

This is a preview of "ASSE 1061-2020". Click here to purchase the full version from the ANSI store.

American National Standard
ASSE 1061-2020



Performance Requirements for
Push-Fit Fittings

ASSE Board Approved: July 2020
ANSI Approved: July 2020
ICS Code: 13 060 20



This is a preview of "ASSE 1061-2020". [Click here to purchase the full version from the ANSI store.](#)

General Information

Neither this standard, nor any portion thereof, may be reproduced without the written consent of ASSE International.

No product may be said to be listed by ASSE unless the manufacturer has applied to ASSE International, has had its product tested according to the applicable standards and, when the product has passed the test, displays the ASSE Seal on the product.

Instructions for receiving the authorization to display the seal are available from the ASSE International office. Organizations wishing to adopt or list any ASSE standard should print the ASSE standard number on the cover page first and in equal or larger type to that of the adopting or listing organization.

ASSE International
Mokena, Illinois
Copyright © 2020, 2015, 2011, 2006
All rights reserved.

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 minimum performance requirements for push-fit fittings; 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.

Pressurized (compressed) air, which is used for laboratory testing, contains large amounts of stored energy that could present 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 that conforms to 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 ASSE International and approved by the American National Standards Institute (ANSI).

2020 Product Standards Committee

Tsan-Liang Su, PhD, Chairperson

*Stevens Institute of Technology
Hoboken, NJ*

Chris Haldiman

*Watts Water Technologies
Springfield, MO*

Karl Abrahamson

*Saint Paul Department of Safety
and Inspections
Cottage Grove, MN*

John F. Higdon, P.E.

*Supply Source Solutions
Matthews, NC*

Brian Andersen

*C.J. Erickson Plumbing Co.
Manhattan, IL*

Jim Kendzel

*American Supply Association
Minneapolis, MN*

William Briggs Jr.

*JB&B
New York, NY*

Ramiro Mata

*American Society of Plumbing
Engineers (ASPE)
Mentor, OH*

Terry Burger

*NSF International
Cleveland, OH*

Robert Neff

*Delta Faucet
Pendleton, IN*

William Chapin

*Professional Code Consulting, LLC
Cullman, AL*

Thomas Pitcherello

*State of New Jersey
Bordentown, NJ*

Mark E. Fish

*Zurn Industries, LLC
Cary, NC*

Daniel Rademacher

*Plumbing Code and Design Consulting
Butte, MT*

Ron George

*Plumb-Tech Design & Consulting Services LLC
Newport, MI*

Shabbir Rawalpindiwala

*Kohler Company
Kohler, WI*

Mark Gibeault

*Kohler Company
Kohler, WI*

Billy Smith

*American Society of Plumbing
Engineers (ASPE)
Montgomery, AL*

Daniel Gleiberman

*Sloan
Los Angeles, CA*

Chris White (non-voting)

*ASSE International
Mokena, IL*

Brandon Gunnell

*Precision Plumbing Products
Portland, OR*

1061 Project Team

William Chapin, Chairperson
Professional Code Consulting, LLC
Cullman, AL

Conrad Jahrling (non-voting)
ASSE International
Chicago, IL

Mark E. Fish
Zurn Industries, LLC
Cary, NC

Bill Melvin
Legend Valve
Auburn Hills, MI

Chris Haldiman
Watts Water Technologies
Springfield, MO

Mannan Mohammed
Reliance Worldwide
Toronto, ON
Canada

Forest Hampton
Lubrizol
Cleveland, OH

Angel Rodriguez
John Guest USA, LLC
Fairfield, NJ

Rich Houle
Reliance Worldwide
Atlanta, GA

Alexander Spiridakis
Watts Water Technologies
North Andover, MA

Brian Ismert
Sioux Chief
Peculiar, MO

Table of Contents

Section I	1
1.0 General.....	1
1.1 Application.....	1
1.2 Scope	1
1.3 Reference Standards	1
Section II	3
2.0 Test Specimens	3
2.1 Samples Tested	3
2.2 Design Documentation	3
2.3 Rejection	3
Section III	4
3.0 Performance Requirements and Compliance Testing	4
3.1 Hydrostatic Sustained Pressure Test for Fittings with an Elevated Temperature or Pressure Rating	4
3.2 Mechanical Separation Test	5
Table 1	5
3.3 Hydrostatic Rupture Test for Fittings with an Elevated Temperature or Pressure Rating	6
3.4 Bending Test (PEX and PE-RT Tubing 1" CTS and Smaller Only).....	6
Figure 1	7
3.5 Bending Test with Rigid Tubing.....	8
Figure 2	8
Table 2.....	9
3.6 Hydraulic Shock (Water Hammer) Test	9
Section IV	10
4.0 Detailed Requirements	10
4.1 Materials	10
4.2 Adapter/Transition Fitting Connections.....	10
4.3 Marking Instructions	11
4.4 Installation Instructions.....	11
Section V	12
5.0 Definitions	12

Performance Requirements for 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 F876 or CSA B137.5.
- 2) Copper tubing, hard drawn Type K, L and M and annealed Type M not to exceed 3/8 nominal, complying with ASTM B 88.
- 3) CPVC tubing complying with ASTM D2846 or CSA B137.6.
- 4) PE-RT tubing complying with ASTM F2769 or CSA B137.18.
- 5) PP-R/PP-RCT tubing complying with ASTM F2389 or CSA B137.11.
- 6) CPVC-AL-CPVC complying with ASTM F2855.
- 7) Transition push-fit fittings intended for installation on PB tubing

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 a continuous water service up to and including 100.0 psi (689.5 kPa) at 180.0 °F (82.22 °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 (98.89 °C) and 150.0 psi (1034 kPa), per ASME A112.4.1 or ASTM F877.

1.3 Reference Standards

Listed below are the industry standards referenced within this ASSE standard. ASSE 1061 specifically references the revision of each standard given.

- ASME A112.4.1-2009(R2014), *Water Heater Relief Valve Drain Tubes*
- ASME B1.20.1-2013, *Pipe Threads, General Purpose, Inch*
- ASME B1.20.3-1976(R2013), *Dryseal Pipe Threads, Inch*
- ASME B16.18-2018, *Cast Copper Alloy Solder Joint Pressure Fittings*
- ASME B16.22-2018, *Wrought Copper and Copper Alloy Solder Joint Pressure Fittings*
- ASTM A240/A240M-2019, *Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications*