



**Summary of Substantive Changes  
between the 2004 and 2015 editions of  
ASSE 1044, Performance Requirements for Trap Seal Primer – Drainage Types  
and Electric Design Types**

**Presented to the IAPMO Standards Review Committee on August 11, 2015**

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

- Added a requirement that the connection to a flushometer shall be chrome plated copper, brass or stainless steel (see Section 1.2.4).
- Increased the required working pressure requirements for ballcock, flushometer valve and fixture tailpiece devices from 25 to 125 psi (see Section 1.2.6).
- Moved the requirement for the lead content of solder to Section 4.1.1 and added a requirement for compliance of solder connection fittings with specific referenced standards (see Section 1.2.7).
- Added an additional requirement for ballcock trap seal primers to be used with ASSE 1002 compliant fill valves (see Section 1.2.9).
- Clarified the wall thickness of the flushometer tailpiece primers and added an additional requirement for flushometer trap seal primers to be used with ASSE 1037 compliant flushometer (see Section 1.2.10).
- Removed the requirement for using ASTM B88 copper tube and added a requirement for compliance of electric trap priming assemblies with UL 1951 (see Section 1.2.11).
- The referenced standards were changed, revised and updated (see Section 1.3).
- Removed the requirement for hydrostatic testing of Ballcock and Flushometer type seal primers and revised the procedure for conducting the test for Electric type seal primers (see Section 3.1).
- Added a time component of 1 minute and specified that five tests shall be run for the verification of manufacturer's performance rating (see Section 3.2).
- Changed the procedure for the cycle test for electric trap seal primers from specifying an on cycle of 6 s to allowing the "on" time to be defined by the manufacturer (see Section 3.3).
- Removed the requirement for elastomers and polymers to comply with CFR, title 21, 177.2600 or be certified non-toxic moved the limitation of 0.2% lead content in solder from Section 1.2.7 and included the requirement for fluxes used in components that will be in contact with potable water (see Section 4.1).
- Removed the allowance of marking the body of the trap seal primer with the marketer's name or trademark as a means of compliance with the marking requirements (see Section 4.3)



Section 1.2.4, Flushometer Connected Type: Added a requirement that the connection be chrome plated copper, brass or stainless steel as follows:

*Makeup type water supply connections shall be a minimum of 3/8" NPS (10 DN) nominal size of chrome-plated copper, brass or stainless steel.*

1.2.6 Working Pressure: Increased the required working pressure requirements for ballcock, flushometer valve and fixture tailpiece devices from 25 to 125 psi as follows:

*~~Devices-Pressurized trap seal primers~~ shall be designed for ~~water working pressure of 172 kPa (25 psi) for ballcock, flushometer valve or fixture tailpiece devices and 862 kPa (125 psi) for electronic units~~ working water pressure range of 25.0 to 125.0 psi (172 to 861.8 kPa).*

Section 1.2.7, Connections: Moved the requirement for the lead content of solder and flux joints to Section 4.1.1 and added the requirement for compliance of solder connection fittings with the specific referenced standards as follows:

*1.2.7.4 ~~Soldered Joints~~*

*~~Soldered joints on assemblies which connect to potable water piping shall be made with solder and fluxes not to exceed 0.2% lead.~~*

*~~1.2.7.5 Other type connections shall conform to appropriate standards.~~ Solder connection fittings shall comply with ASME B16.18, ASME B16.22, ASME B16.23 or ASME B16.29.*

Section 1.2.9, Ballcock Trap Seal Primers: Added an additional requirement for ballcock trap seal primers to be used with ASSE 1002 compliant fill valves as follows:

*1.2.9.1 Ballcock Trap Seal Primer shall be used in conjunction with Anti-Siphon Fill Valves complying with ASSE 1002.*

Section 1.2.10, Flushometer Tailpiece/Trap Seal Primers: Clarified the wall thickness of the flushometer tailpiece primers and added an additional requirement for flushometer trap seal presents to be used with ASSE 1037 compliant flushometer as follows:

*1.2.10 Flushometer Tailpiece/Trap Seal Primers ~~Devices~~*

*Flushometer tailpiece/trap ~~seal primers~~ devices shall ~~consist of~~ be chrome-plated ~~supply tube of not less than 17 gauge complying with ANSI/ASME A112.18.1M, and fitted~~ with minimum tailpiece wall thickness of 0.040 inch (1.0 mm) with a minimum 3/8" OD 3/8" inch (9.5 mm) outside diameter compression type chrome plated brass fitting ~~brazed to the tailpiece~~. Compression fittings shall comply with ~~ANSI/SAE J512~~.*

