

Internal Use Only

INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

MATERIAL AND PROPERTY STANDARD

FOR

ELECTRONIC CONTROLLED SHOWERS

IAPMO PS 71-2002

1. PURPOSE

- 1.1** The purpose of this standard is to establish a generally acceptable standard for electronically controlled showers. Its purpose is to serve as a guide for producers, distributors, architects, engineers, contractors, installers, inspectors and users; to promote understanding regarding design, materials, manufacture and the installation; and to provide for identifying electronic showers that conform to 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 of the standard.

2. SCOPE

- 2.1** The provisions of this standard are to allow for the incorporation of electronic components with conventional shower valves, showerheads, piping and other accessories associated with shower units.

3. REFERENCED DOCUMENTS

- 3.1** All standards referenced herein shall be the current edition of that standard as published in Table 14-1 of the Uniform Plumbing Code.

ASME A112.18.1	Plumbing Fixture Fittings
ASSE 1014	Hand-Held Showers
SAE J246	Fittings, Spherical and Flanged Sleeve (Compression) Tube
UL 73	Motor-Operated Appliances
NSF 61	Drinking Water System Components - Health Effects

4. GENERAL REQUIREMENTS

- 4.1 Materials.** The materials incorporated in the components of the electronic shower shall be

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made of suitable copper alloys or plastics or other acceptable materials for plumbing devices or in accordance with the nationally recognized standard referenced in this standard. All materials having contact with potable water shall be suited for such use and be manufactured in accordance with the manufacturer's specifications.

- 4.2 Shower Control Valve.** The shower control valve shall be an individual thermostatic or pressure balance type and comply with ASME A112.18.1M. The shower control valve shall also be listed by IAPMO as a separate control valve and be properly identified with the UPC certification mark.
- 4.3 Showerheads, Sheet-Flows or Body Sprays.** The showerhead(s), sheet-flow(s) or body spray(s) shall comply with ASME A112.18.1M with the exception of maximum flow rates. The maximum flow rates of the showerhead, sheet-flow or body spray individually shall not exceed two and one-half (2.5) gpm (9.5 liters) at eighty (80) psi (552 KPa).
- 4.4 Electrical Controlled Valves.** The valves, valve bodies, electrical motors or solenoids shall be designed and manufactured to be in compliance with Section 3.1 of this standard, ASME A112.18.1M and UL 73, which ever is appropriate.
- 4.5 Flexible Hoses.** The flexible hoses in the electronic shower unit on the non-pressure side of the shower valve shall meet the hydrostatic and pull-out force requirements of ASSE 1014, Section 2.1.3 and NSF 61. When compression fittings are used in conjunction with flexible hoses, they shall conform to SAE J246. When flexible hoses are used on the pressure side or supply side of the shower control valve, they shall be listed for use as a fixture supply.

5. SPECIFIC REQUIREMENTS

- 5.1 Showerheads.** The showerhead shall remain in the flow mode when all other features, such as sheet flows or other accessories are in the off mode. In the event of a loss of electrical power or if the power is deliberately disconnected or shut off, the shower mode shall remain in the flow position.
- 5.2 Backflow Protection.** Submerged spouts, hand held showers or other water inlets shall be protected from backflow and/or back-siphonage with the use of a listed vacuum breaker or backflow preventer.
- 5.3 Accessibility.** Electrical and plumbing of the shower unit shall be accessible. A locking mechanism shall be provided and shall be in compliance with UL 73. When located inside the shower unit, the access door or panel shall be water tight to prevent water from entering the unit during operation.
- 5.4 Drainage.** The electronic shower control valves and related down stream piping shall be designed and manufactured to provide drainage to the shower interior in the event of a failure of the units internal plumbing.