdong, China <i>Alternate to: R. Mata</i>	<i>Alternate</i>
D. Orton	NSF International, Ann Arbor, Michigan, USA	
A. Ciechanowski	NSF International, Ann Arbor, Michigan, USA <i>Alternate to: D. Orton</i>	<i>Alternate</i>
S.A Remedios	Remedios Consulting LLC, London, Ontario, Canada	
M. Sigler	Plumbing Manufacturers International, Rolling Meadows, Illinois, USA	
G.L. Simmons	Charlotte Pipe & Foundry, Charlotte, North Carolina, USA	
W.B. Morris	Charlotte Pipe & Foundry, Charlotte, North Carolina, USA <i>Alternate to: G.L. Simmons</i>	<i>Alternate</i>
D. Viola	IAPMO, Moline, Illinois, USA	
L.A. Mercer	IAPMO, Valley City, Ohio, USA <i>Alternate to: D. Viola</i>	<i>Alternate</i>
J.C. Watson	Elkay Manufacturing, Oak Brook, Illinois, USA	
M. Weiss	Plumbing and Drainage Institute, Polson, Montana, USA	
W.C. Whitehead	Whitehead Consulting Services, Peabody, Massachusetts, USA	

A. L. Guzman

American Society of Mechanical Engineers,
New York, New York, USA

Staff Secretary

ASME A112.19.3 Project Team on Stainless Steel Plumbing Fixtures

S.M. Rawalpindiwala	Kohler Co. Plumbing Division, Kohler, Wisconsin, USA <i>Producer</i>	<i>Chair</i>
J.E. Bertrand	Moen Incorporated, North Olmsted, Ohio, USA	
T. Burke	Victoria + Albert Baths Ltd., Telford, United Kingdom	
M. Campos	International Code Council, Brea, California, USA	
P.V. DeMarco	IAPMO, Dayton, New Jersey, USA	
N.E. Dickey	CSA Group, Toronto, Ontario, Canada	
D.W. Gallmann	Consultant, Menomonee Falls, Wisconsin, USA	
D. Gleiberman	Sloan, Los Angeles, California, USA	
D.E. Holloway	IAPMO Research & Testing Inc., Broken Arrow, Oklahoma, USA	
E. Ho	IAPMO Research & Testing Inc., Markham, Ontario, Canada	
C.J. Lagan	American Standard, Piscataway, New Jersey, USA	
L.A. Mercer	IAPMO, Valley City, Ohio, USA	
A.I. Murra	Abraham Murra Consulting, Oakville, Ontario, Canada	

B. Pines	C&R Plumbing & Heating Inc., Shelby Township, Michigan, USA	
D. Viola	IAPMO, Mokena, Illinois, USA	
J.C. Watson	Elkay Manufacturing, Oak Brook, Illinois, USA	<i>Associate</i>

CSA Technical Committee on Plumbing Fixtures

S.M. Rawalpindiwala	Kohler Co. Plumbing Division, Kohler, Wisconsin, USA <i>Category: Producer Interest</i>	<i>Chair</i>
F. Lemieux	Health Canada, Ottawa, Ontario, Canada <i>Category: Regulatory Authority</i>	<i>Vice-Chair</i>
M. Al Hares	Delta Faucet Company, Fishers, Indiana, USA	<i>Associate</i>
W.T. Ball	WCM Industries Inc., Colorado Springs, Colorado, USA	<i>Associate</i>
J.E. Bertrand	Moen Incorporated, North Olmsted, Ohio, USA <i>Category: Producer Interest</i>	
A. Bonlender	Bradley Corporation, Menomonee Falls, Wisconsin, USA	<i>Associate</i>
T. Burke	Victoria + Albert Baths Ltd., Telford, United Kingdom	<i>Associate</i>
R. Burnham	Zurn Industries LLC, Erie, Pennsylvania, USA <i>Category: Producer Interest</i>	
M. Campos	International Code Council, Brea, California, USA	<i>Associate</i>
W.E. Chapin	Professional Code Consulting, LLC, Cullman, Alabama, USA	<i>Associate</i>
S. Chen	Masco R&D, Taylor, Michigan, USA	<i>Associate</i>
Y. Duchesne	Régie du bâtiment du Québec, Québec, Québec, Canada <i>Category: Regulatory Authority</i>	