*1.2.10.1 Flushometer Tailpiece/Trap Seal Primer Use*

*Flushometer tailpiece/trap seal primers shall only be used in conjunction with a flushometer complying with ASSE 1037 and shall be installed below the critical level of the vacuum breaker.*



Section 1.2.11, Electric Trap Seal Primers: Removed the requirement for using ASTM B88 copper tube and added a requirement for compliance of electric trap priming assemblies with UL 1951 as follows:

~~1.2.11 Electronic Devices~~

~~1.2.11.1 Tubing~~

~~Tubing shall comply with ASTM B88 and shall be minimum of Type "L".~~

~~1.2.11.2 .11.12.1~~ Electric Trap Priming Assembly

Electric trap priming assemblies shall comply with one or more of the following standards:

~~a) Standard for Motor-Operated Appliances, UL-73,~~

~~b) Standard for Motor-Operated Appliances, CAN/CSA-C22.2 No. 68.~~

a) UL 1951, Standard for Electric Plumbing Accessories

b) CSA-C22.2 No. 68, Motor-Operated Appliances (Household and Commercial)

Section 1.3, Reference Standards: The referenced standards were changed, revised and updated as follows:

~~ASME/ANSI A112.1.2 Air Gaps for Plumbing System~~

ASME A112.1.2-2012, Air Gaps in Plumbing Systems (For Plumbing Fixtures and Water-Connected Receptors)

~~ASME/ANSI A112.18.1 Plumbing Fixture Fittings~~

~~ASME/ANSI B1.20.1 Pipe Threads~~

ASME B1.20.1-2013, Pipe Threads, General Purpose (Inch)

ASME B1.20.3-1976 (R2013), Dryseal Pipe Threads (Inch)

ASME B16.18-2012, Cast Copper Alloy Solder Joint Pressure Fittings

ASME B16.22-2013, Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings

ASME B16.23-2011, Cast Copper Alloy Solder Joint Drainage Fittings: DWV

ASME B16.29-2012, Wrought Copper and Wrought Copper Alloy Solder-Joint Drainage Fittings - DWV

~~ANSI/ASSE 1001- Pipe Applied Vacuum Breakers~~

ASSE 1001-2008, Performance Requirements for Atmospheric Type Vacuum Breakers

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ASSE 1002-2008, Performance Requirements for Anti-Siphon Fill Valves for Water Closet Tanks

ASSE 1037-1990, Performance Requirements for Pressurized Flushing Devices (Flushometers) for Plumbing Fixtures

~~ASTM B88 – Seamless Copper Tube~~

~~CAN/CSA C22.2 #68 Standard for Motor Operated Appliances~~

CSA 22.2 No. 68-09 (R2014), Motor-Operated Appliances (Household and Commercial)

~~ANSI/SAE J512- Automotive Tube Fittings~~

SAE J512-1997, Automotive Tube Fittings

~~UL 73 Standard for Motor-Operated Appliances~~

UL 1951-2014, Standard for Electric Plumbing Accessories



Section 3.1, Hydrostatic Test for Electric Type: Removed the requirement for hydrostatic testing of Ballcock and Flushometer type seal primers and revised the procedure for conducting the test for Electric type seal primers as follows:

### ~~3.1 Hydrostatic Test for Ballcock, Flushometer and Fixture Tailpiece Devices~~

#### ~~3.1.1 Purpose~~

~~The purpose of this test is to evaluate low-pressure devices for hydrostatic integrity.~~

#### ~~3.1.2 Procedures~~

~~A test pressure of 172 kPa (25 psi) or two (2) times the working pressure, whichever is greater, shall be applied to all parts of the device exposed to the drainline pressure. Pressure shall be held for five (5) minutes and observations made for leaks and other indication of damage.~~

#### ~~3.1.3 Criteria~~

~~Any indication of external leaks or other damage shall result in a rejection of the device.~~

### ~~3.2 Electronic Devices~~

#### 3.1 Hydrostatic Test for Electric Type

##### ~~3.2.1~~ 3.1.1 Purpose

The purpose of this test is to evaluate high-pressure ~~devices~~ trap seal primers for hydrostatic integrity.

##### ~~3.2.2~~ 3.1.2 Procedure

The ~~device~~ trap seal primer shall be connected to a water source ~~which that~~ is capable of achieving ~~862 kPa (125 psi)~~ 125.0 psi (861.8 kPa), or two (2) times the manufacturer's maximum rated working pressure, whichever is greater. Circulate water through the trap seal primer to purge the air. All outlets from the trap seal primer shall be sealed (the manufacturer shall be permitted to provide components to facilitate sealing of the outlets). The ~~device~~ trap seal primer shall be pressurized to ~~862 kPa (125 psi)~~, 125.0 psi (861.8 kPa) or two (2) times the manufacturer's maximum rated working pressure, whichever is greater, for a period of five (5) minutes. ~~All outlets from the device shall be sealed. (The manufacturer shall be permitted to provide components to facilitate sealing of the outlets.)~~

##### ~~3.2.3~~ 3.1.3 Criteria

Any indication of external ~~leaks or other damage~~ leakage shall result in a rejection of the ~~device~~ trap seal primer.

