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ANSI/APSP-16 2011

# American National Standard for Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs

Approved February 17, 2011





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American National Standard for Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs

# **SECRETARIAT:**

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Approved February 17, 2011

American National Standards Institute

# **American National Standard**

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# **Foreword**

This Foreword is not part of the American National Standard ANSI/APSP-16 2011. It is included for information only.

The ANSI/APSP-16 2011, Standard for Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, was approved by ANSI February 17, 2011, as a new standard.

The objective of this voluntary standard is to provide recommended minimum guidelines for testing and marking requirements for suction fittings that are designed for use on totally submerged suction outlets in swimming pools, wading pools, spas, and hot tubs, as well as other aquatic facilities. It is intended to meet the needs for incorporation into national or regional building codes, and also for adoption by federal, state, and/or local governments, and/or as a local code or ordinance. It is understood that for the sake of applicability and enforceability, the style and format of the standard may need adjustment to meet code or ordinance style of the jurisdiction adopting this document.

The APSP does not certify, test or endorse any product.

The recommendations and testing practices in this standard are based upon sound engineering principles, research, and field experience that, when applied properly, contribute to the delivery and installation of a safe product.

The words "safe" and "safety" are not absolutes. While the goals of this standard are to design and construct a safe, enjoyable product, it is recognized that risk factors cannot, as a practical matter, be reduced to zero in any human activity. This standard does not replace the need for good judgment and personal responsibility. In permitting use of the pool or spa by others, owners must consider the skill, attitude, training, and experience of the expected user.

As with any product, the specific recommendations for installation and use provided by the manufacturer should be carefully observed.

This standard was prepared by the APSP-16 Suction Fittings Standard Writing Committee of the Association of Pool and Spa Professionals (APSP) in accordance with American National Standards Institute (ANSI) Essential Requirements: Due process requirements for American National Standards.

Consensus approval was achieved by a ballot of the balanced APSP Standards Consensus Committee below and through an ANSI Public Review process. The ANSI Public Review provided an opportunity for additional input from industry, academia, regulatory agencies, safety experts, state code and health officials, and the public at large.

Suggestions for improvement of this standard should be sent to the Association of Pool and Spa Professionals, 2111 Eisenhower Avenue, Alexandria, VA 22314.

# **Organizations Represented**

Consensus approval in accordance with ANSI procedures was achieved by ballot of the following APSP Standards Consensus Committee. Inclusion in this list does not necessarily imply that the organization concurred with the submittal of the proposed standard to ANSI.

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In accordance with American National Standards Institute (ANSI) procedures, this document will be reviewed periodically. The Association of Pool & Spa Professionals welcomes your comments and suggestions, and continues to review all APSP standards, which include:

ANSI/APSP-1 2003 Standard for Public Swimming Pools

ANSI/APSP-2 1999 Standard for Public Spas

ANSI/APSP-3 1999 Standard for Permanently Installed Residential Spas

ANSI/APSP-4 1999 Standard for Aboveground/Onground Residential Swimming Pools

ANSI/APSP-5 2011 Standard for Residential Inground Swimming Pools

ANSI/APSP-6 1999 Standard for Residential Portable Spas

ANSI/APSP-7 2006 Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins

ANSI/APSP-8 1996 Model Barrier Code for Residential Swimming Pools, Spas and Hot Tubs

ANSI/APSP-9 2005 Standard for Aquatic Recreation Facilities

ANSI/APSP-11 2009 Standard for Water Quality in Public Pools and Spas

ANSI/APSP-14 2011 Standard for Portable Electric Spa Energy Efficiency

APSP-15 Standard for Pool and Spa Energy Efficiency (Draft)

ANSI/APSP -16 2011 Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs

APSP-17 Manufactured Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub, and Wading Pool Suction Systems (Draft)

APSP 2005 Workmanship Standards for Swimming Pools and Spas

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This is a preview of "ANSI/APSP 16-2011". Click here to purchase the full version from the ANSI store.

