

Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing to Metal Insert Fittings¹²

This standard is issued under the fixed designation F 2098; 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 stainless steel clamps for use with four sizes of insert fittings that comply with F 1807, and cross-linked polyethylene (PEX) plastic tubing that complies with F 876 or F 877. These clamps are intended as an alternative to the copper-alloy crimp-rings of F 1807, for use in 100 psi (689.5 kPa) cold- and hot-water distribution systems operating at temperatures up to and including 180°F (82°C). Included are requirements for materials, workmanship, dimensions and marking of the stainless steel clamps; requirements for deforming the clamps; and requirements for burst pressure, sustained pressure, excessive temperature and pressure, and temperature cycling, which apply to assemblies of PEX tubing and F 1807 insert fittings secured with deformed clamps per this specification.

1.2 The values stated in inch-pound units are to be regarded as the standard. The SI values stated in parentheses are provided for information purposes.

1.3 The following precautionary caveat pertains only to the test methods portion, Section 10, of this specification. *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:

A 240 Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels³

D 618 Practice for Conditioning Plastics and Electrical Insulating Materials for Testing⁴

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. Current edition approved April 10, 2001. Published July 2001.

² The stainless steel clamp described in this standard 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 Annual Book of ASTM Standards, Vol 01.03.

⁴ Annual Book of ASTM Standards, Vol 08.01.

D 1598 Test Method for Time-To-Failure of Plastic Pipe Under Constant Internal Pressure⁵

D 1599 Test Method for Short-Time, Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings⁶

D 1600 Terminology for Abbreviated Terms Relating to Plastics⁵

D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings⁶

E 18 Test Methods for Rockwell Hardness and Superficial Hardness of Metallic Materials⁶

F 412 Terminology Relating to Plastic Piping Systems⁶

F 876 Specification for Cross-linked Polyethylene (PEX) Tubing⁶

F 877 Specification for Cross-linked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems⁶

3. Terminology

3.1 Definitions are in accordance with Terminology F 412 and abbreviations are in accordance with Terminology D 1600, unless otherwise indicated.

4. Classification

4.1 This specification covers one class of stainless steel clamps in four sizes suitable for securing PEX tubing that meets the requirements of Specifications F 876 or F 877 to insert fittings that meet the requirements of F 1807.

5. Materials and Manufacture

5.1 *Clamps*—Clamps shall be made from material meeting the requirements of Specification A 240 stainless steel UNS S304000.

6. Performance Requirements

6.1 *General*—All performance tests shall be performed on assemblies of fittings, clamps and PEX tubing. Clamps shall meet the material and dimensional requirements of this specification. Fittings shall meet the material and dimensional requirements of F 1807. PEX tubing shall meet the requirements of Specification F 876 or F 877. Assembly of test

⁵ Annual Book of ASTM Standards, Vol 08.04.

⁶ Annual Book of ASTM Standards, Vol 03.01.

