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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

IAPMO GUIDE CRITERIA FOR

DIVERTER VALVE FOR RAINWATER TANK

IAPMO IGC 250-2007

1. PURPOSE

- 1.1** The purpose of this standard is to establish generally acceptable guidelines for a diverter valve for rainwater tanks. 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 diverter valves for rainwater tanks complying with this standard.
- 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 and requirements of this document and changes are amended to this standard.

2. SCOPE

- 2.1** This standard covers requirements for diverter valves for rainwater tanks. This standard covers physical requirements and other significant properties, in addition to methods of marking and identification.

3. REFERENCED STANDARDS

- 3.1** All standards referenced herein shall be the current edition of that standard.
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| ASSE 1013 | Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers |
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4. GENERAL REQUIREMENTS

- 4.1 Materials.** Housing material shall be thermoplastic or other approved materials.
- 4.2 Electrical.** Electrical components including float switch shall comply with the applicable CSA or UL standards.
- 4.3 Working Pressure.** The valve shall be rated for a working pressure of 125 psi (860 kPa).

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- 4.4 Inlet/Outlet Size.** Each connection shall be the proper size to be permanently attached and connections to other pipe materials shall comply with other applicable standards.
- 4.4.1** The inlet port shall be clearly marked and there shall be a means of determining the position of the diverter when the valve is in operation.
- 4.5 Working Temperature.** The working temperature range shall be 40°F – 160°F (4.4°C - 71.1°C).
- 4.6** All potable water supplies shall be provided with appropriate backflow protection. Valves used in pressure system shall be installed after a reduced pressure backflow prevention device that complies with ASSE 1013.
- 4.7** When pump is supplied, the pump shall comply with applicable CSA or UL standard.
- 4.8** Installation instructions shall include language for proper installation, coloring of pipe, location of backflow devices and other applicable requirements in accordance with Chapter 16 of the Uniform Plumbing Code.

5. TESTING REQUIREMENTS

- 5.1 Leakage Test.** All ports of the valve shall be plugged air tight. Through one of the ports, the internal chamber of the valve shall be pressurized and maintained at 125 psi (860 kPa) for 30 minutes. Any sign of leakage shall be cause for rejection.
- 5.2 Operation Tests.** Install valve per manufacturer's installation instructions to a water closet. The valve shall function properly under all of the following scenarios:
- 5.2.1 Rainwater Tank Completely Full Test.** With the rainwater tank completely filled and the supply of potable water closed, flush the water closet and allow the tank to refill. This constitutes one cycle. Repeat process for 500 times and observe for:
1. Any signs of leakage or cracks within the valve;
 2. Signs of breaching between rainwater and potable water;
 3. Disturbance in valve backflow prevention mechanism;
 4. Any signs of potable water flowing through device into rainwater tank causing it to tank to overflow;
 5. Pump not shutting off after tank is filled; and
 6. Incomplete cycle.
- 5.2.2 Rainwater Tank Half Full Test.** With the rainwater tank half filled and the supply of potable water open, flush the water closet and allow the tank to refill with using a mixture of potable water and water from rainwater tank. This constitutes one cycle. Repeat process for 500 times and observe for:
1. Any signs of leakage or cracks within the valve;
 2. Signs of breaching between rainwater and potable water;
 3. Disturbance in valve backflow prevention mechanism; and
 4. Any signs of potable water flowing through device into rainwater tank causing it to tank to overflow;

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