C. Erickson	Underwriters Laboratories Inc., Northbrook, Illinois, USA	<i>Associate</i>
K. Ernst	Oakville Stamping & Bending Limited, Oakville, Ontario, Canada <i>Category: Producer Interest</i>	
W. Falcomer	The Corporation of the City of Ottawa, Ottawa, Ontario, Canada <i>Category: Regulatory Authority</i>	
F. Fernández	Toto U.S.A. Inc., Ontario, California, USA <i>Category: Producer Interest</i>	
M.E. Fish	Zurn Industries, LLC, Washington, DC, USA	<i>Associate</i>
D. Gleiberman	Sloan, Los Angeles, California, USA	<i>Associate</i>
M. Guard	International Code Council (ICC), Washington, DC, USA	<i>Associate</i>
R. Guinn	Oro-Medonte, Ontario, Canada <i>Category: User Interest</i>	
R. Hildebrand	The Regional Municipality of Waterloo, Kitchener, Ontario, Canada <i>Category: User Interest</i>	
L. Himmelblau	Chicago Faucets Geberit Manufacturing Division, Des Plaines, Illinois, USA <i>Category: Producer Interest</i>	
E. Ho	IAPMO Research & Testing Inc., Markham, Ontario, Canada	<i>Associate</i>
E. Hood	H. H. Angus & Associates Ltd., Toronto, Ontario, Canada <i>Category: User Interest</i>	
K.S. Hui	Ontario Ministry of Municipal Affairs, Toronto, Ontario, Canada <i>Category: Regulatory Authority</i>	

C. Jahrling	ASSE International, Mokena, Illinois, USA	<i>Associate</i>
J. Knapton	Southern Alberta Institute of Technology, Calgary, Alberta, Canada <i>Category: General Interest</i>	
J.M. Koeller	Koeller and Company, Yorba Linda, California, USA <i>Category: General Interest</i>	
C.J. Lagan	American Standard Brands, d/b/a AS America, Inc., Piscataway, New Jersey, USA <i>Category: Producer Interest</i>	
D. Liang	CSA Group, Guangzhou, Guangdong, China	<i>Associate</i>
R. Liao	Xiamen Lota International Co.Ltd., Xiamen, Fujian, China	<i>Associate</i>
J. MacDonald	BLANCO Canada Inc., Brampton, Ontario, Canada	<i>Associate</i>
J. Manente	Region of Peel, Brampton, Ontario, Canada	<i>Associate</i>
D. Marbry	Fluidmaster Inc., San Juan Capistrano, California, USA	<i>Associate</i>
T.J. McCann	Department of National Defence, Ottawa, Ontario, Canada <i>Category: User Interest</i>	
C. McLeod	Kohler Co. Plumbing Division, Kohler, Wisconsin, USA	<i>Associate</i>
D. McNamara	Franke Kindred Canada Limited, Midland, Ontario, Canada <i>Category: Producer Interest</i>	
A.I. Murra	Abraham Murra Consulting, Oakville, Ontario, Canada	<i>Associate</i>

R. Neff	Delta Faucet Company, Indianapolis, Indiana, USA	<i>Associate</i>
D. Orton	NSF International, Ann Arbor, Michigan, USA	<i>Associate</i>
R. Pickering	Eastern Research Group, Inc (ERG), Morrisville, North Carolina, USA	<i>Associate</i>
S.A. Remedios	Remedios Consulting LLC, London, Ontario, Canada <i>Category: General Interest</i>	
S. Shang	China Building Material Test & Cert. Group (Shaanxi) Co. Ltd., Shaanxi, China	<i>Associate</i>
R. Sharma	U.S. Environmental Protection Agency, Washington, DC, USA	<i>Associate</i>
M. Sigler	Plumbing Manufacturers Int'l, Orlando, Florida, USA	<i>Associate</i>
W. Smith	American Society of Plumbing Engineers (ASPE), Montgomery, Alabama, USA <i>Category: General Interest</i>	
J. St-Denis	Intertek Testing Services NA Ltd. Services d'essais Intertek AN Ltee., Lachine, Québec	<i>Associate</i>
D. Stoesz	Alberta Municipal Affairs, Red Deer, Alberta, Canada <i>Category: Regulatory Authority</i>	
S. Tanner	U.S. Environmental Protection Agency, Washington, DC, USA <i>Category: General Interest</i>	
P. Tardif	National Research Council Canada, Canadian Codes Centre, Ottawa, Ontario	<i>Associate</i>
C.W. Trendelman	Bargersville, Indiana, USA	<i>Associate</i>

J.C. Watson	Elkay Manufacturing, Oak Brook, Illinois, USA	<i>Associate</i>
C. Wright	Ontario Pipe Trades, Dundalk, Ontario, Canada <i>Category: User Interest</i>	
F. Zhang	China Building Material Test & Cert. Group (Shaanxi) Co. Ltd., Shaanxi, China	<i>Associate</i>
L. Pilla	CSA Group, Toronto, Ontario, Canada	<i>Project Manager</i>

