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INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

IAPMO GUIDE CRITERIA FOR

PVC VALVE WITH INTEGRAL BALL AND SPRING-CHECK OR SWING-CHECK FEATURES

IAPMO IGC 232- 2006

1. PURPOSE

- 1.1** The purpose of this standard is to establish an acceptable standard for PVC valve with integral ball and spring-check or swing-check features for use in potable water systems or waste water systems. 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 a means for identifying valves with integral quarter-turn and spring-check or swing-check features that comply 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 materials, testing, dimensional, and performance requirements for PVC valves in sizes 1/8 through 4 (valve size equates to nominal pipe size in inches), with integral ball and spring-check or swing-check features.
- 2.2** PVC valves may only be used for water building supply distribution systems outside a building.

3. REFERENCED STANDARDS

- 3.1** All standards referenced herein shall be the current edition of that standard.

ASTM A 694	Carbon and Alloy Steel Forgings for Pipe Flanges, Fittings, Valves, and Parts for High-Pressure Transmission Service
ASTM A 959	Specifying Harmonized Standard Grade Compositions for Wrought Stainless Steels
ASTM D 1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and

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ASTM D 2464	Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D 2466	Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D 2467	Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM F 1498	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
CSA B137.3	Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings
NSF/ANSI 61	Rigid Polyvinyl Chloride (PVC) Pipe for Pressure Applications
	Drinking Water System Components – Health Effects

4. GENERAL REQUIREMENTS

- 4.1 PVC.** Virgin PVC plastic compound used to make valve bodies or components shall meet or exceed the requirements of Class 12454 or 14333 as defined in ASTM D 1784 and CSA B137.3.
- 4.1.1** Clean rework plastic generated from the manufacturer's own valve production and conforming to the cell requirements may be used provided that the valves produced meet all the requirements of this standard.
- 4.2 Valve Working Parts.** All valve working parts including ball, seals, packing and o-rings, shall be made from corrosion resistant materials complying with the following:
- 4.2.1 Copper Alloys.** Copper alloys used to make the components shall contain a minimum 58% copper content and maximum 8% lead content.
- 4.2.2 Stainless Steel.** Stainless steel alloys used to make the components shall meet or exceed the requirements of ASTM A 959 Alloy S30400, S30403, S31600, or S31603.
- 4.2.3 Steel.** Carbon steel and steel alloys used to the components shall meet or exceed the requirements of ASTM A 694.
- 4.2.4 Seals.** O-ring seals and gaskets shall be of such design and quality to assure leak-proof joints and be capable of providing satisfactory field service. All joints shall provide for external leak tightness up to the minimum burst pressure of the valves.
- 4.3 Working Pressure.** The valve shall be designed to function at working pressures up to 125 psi (862 kPa) or per manufacturer's specification, whichever is greater.
- 4.3.1 Sealing.** The ball valves shall be designed for uni-directional, drip-tight sealing capability at any pressure up to the full rated working pressure of the valve.