



**Summary of Substantive Changes  
between the 2015 and 2020 editions of  
ASSE 1061 “Performance Requirements for Push-Fit Fittings”**

**Presented to the IAPMO Standards Review Committee on July 12, 2021**

**General:** The changes to this standard should not have an impact on currently listed products. The significant changes are:

- Expanded the scope to include PP-R/PP-RCT tubing, CPVC-AL-CPVC, and transition push-fit fittings intended for installation on PB tubing (see Sections 1.2, 3.0, 4.0, and 5.0)
- 

Section 1.2, Scope: Expanded the scope to include PP-R/PP-RCT tubing, CPVC-AL-CPVC, and transition push-fit fittings intended for installation on PB tubing as follows:

**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](#)

Section 1.3, Reference Standards: The following standards were added, revised, or deleted as follows: *Listed below are the industry standards referenced within this ASSE standard. ASSE 1061 specifically references the revision of each standard given.*

- *ASME B16.18-~~2012~~2018, Cast Copper Alloy Solder Joint Pressure Fittings*
- *ASME B16.22-~~2013~~2018, Wrought Copper and Copper Alloy Solder Joint Pressure Fittings*
- *ASTM A240/A240M-~~2014~~2019, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet and Strip for Pressure Vessels and for General Applications*
- *ASTM B88-~~2009~~2016, Standard Specification for Seamless Copper Water Tube*
- *ASTM B858-~~2014~~2006 (R2018), Standard Test Method for Ammonia Vapor Test for Determining Susceptibility to Stress Corrosion Cracking in Copper Alloys*
- *ASTM D1599-~~1999(R2011)~~2018, Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing and Fittings*
- [ASTM D2737-12a Standard Specification for Polyethylene \(PE\) Plastic Tubing](#)



- [ASTM D3309-96a \(R2002\) \(Withdrawn 2010\), Standard Specification for Polybutylene \(PB\) Hot- and Cold-Water Distribution Systems.](#)
- [ASTM D2846/D2846M-~~2009~~<sup>be1</sup>2019, Standard Specification for Chlorinated Poly \(Vinyl Chloride\) \(CPVC\) Plastic Hot- and Cold-Water Distribution Systems](#)
- [ASTM D6284-~~2009~~2017, Standard Test Method for Rubber Property – Effect of Aqueous Solutions with Available Chlorine and Chloramine](#)
- [ASTM F876-~~2013a~~2019, Standard Specification for Crosslinked Polyethylene \(PEX\) Tubing](#)
- [ASTM F2769-~~10~~18, Standard Specification for Polyethylene of Raised Temperature \(PE-RT\) Plastic Hot and Cold-Water Tubing and Distribution Systems](#)
- [ASTM F2389-19, Standard Specification for Pressure-rated Polypropylene \(PP\) Piping Systems](#)
- [ASTM F2855-19, Standard Specification for Chlorinated Poly\(Vinyl Chloride\)/Aluminum/ Chlorinated Poly\(Vinyl Chloride\) \(CPVC-AL-CPVC\) Composite Pressure Tubing](#)
- [CSA B137.5-~~2013~~1997, Crosslinked Polyethylene \(PEX\) Tubing Systems for Pressure Applications](#)
- [CSA B137.6-~~2013~~1996, Chlorinated Polyvinylchloride \(CPVC\) Pipe, Tubing and Fittings for Hot and Cold Water Distribution Systems](#)
- [CSA B137.8-1992, Polybutylene \(PB\) piping systems for pressure applications](#)
- [CSA B137.11-1993, Polypropylene \(PP-R\) Pipe and Fittings for Pressure Applications](#)
- [CSA B137.18-~~2013~~2017, Polyethylene of Raised Temperature resistance \(PE-RT\) Tubing Systems for Pressure Applications](#)
- [CSA C22.2 Number 0.15-~~2001\(R2012\)~~2015, Adhesive Labels](#)
- [ISO 6957-1988, Copper alloys - Ammonia test for stress corrosion resistance](#)
- [NSF/ANSI/CAN 61-~~2014a~~2019, Drinking Water System Components – Health Effects](#)
- [UL 969-~~1995~~2019, Marking and Labeling Systems](#)

Section 3.0, Performance Requirements and Compliance Testing: Expanded the scope to include PP-R/PP-RCT tubing, CPVC-AL-CPVC, and transition push-fit fittings intended for installation on PB tubing as follows:

### **3.0 Performance Requirements and Compliance Testing**

*Fittings and tubing shall be joined in accordance with the manufacturer's installation instructions for all performance tests.*

