

ASSE Standard #1061-2011

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American Society of Sanitary Engineering

Performance Requirements for
Push-Fit Fittings

An American National Standard

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American Society of Sanitary Engineering
Westlake, Ohio
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Foreword

This foreword shall not be considered a part of the standard; however, it is offered to provide background information.

ASSE standards are developed in the interest of consumer safety.

This standard was developed to establish the minimum performance requirements for push-fit fittings for an alternative method of connecting fittings with valves and tubing on potable water distribution systems and hydronic heat systems.

There are other applications for push-fit fittings, including compressed air systems and gas piping systems; however the performance requirements and tests in ASSE Standard #1061 were developed for fittings installed in potable water distribution systems and hydronic heat systems only.

Piping materials shall be installed in accordance with local codes and regulations.

Pressurized (compressed) air used for laboratory testing contains large amounts of stored energy, which presents serious safety hazards should a system fail for any reason. It is the responsibility of the user of this standard to establish appropriate safety requirements prior to performing any of the tests contained in this standard.

Recognition is made of the time and support of those who participated in the development of this standard.

This standard does not imply ASSE's endorsement of a product which conforms with these requirements.

Compliance with this standard does not imply acceptance by any code body.

It is recommended that these devices be installed consistent with local codes.

This standard was promulgated in accordance with procedures developed by the American Society of Sanitary Engineering and approved by the American National Standards Institute (ANSI).

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Push-Fit Fittings

Section I

1.0 General

1.1 Application

The purpose of this standard is to establish minimum performance requirements for push-fit fittings and push-fit connections that are integrated into plumbing devices (herein referred to as the "fitting"). The fittings described in this standard are intended for use in hot and cold potable water distribution and hydronic heating systems in residential and commercial applications.

1.2 Scope

1.2.1 Description

This standard applies to push-fit fittings that can be used with one or more of the following materials:

- 1) PEX tubing complying with ASTM F 876 or CSA B137.5.
- 2) Copper tubing hard drawn Type K, L and M and annealed Type M not to exceed $\frac{3}{8}$ " nominal, complying with ASTM B 88.
- 3) CPVC tubing complying with ASTM D 2846 or CSA B137.6.
- 4) PE-RT tubing complying with ASTM F 2769.

1.2.2 Size

These fittings shall have a nominal size not to exceed 2" CTS.

1.2.3 Minimum Pressure and Temperature Ratings

These fittings shall be designed for continuous water service up to and including 100.0 psi (689.5 kPa) at 180.0 °F (82.2 °C). Push-fit fittings are not intended to be used in temperature/pressure relief valve drain lines unless they are tested and rated for excessive conditions of 210.0 °F (98.9 °C) and 150.0 psi (1034.2 kPa) per ASME A112.4.1 or ASTM F 877.

1.3 Reference Standards

Reference to industry standards shall mean to the latest edition of these standards:

- ASME A112.4.1 – 2009, *Water Heater Relief Valve Drain Tubes*
- ASME B1.20.1 – 1983(R2001), *Pipe Threads, General Purpose, Inch*
- ASME B1.20.3 – 1976(R2006), *Dryseal Pipe Threads, Inch*
- ASME B16.18 – 2001(R2005), *Cast Copper Alloy Solder Joint Pressure Fittings*
- ASME B16.22 – 2001(R2005), *Wrought Copper and Copper Alloy Solder Joint Pressure Fittings*
- ASTM A 240 – *Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications*
- ASTM B 88 – 2009, *Standard Specification for Seamless Copper Water Tube*
- ASTM B 858 – 2006, *Standard Test Method for Ammonia Vapor Test for Determining Susceptibility to Stress Corrosion Cracking in Copper Alloys*