Section 3.2, Verification of Manufacturer's Performance Rating: Added a time component of 1 minute and specified the number of tests to run for the verification of manufacturer's performance rating test as follows:

### ~~3.3~~ 3.2 Verification of Manufacturer's Performance Rating

#### ~~3.3.2.1~~ 3.2.2.1 Procedure for Fixture ~~Drain Devices~~ Tailpiece Trap Seal Primer

The manufacturer shall specify the discharge rates over a period of 1 minute through the primer line for faucet flow rates of ~~1.9 L/m (0.5 GPM) and 9.5 L/m (2.5 GPM) faucets at 137.9 kPa (20 psi)~~ 0.5 GPM (1.9 L/min) and 2.5 GPM (9.5 L/min) at 20.0 psi (138 kPa) pressure. Five (5) tests shall be run for a period of 1 minute each using faucets with flow rates of 1.9 L/m (0.5 GPM) to 9.5 L/m (2.5 GPM) at a pressure of 137.9 kPa (20 psi) a faucet with a flow rate of 0.5 GPM (1.9 L/min) at a pressure of 20.0 psi (138 kPa). A grid strainer shall be installed upstream of the primer device. ~~The ratings obtained by test shall be recorded on test data sheets for the record.~~ The volume of water collected by each test shall be recorded.



Section 3.3, Cycle Test for Electric Trap Seal Primer: Changed the procedure for the cycle test for electric trap seal primers from specifying an on cycle of 6 s to allowing the “on” time to be defined by the manufacturer as follows:

### ~~3.4.3.3~~ Cycle Test for ~~Electronic Devices~~ Electric Trap Seal Primer

#### ~~3.4.13.3.1~~ Purpose

~~The purpose of this test is to determine the any deterioration of performance of the device with the application of performance tested upon completion of five thousand (5,000) cycles..~~

#### ~~3.4.23.3.2~~ Procedure

~~The device trap primer seal shall be installed per manufacturer’s instructions. A water supply shall be connected to the inlet of the device and shall be pressurized to 345 kPa (50 psi) 50.0 psi (345 kPa). A method shall be employed to activate the device trap seal primer for a period of five thousand (5,000) cycles. Each cycle shall consist of six (6) seconds on and five (5) the manufacturer’s “on” cycle time, then 5 seconds off.~~

Section 4.1, Materials: Removed the requirement for elastomers and polymers to comply with CFR, title 21, 177.2600 or be certified non-toxic moved the limitation of 0.2% lead content in solder from Section 1.2.7 and included the requirement for fluxes used in components that will be in contact with potable water as follows:

### 4.1 Materials

#### ~~4.1.1 Materials~~

~~Materials used in the device shall meet the performance requirements of the standard.~~

#### ~~4.1.2 General Requirement~~

~~Materials shall be durable and capable of withstanding stresses and wear during installation and operation.~~

#### ~~4.1.2.1 Compliance and Certification~~

~~All elastomers and polymers in contact with the water shall have characteristics that comply with the United States Code of Federal Regulations (CFR), title 21, 177.2600, or shall be certified as non-toxic by an independent approved laboratory.~~

#### 4.1.1 Solder and Fluxes

Solder and fluxes containing lead in excess of 0.2% shall not be used in contact with potable water.

#### ~~4.1.34.1.2~~ Corrosion of Interior Parts

~~All metal parts (except springs) in contact with the water shall have a corrosion resistance at least equal to a copper alloy of not less than fifty-eight percent (58%) copper.~~

#### ~~4.1.44.1.3~~ Springs

~~Springs in contact with the water shall have a corrosion resistance at least equal to 300-series stainless steel, Series 300.~~

#### ~~4.1.54.1.4~~ Elastomeric Parts

~~Diaphragms, valve discs, seating facings or other flexible non-metallic parts shall be designed for continuous exposure to water at the manufacturer’s maximum rated operating temperature of the device trap seal primer without change in physical characteristics which that would prevent full compliance with all requirements of this standard.~~



Section 4.3 Markings: Removed the allowance of marking the body of the trap seal primer with the marketer's name or trademark as a means of compliance with the marking requirements as follows:

*4.3 Markings*

*Markings shall be a permanently affixed label, or shall be stamped or cast on the body of the ~~device~~ [trap seal primer](#) with the following information:*

- a) Manufacturer's ~~or marketer's~~ name or trademark; and*
- b) Model number or other identification mark.*