# **Suction Fittings For Use In Swimming Pools, Wading Pools, Spas, And Hot Tubs**

# 1 General

# 1.1 Scope

- **1.1.1 General Requirements.** This Standard establishes materials, testing, and marking requirements for suction fittings that are designed to be totally submerged for use in swimming pools, wading pools, spas, and hot tubs, as well as other aquatic facilities.
- **1.1.2 Definition.** Suction fittings shall be defined as all components, including the sump and/or body, cover/grate, and hardware.
- **1.1.3 Compliance.** Demonstration of compliance for this Standard is merely an indication that the product meets performance requirements and specifications contained in this Standard.
- **1.1.4 Revisions.** The provisions of this Standard shall not be construed to prevent the use of any alternate material or method of construction provided any such alternate meets the full intent of the standard.

# 1.1.5 Exclusions

- **1.1.5.1** Skimmers shall be excluded from evaluation to this Standard.
- **1.1.5.2** Vacuum connection covers shall be excluded from evaluation to this Standard.

# 1.1.6 Types of Suction Fittings

- **1.1.6.1 General.** A manufacturer or designer of any suction outlet cover/grate shall indicate under which Type the cover/grate is listed.
- 1.1.6.2 Field Fabricated Outlets. All non-manufactured suction outlets constructed in the field with individual components shall be considered as "Field Fabricated Outlets."
- **1.1.6.3 Venturi Outlets.** All venturi activated indirect-suction outlets or venturi activated debris collection systems shall be considered as "Venturi Outlets."
- 1.1.6.4 Swim Jet Combination Fittings. All swim jet combination fittings that combine suction and discharge into one housing, creating a high velocity, high volume stream of water to swim, jog, or walk against, as well as massage, shall be considered "Swim Jet Combination Fittings."
- **1.1.6.5** Submerged Suction Outlets. All other suction outlets for use in swimming pools, wading pools, spas, and hot tubs, as well as all other aquatic facilities, shall be considered as "Submerged Suction Outlets."

**1.1.6.6 Self-Contained Spa Fittings.** Suction outlet fittings used exclusively in self-contained factory manufactured spas shall be considered "Self-Contained Spa Fittings."

# 1.1.7 Single or Multiple Usage

- 1.1.7.1 Cover/grates that pass the body entrapment portion of this Standard as well as meeting all other requirements in this Standard shall be permanently marked "For Single or Multiple Outlet Use," "For Single Outlet Use," or "For Multiple Outlet Use Only" at the manufacturer's option.
- **1.1.7.2** Cover/grates that fail the body entrapment portion of this Standard or any other requirements of this Standard may not be certified under this Standard.

# 1.2 Related Standards

Since the scope of this Standard is directly related to suction fittings, it is important to mention that the fittings themselves represent only one portion of the suction entrapment scenario. Several other standards, including but not limited to, ANSI/APSP-1, -2, -3, -4, -5, -6, -8 and -9, as well as ASME A112.19.17, and ASTM F 2387-04, as outlined in para. 1.4, should be consulted to provide coverage for the various other aspects of this potential hazard in swimming pools, wading pools, spas, and hot tubs.

# 1.3 Units of Measurement

When values are stated in U.S. Customary units and in the International System of Units (SI), the values stated in U.S. Customary units shall be considered as the standard.

### 1.4 References

The following standards are referenced in this document. Unless otherwise specified, the latest edition shall apply.

ANSI/APSP-1, Standard for Public Swimming Pools

ANSI/APSP-2, Standard for Public Spas

ANSI/APSP-3, Standard for Permanently Installed Residential Spas

ANSI/APSP-4, Standard for Aboveground/Onground Residential Swimming Pools

ANSI/APSP-5, Standard for Residential Inground Swimming Pools

ANSI/APSP-6, Standard for Residential Portable Spas

ANSI/APSP-8, Model Barrier Code for Residential Swimming Pools, Spas, and Hot Tubs