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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

IAPMO GUIDE CRITERIA FOR COMBINATION FILL VALVE AND HYDRAULIC ACTUATED FLUSH VALVE FOR GRAVITY TYPE WATER CLOSETS

IGC 181-2009

1. PURPOSE

- 1.1** The purpose of this standard is to establish a generally acceptable standard for combination fill valve and hydraulic actuated flush valve for gravity type water closets. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, installers, inspectors and users; to promote understanding regarding materials, manufacture and installation; and to provide for identifying combination fill valve and hydraulic flush valve for installation in gravity type water closets.
- 1.2** The provisions of this standard are not intended to prevent the use of any alternate material or method of construction provided any such alternate meets the intent of this standard.

2. SCOPE

- 2.1** This standard includes reference standards, definitions, material requirements, performance requirements, dimensions, identification, and marking for combination fill valve and hydraulic actuated flush valve for gravity type water closets.

3. REFERENCE STANDARDS

- 3.1** All standards referenced here shall be the current edition of that standard as published in Table 14.1 of the Uniform Plumbing Code.
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| ASSE 1002 | Anti-siphon Fill Valves (Ballcocks) for Gravity Water Closet Flush Tanks |
| ASME A112.19.5 | Trim for Water-Closet Bowls, Tanks and Urinals |
| IAPMO PS 50 | Flush Valves with Dual Flush Device or Water Closet Tanks with an Integral Flush Valves with a dual Flush Device |

4. DEFINITIONS

- 4.1** Combination fill valve and hydraulic actuated flush valve for gravity type water closets shall consist of a ballcock or fill valve, flush valve and an actuator valve with tube connection assemblies.

5. MATERIAL REQUIREMENTS

- 5.1** Metal alloys contact with potable water shall not exceed 8% lead content. Solder and fluxes in contact with potable water containing lead in excess of 0.2% shall not be used.

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6. PERFORMANCE REQUIREMENTS

- 6.1** The fill valve shall meet the applicable performance requirements of ASSE 1002.
- 6.2** The flush valve shall meet the applicable performance requirements of ASME A112.19.5. Flush valve with a dual flush device shall comply with applicable requirements in IAPMO PS 50.
- 6.3** The actuator valve and plastic tube connection assemblies shall pressure tested and life cycle tested together with the fill valve.

The actuator valve with its own backflow prevention device shall meet sections 3.3 and 3.6 of ASSE 1002. The device could be tested separately or connected to the fill valve and tested at the same time.

7. DIMENSIONS AND TOLERANCES

- 7.1** Fill valves shall comply with the dimensions and tolerances shown in ASSE 1002.
- 7.2** Flush valve shall comply with the applicable dimensional or testing (for alternate dimensions) requirements of ASME A112.19.5.
- 7.3** The critical level (CL) mark on the fill valve shall be at least 1 inch above the flush tank overflow.

8. MARKINGS, IDENTIFICATION, AND INSTALLATION INSTRUCTIONS

- 8.1** Ballcock/fill valve shall be marked in accordance with Section 4.2 of ASSE 1002.
- 8.2** Flush valve shall be marked in accordance with Section 6 of ASME A112.19.5.
- 8.3** Installation instructions shall be provided with the unit. Installation instructions shall identify:
 - a) The instructions shall identify the requirements for proper installation of the product in accordance with the plumbing codes and applicable standards.
 - b) The actuator valve with integral backflow prevention must be installed with its critical level marking at least 1 inch above the top of the overflow opening in the water closet tank.

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