

Internal Use Only

INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

STANDARD FOR

WATER SEAL TOILETS FOR USE IN RECREATIONAL VEHICLES

IAPMO TS 24-2009

1. PURPOSE

- 1.1** The purpose of this Standard is to establish a generally acceptable quality standard for water seal toilets for use in recreational vehicles. Its purpose is also to serve as a guide for producers, distributors, designers, engineers, installers, inspectors, enforcement agencies and users; to promote understanding regarding materials, manufacture and installation; and to provide for identifying water seal toilets that conform to this Standard. The provisions of this Standard are not intended to prevent the use of any alternate material, method of construction or performance, provided such alternate meets the intent of this Standard.

2. SCOPE

- 2.1** This Standard covers physical requirements and tests for materials, components, proper design, operation and other significant proper ties of construction and finish, and provisions for proper installation of the finished product, together with methods of marking and identification.
- 2.2** The water seal toilets, covered by this Standard, are those units which are connected to both the potable water system, and the sanitary drainage system, and intended for use in recreational vehicles when installed in accordance with applicable code requirements.

3. BASIC REQUIREMENTS

- 3.1** **Materials.** All vitreous china components shall conform to grading and dimensional requirements of ASME A112.19.2/CSA B45.1 except as to size.
- 3.2** All component parts shall be of corrosion resistant material.

4. DETAILED REQUIREMENTS (PHYSICAL PROPERTIES OF THE MATERIAL)

- 4.1** **Outlet Construction.** Waste outlet and passages shall be of sufficient size to pass a 2- 3/4" minimum ball and shall have smooth impervious surfaces, and shall be free of obstructions, recesses or chambers that would permit fouling or

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shall comply with the requirements in ASME A112.19.2/CSA B45.1 except Sections 7.8 through 7.8.5.

- 4.1.1 Fixture Mounting.** The fixture base or the fixture mounting area shall be designed to assure a water and gas tight waste connection or shall comply with the requirements in ASME A112.19.2/CSA B45.1.
- 4.2 Flushing.** The flushing mechanism shall be designed to assure proper and adequate cleansing of interior surfaces during the full flushing cycle at minimum operating flow rate or shall comply with the requirements in ASME A112.19.2/CSA B45.1.
 - 4.2.1** Refill shall replace a minimum of 2" of water seal depth in the bowl to maintain a gas tight seal.
 - 4.2.2** Flushing and refilling shall be accomplished by a single control which does not require any special knowledge or effort to operate.
- 4.3** When a toilet is equipped with a Water seal mechanism, it shall withdraw completely from the path of the waste discharge during flushing operation.
- 4.4** The water flushing mechanism and all component parts shall be accessible for adjustment, repair or replacement.
- 4.5 Water Supply.** Each water seal toilet shall be equipped with a listed backflow preventer or shall comply with the requirements in ASME A112.19.2/CSA B45.1 for pressurized flushing devices. The backflow preventer shall be mounted with the critical level (C-L) or C/L marking at least one (1) inch above the flood level rim of the fixture.
- 4.6** Vacuum breakers shall be installed on the discharge side of the last control valve in the supply line and shall be located so as to be protected from physical damage and contamination.

5. INSPECTION AND TEST METHODS

- 5.1** Inspection and testing of vitreous china components shall conform to such requirements as specified in ASME A112.19.2/CSA B45.1.
- 5.2** Plastic material components shall conform to testing as specified in IAPMO/ANSI Z124.4.
- 5.3** Backflow preventers shall be tested when mounted on the specified model toilet in accordance with requirements specified in ASSE 1001.
 - 5.3.1** The allowable water rise under Test Procedures, IV C, shall be less than one-half the vertical distance between the flood level rim of the fixture and the critical level C/L of the vacuum breaker.