Circulation System Components
and Related Materials
for Swimming Pools Spas, and Hot Tubs

1.5 Normative references

The following documents contain provisions that, through reference in this text, constitute provisions of this Standard. At the time of publication, the indicated editions were valid. All standards are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the standards indicated below.

ASME, *Boiler and Pressure Vessel Code*, 2004


ANSI/ASME B 40.100 – 2000. *Pressure Gauge and Gauge Attachments*


ASTM D 3739-05. *Standard Practice for Calculation and Adjustment of the Langelier Saturation Index for Reverse Osmosis*


IAPMO, PS-33-2004. *Flexible PVC Hose for Pools, Hot Tubs, Spa, and Jetted Bathtubs*

NFPA 70, 2005. *National Electrical Code (NEC)*

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1 ASME, 3 Park Avenue, New York, NY 10016-5990
2 American Public Health Association, 800 I Street NW, Washington, DC 2000
3 ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2859
4 USFDA, 5600 Fishers Lane, Rockville, MD 20857
5 IAPMO, 5001 E. Philadelphia St. Ontario, CA 91761
6 National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02269
4 Design and construction

This section contains general requirements that apply to all equipment covered under the scope of this Standard.

4.1 Mechanical parts

4.1.1 Installation of piping, valves, and fittings

If circulation system components are not supplied with the required piping, valves, and fittings installed, the manufacturer shall provide a piping diagram, a parts list, and installation procedures.

4.1.2 Assembly

Piping assemblies shall be capable of being disassembled for maintenance and repair.

4.1.3 Closing and sealing devices

Mechanical clamps, gaskets, and sealing devices shall not leak when subjected to the applicable pressure requirements.

4.1.4 Suction fittings

Suction fittings that are designed to be totally submerged for use in swimming pools and spa / hot tubs shall conform to ANSI/ASME A112.19.

4.1.5 PVC Hose

Helix or fabric reinforced flexible PVC hose for use on circulation piping in pools, hot tubs, spas, and jetted bathtub units shall conform to IAPMO PS-33, as well as to the material requirements of 3 of this Standard.

4.1.6 Recreational Water Structure Covers

Recreational water structure covers shall comply with ASTM F1346, as well as the material requirements of section 3 of this Standard.

4.2 Electrical components

Electrical components shall conform to the applicable requirements of the National Electrical Code (NEC).