



Standard Specification for Metal Mechanical Cold Flare Compression Fittings with Disc Spring for Crosslinked Polyethylene (PEX) Tubing¹²

This standard is issued under the fixed designation F1961; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This specification covers metal mechanical cold flare compression fittings with integral disc spring suitable for use with cross-linked polyethylene PEX plastic tubing in $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, and $\frac{3}{4}$ nominal diameters. that meets the requirements of Specifications **F876** and **F877**. These fittings are intended for use in 100 psi (689.5 kPa) cold and hot water distributions systems and hydronic heating systems operating at temperatures up to and including 180°F (82°C). Included are the requirements for materials, workmanship, dimensions, and markings to be used on the fittings.

1.2 *Units*—The values stated in inch-pounds units are to be regarded as the standard. The values given in parentheses are mathematical conversions to SI units which are provided for information only and are not considered standard.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:³

A666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar

B16/B16M Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines

B140/B140M Specification for Copper-Zinc-Lead (Red Brass or Hardware Bronze) Rod, Bar, and Shapes

B283 Specification for Copper and Copper-Alloy Die Forgings (Hot-Pressed)

D1600 Terminology for Abbreviated Terms Relating to Plastics

D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings

E18 Test Methods for Rockwell Hardness of Metallic Materials

F412 Terminology Relating to Plastic Piping Systems

F876 Specification for Crosslinked Polyethylene (PEX) Tubing

F877 Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems

2.2 ASME Standards:⁴

B1.20.1 Pipe Threads General Purpose (inch)

B16.18 Cast Copper Alloy Solder Joint Pressure Fittings

B16.22 Wrought Copper and Copper Alloy Solder Joint Pressure Fittings

2.3 NSF Standards:⁵

NSF 14 Plastic Piping Components and Related Materials

NSF 61 Drinking Water System Components-Health Effects

2.4 DIN Standard:⁶

DIN 1766.

2.5 Other Standard:⁷

MSS SP-104, Wrought Copper Solder Joint Pressure Fittings

3. Terminology

3.1 *Definitions*—Definitions are in accordance with Terminology **F412** and abbreviations are in accordance with Terminology **D1600** unless otherwise indicated.

¹ This specification is under the jurisdiction of ASTM Committee **F17** on Plastic Piping Systems, and is the direct responsibility of Subcommittee **F17.10** on Fittings.

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² The cold flare compression fitting with integral disc spring is covered by a patent. Interested parties are invited to submit information regarding the identification of an alternative to this patented item to ASTM headquarters. Your comments will receive careful consideration at a meeting of F17, which you may attend.

³ For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

⁴ Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990, <http://www.asme.org>.

⁵ Available from NSF International, P.O. Box 130140, 789 N. Dixboro Rd., Ann Arbor, MI 48113-0140, <http://www.nsf.org>.

⁶ Available from Deutsches Institut Fur Normung eV, Burggrafenstrasse 4 Berlin 30, West Germany D-1000.

⁷ Available from Manufacturers Standardization Society of the Valve and Fittings Industry (MSS), 127 Park St., NE, Vienna, VA 22180-4602, <http://www.mss-hq.com>.