



Summary of Substantive Changes
between the 2006 (R2011) and 2016 editions of

ASME A112.19.19 “Vitreous China Nonwater Urinals”

Presented to the IAPMO Standards Review Committee on December 12, 2016

General: Changes to this standard should not affect currently listed products but instead the changes now address nonwater urinal products that have a drain-cleansing feature option that are currently addressed by IGC 311-2015 ‘Hybrid Urinals with High-Efficiency Drain-Cleansing Feature,’ which will now be superseded by ASME A112.19.19-2016. The changes to ASME A112.19.19 are as follows:

- Scope Section 1.1 was revised to include address of nonwater urinal products with a drain-cleansing feature option.
- Standards reference Section 1.3 was updated to include pertinent new standards related to backflow protection.
- New definitions added in Section 1.4, to define the processes of ‘drain-cleansing action’ and ‘urinal with drain-cleansing action.’
- Subsections of Section 2, Section 3 and Section 5 were updated with current standards designations.
- The joint seal pressure test was reduced from 15 psig to 5 psig in Section 5.7.
- New Section 6.6 was added to specify the ‘drain-cleansing action’ test procedure to nonwater urinals having this feature.

1.1 Scope

This Standard establishes requirements and test methods pertaining to materials, significant dimensions, and functional performance for vitreous china nonwater urinals, [including those with an optional drain-cleansing feature as defined in this Standard](#). The sanitary performance requirements and test procedures apply to all types of nonwater urinals that discharge into gravity waste systems in permanent buildings and structures independent of occupancy.

1.3 References

The following documents form a part of this Standard to the extent specified herein. Unless otherwise specified, the latest edition shall apply:

ANSI/ICC A117.1, Standard Specification for Accessible and Usable Buildings and Facilities
Publisher: International Code Council (ICC), 500 New Jersey Avenue, NW, Washington, DC 20001
(www.iccsafe.org)

[ASME A112.1.3, Air Gap Fitting for Use with Plumbing Fixtures](#)

ASME A112.6.1M, Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use

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~~[ASME A112.19.12, Wall Mounted and Pedestal Mounted, Adjustable and Pivoting Lavatory and Sink Carrier Systems](#)~~



[ASSE 1001, Performance Requirements for Atmospheric Vacuum Breakers](#)

[ASSE 1011, Performance Requirements for Hose Connection Vacuum Breakers](#)

[ASSE 1018, Performance Requirements for Trap Seal Primer Valves — Potable Water Supplied](#)

[ASSE 1044, Performance Requirements for Trap Seal Primer— Drainage Types and Electric Design Types](#)

[ASSE 1052, Performance Requirements for Hose Connection Backflow Preventers](#)

[ASSE 1056, Performance Requirements for Spill Resistant Vacuum Breakers](#)

[Publisher: The American Society of Safety Engineers \(ASSE\), 520 N. Northwest Hwy, Park Ridge, IL 60068 \(www.asse.org\)](#)

[CSA B64.1.4, Vacuum breaker, air space type Publisher: Canadian Standards Association \(CSA\), 178 Rexdale Boulevard, Toronto, Ontario M9W 1R3, Canada \(www.csagroup.org\)](#)

UL 969, Marking and Labeling Systems

1.4 Definitions

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[**drain-cleansing action:** the process of introducing a volume of water, in the form of a stream or spray, to rinse drain pipes and assist in carrying residue downstream through the drainage system. The feature is not required for the nonwater urinal to maintain the required trap seal.](#)

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[**urinal with drain-cleansing action** — a nonwater urinal that automatically performs a drain-cleansing action after a predetermined amount of time or usage. Such a urinal can function and perform waste extraction without the drain-cleansing action.](#)

2 VITREOUS CHINA REQUIREMENTS

2.1 Absorption

The average absorption of the ceramic test samples shall not exceed one-half of 1% (0.5%) when tested in accordance with ASME A112.19.2, ~~para. 7.1~~/[CSA B45.1, para. 6.1.](#)

2.2 Crazeing

No crazeing shall be permitted when tested in accordance with ASME A112.19.2, ~~para. 7.2~~/[CSA B45.1, para. 6.2.](#)

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2.4 Warpage

Vitreous china fixtures shall meet the warpage requirements listed in Table 1 when tested in accordance with ASME A112.19.2, ~~para. 7.3~~/[CSA B45.1, para. 6.4.](#)

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3 GENERAL REQUIREMENTS

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3.4 Load Tests for Wall-Mounted Fixtures

3.4.1 Load Test for Urinals.

All wall-mounted, non- water urinals shall withstand a load of 50 lbf (0.22 kN) when tested in accordance with para. 5.6.