- a) Push-fit fittings intended for installation on PEX tubing shall comply with the testing requirements of ASTM F877, Hydrostatic Burst test and Hydrostatic Sustained Pressure Strength test. Testing shall include six (6) joints of each size coupled to PEX tubing.*
- b) Push-fit fittings intended for installation on CPVC shall comply with the Pipe, Tube and Fittings Hydrostatic Sustained Pressure testing requirements of ASTM D2846, or shall comply with ASTM F877, Hydrostatic Burst test and Hydrostatic Sustained Pressure Strength test. Testing shall include six (6) joints of each size coupled to CPVC tubing.*
- c) Push-fit fittings intended for installation on copper tubing shall comply with the Pipe, Tube and Fittings Hydrostatic Sustained Pressure testing requirements of ASTM D2846/D2846M, or Section 3.1 of this standard. Testing shall include six (6) joints of each size coupled to copper tubing.*
- d) Push-fit fittings intended for installation on PE-RT tubing shall comply with the testing requirements of ASTM F2769, Sections 6.3 and 6.4, Burst Pressure test and Sustained Pressure test, respectively. Testing shall include six (6) joints of each size coupled to PE-RT tubing. Test shall be performed to the hydrostatic design basis as specified by the manufacturer.*



- e) Push-fit fittings intended for installation on PP-R/PP-RCT tubing shall comply with the testing requirements of ASTM F2389, Section 9.1, Hydrostatic Tests. Testing shall include six (6) joints of each size coupled to PP-R/PP-RCT tubing. Test shall be performed to the hydrostatic design basis as specified by the manufacturer
- f) Push-fit fittings intended for installation on CPVC-AL-CPVC tubing shall comply with the Hydrostatic Sustained Pressure testing requirements of ASTM D2846, or shall comply with ASTM F877, Hydrostatic Burst test and Hydrostatic Sustained Pressure Strength test. Testing shall include six (6) joints of each size coupled to CPVC-AL-CPVC tubing.
- eg) All push-fit fittings except the PB side of a PB transition push-fit fittings shall be tested in accordance with the Thermocyclic test requirements of ASTM F877 using each type of tube for which the fitting is designed to be used. Testing shall include six (6) joints of each size for each type of tubing. The non-PB side of a push-fit PB transition fitting shall comply with this section.
- h) The PB side of a transition push-fit fittings intended for installation on PB tubing shall comply with the testing requirements of ASTM F877, Hydrostatic Burst test, using PB tubing on the PB side of the transition push-fit fitting at 73.4 °F (23 °C).

### **3.5 Bending Test with Rigid Tubing**

#### **3.5.1 Purpose**

The purpose of this test is to determine whether the push-fit joints can withstand forces associated with side loading. This test does not apply to PB push-fit transition fittings or flexible tubing (PEX and PE-RT Tubing 1" CTS and smaller).

### **3.6 Hydraulic Shock (Water Hammer) Test**

#### **3.6.1 Purpose**

The purpose of this test is to determine whether the fittings can withstand the forces associated with hydraulic shock. This test does not apply to PB push-fit transition fittings.

Section 4.2 Adapter/Transition Fitting Connections:

4.2.5 Transition fittings used for Polybutylene (PB) piping systems are to be used on piping constructed to ASTM D3309 or CSA B137.8 and installed per the fitting manufacturer's instructions.

Section 4.3, Marking Instructions: Expanded the scope to include PP-R/PP-RCT tubing, CPVC-AL-CPVC, and transition push-fit fittings intended for installation on PB tubing as follows:

#### **4.3.1 Marking of Fittings**

*Each fitting shall have the following information marked on it where it will be visible after it has been installed:*

a) *Name of manufacturer or trademark*

b) *When a fitting is not suitable for all ~~four (4)~~ materials listed in Section 1.2, it shall be marked for the materials for which they are suitable.*



Section 5.0, Definitions: The following definitions were added: Expanded the scope to include PP-R/PP-RCT tubing, CPVC-AL-CPVC, and transition push-fit fittings intended for installation on PB tubing as follows:

*Definitions not found in this section are located in the Plumbing Dictionary, Sixth Edition, published by ASSE International.*

**PB**

*Acronym for polybutylene. Refers to a type of tubing material as defined by ASTM D3309 or CSA B137.8.*

**PE-RT**

*Acronym for polyethylene of raised temperature resistance. Refers to a type of tubing material defined in ASTM F2769 and CSA B137.18.*

**PP-R**

*Acronym for polypropylene random copolymer. Refers to a type of tubing material defined in ASTM F2389 and CSA B137.11.*

**PP-RCT**

*Acronym for polypropylene random copolymer with modified crystallinity and temperature resistance. Refers to a type of tubing material defined in ASTM F2389 and CSA B137.11.*

Table 1 and Table 2 were revised to add Diameter Nominal.