CSA/ASME Harmonization Task Group on Plumbing Fixtures

C.J. Lagan	American Standard Brands, Piscataway, New Jersey, USA	<i>Co-Chair</i>
F. Lemieux	Health Canada, Ottawa, Ontario, Canada	<i>Co-Chair</i>
M. Campos	International Code Council, Brea, California, USA	
I. Chang	Intertek Testing Services NA Ltd., Coquitlam, British Columbia, Canada	
K. Ernst	Oakville Stamping & Bending Limited, Oakville, Ontario, Canada	
W. Falcomer	City of Ottawa, Ottawa, Ontario, Canada	
F. Fernández	Toto U.S.A. Inc., Ontario, California, USA	
R. Guinn	Oro-Medonte, Ontario, Canada	
L. Himmelblau	Chicago Faucets Company, Des Plaines, Illinois, USA	
E. Ho	IAPMO Research and Testing Inc., Markham, Ontario, Canada	
D. Liang	CSA Group, Guangzhou, Guangdong, China	
D. McNamara	Franke Kindred Canada Limited, Midland, Ontario, Canada	
S. Rawalpindiwala	Kohler Co., Kohler, Wisconsin, USA	

S. Remedios

Remedios Consulting LLC,
London, Ontario, Canada

W. Smith

American Society of Plumbing Engineers (ASPE),
Montgomery, Alabama, USA

C. Wright

Ontario Pipe Trades,
Dundalk, Ontario, Canada

L. Pilla

CSA Group,
Toronto, Ontario, Canada

Project Manager

Preface

This is the second edition of ASME A112.19.3/CSA B45.4, *Stainless steel plumbing fixtures*. It supersedes the previous edition published in 2008.

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 Construction and Civil Infrastructure. This Standard will be 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 March 10, 2017.

ASME Notes:

- 1) *This standard was developed under procedures accredited as meeting the criteria for American National Standards and it is an American National Standard. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed Standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.*
- 2) *ASME does not “approve,” “rate,” or “endorse” any item, construction, proprietary device, or activity.*
- 3) *ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assume any such liability. Users of a standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.*
- 4) *Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this standard.*
- 5) *ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, which precludes the issuance of interpretations by individuals.*
- 6) *ASME issues written replies to inquiries concerning interpretation of technical aspects of this Standard. All inquiries regarding this Standard, including requests for interpretations, should be addressed to:*

*Secretary, A112 Standards Committee
The American Society of Mechanical Engineers
Two Park Avenue
New York, NY 10016-5990*

A request for interpretation should be clear and unambiguous. The request should

- *cite the applicable edition of the Standard for which the interpretation is being requested.*
- *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.*

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME Committee.

Interpretations are published on the ASME Web site under the Committee Pages at <http://www.asme.org/codes/> as they are issued.

CSA Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 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) *To submit a request for interpretation of CSA Standards, please send the following information to inquiries@csa.ca and include “Request for interpretation” in the subject line:*
 - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
 - b) *provide an explanation of circumstances surrounding the actual field condition; and*
 - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are published in CSA’s periodical Info Update, which is available on the CSA website at <http://standardsactivities.csa.ca>.
- 5) *CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee. To submit a proposal for change to CSA Standards, please send the following information to inquiries@csa.ca and include “Proposal for change” in the subject line:*
 - a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*
- 6) *Attention is drawn to the possibility that some of the elements of this Standard may be the subject of patent rights. CSA is not to be held responsible for identifying any or all such patent rights. Users of this Standard are expressly advised that determination of the validity of any such patent rights is entirely their own responsibility.*

ASME A112.19.3-2017/CSA B45.4-17

Stainless steel plumbing fixtures

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.

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;
 - vi) urinals; and
 - vii) 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; and “may” is used to express an option or that which is permissible within the limits of the Standard.

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 Group

B125.3-12

Plumbing fittings

B651-12

Accessible design for the built environment

C22.2 No. 0.15-15

Adhesive labels

ASME (American Society of Mechanical Engineers)/CSA Group

ASME A112.18.1-2012/CSA B125.1-12

Plumbing supply fittings

ASME A112.18.2-2015/CSA B125.2-15

Plumbing waste fittings

ASME A112.19.2-2013/CSA B45.1-13

Ceramic plumbing fixtures

ASTM International (American Society for Testing and Materials)

A240/A240M-16

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)

A117.1-2009

Accessible and Usable Buildings and Facilities

UL (Underwriters Laboratories Inc.)

969 (1995)

Standard for Marking and Labeling Systems

3 Definitions

The following definitions shall 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.