3.4.2 Off-the-Floor Fixture Supports.

Fixture sup- ports, when required, shall comply with ASME A112.6.1M, or ASME A112.6.2, ~~or ASME A112.19.12.~~

3.5 Tolerances and Dimensions

For tolerance ~~and dimension~~ information, reference ASME A112.19.2 /CSA B45.1, para. ~~3.14.1.2.~~

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5 VITREOUS CHINA AND ALTERNATE MATERIALS TESTS

5.1 Absorption (Boiling) Test

For absorption (boiling) test criteria, reference ASME A112.19.2, ~~para. 7.1~~ /CSA B45.1, para. 6.1.

5.2 Crazeing Test

For crazeing test criteria, reference ASME A112.19.2, ~~para. 7.2~~ /CSA B45.1, para. 6.2.

5.3 Warpage Test

For warpage test criteria, reference ASME A112.19.2, ~~para. 7.3~~ /CSA B45.1, para. 6.4 (see also para. 2.4).

5.4 Evaluation of Surface Finish

For surface finish criteria, reference ASME A112.19.2, ~~para. 7.4~~ /CSA B45.1, para. 6.3 (see also para. 2.6).

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5.7 Joint Seal Test

The joint between the nonstandard outlet configuration and drainage system shall be made in accordance with the manufacturer's instructions and subjected to a hydrostatic pressure of ~~15 psig (105 kPa gage)~~ 5.0 psig ± 0.5 psig (34.5 kPa ± 3.4 kPa) gage for a period of 15 min. There shall be no evidence of leakage.

6 URINAL TESTS

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6.6 Testing of Urinals with an optional drain-cleansing action



6.6.1 Drain-Cleansing Action

Drain-cleansing urinals shall be capable of conducting the drain-cleansing action by periodically emitting a cleansing volume of water not to exceed 1.6 L gal (6.0 L) per day. The volume of water discharged through the drain-cleansing system shall be at least 0.13 gal (0.5 L) at any one drain-cleansing action.

6.6.2 Backflow Protection.

A device that complies with one of the following standards shall be accessible and installed upstream of the exit of the drain-cleansing system in order to protect the potable water supply: ASME A112.1.3, CSA B64.1.4, ASSE 1001, ASSE 1011, ASSE 1018, ASSE 1044, ASSE 1052, or ASSE 1056.

6.6.3 Trap Seal Restoration Test

This test shall be conducted before and after the life cycle test as follows:

(a) activate the drain-cleansing system and allow it to complete its cleansing cycle

(b) measure the trap seal depth of the drain-cleansing system trap

(c) measure the trap seal depth of the urinal trap

(d) perform the process in (a) through (d) ten times to obtain ten sets of measurements

6.6.3.1 Performance Requirement.

The drain cleansing system trap and the urinal trap shall be restored to at least 2 in. (51 mm) after each cycle and shall not be affected by the drain-cleansing system operation.

6.6.4 Drain-Cleansing System Hydrostatic Pressure Test

The drain-cleansing system valve shall be subjected to a hydrostatic pressure of 125 psi (860 kPa) for 5 min with the valve closed and shall have no leakage from the valve.

6.6.5 Drain-Cleansing Life Cycle Test

6.6.5.1 Connect the drain-cleansing system to the water supply at a temperature of 50°F ± 10°F (10°C ± 6°C) through the test specimen at the manufacturer's specified minimum flow rate and in accordance with the manufacturer's installation instructions.

6.6.5.2 Activate the drain-cleansing action valve on and off for 10,000 cycles.

6.6.5.3 Repeat the drain-cleansing system hydrostatic pressure test in Section 6.6.4.

6.6.5.4 In the performance requirement, the volume of water discharged through the drain-cleansing system shall be at least 0.13 gal (0.5 L), ±5% before and after the test. There shall be no leakage or failure of the drain-cleansing system.

6.6.6 Burst Pressure Test for the Drain-Cleansing System

6.6.6.1 Test Procedure

The valve of the drain cleansing system shall be subjected to a hydrostatic pressure of 500 psi (3 450 kPa) for 1 min, with the valve closed.



6.6.6.2 Performance Requirement

There shall be no leakage, permanent distortion, or failure of the pressure envelope.