



**Summary of Substantive Changes
between the F2098–04^{e1} and the 2008 editions of
ASTM F2098 “Stainless Steel Clamps for Securing SDR9 Cross-linked
Polyethylene (PEX) Tubing to Metal Insert and Plastic Insert Fittings”**

Presented to the IAPMO Standards Review Committee on December 07, 2015

General: The changes to this standard may have an impact on currently listed products. The changes are:

- Title updates to referenced standards in section 2
- Clarification of compliance standards for metal and plastic insert fittings in sections 6.3 and 9.1
- Enlarged and clarified clamp drawings and addition of a dimensions table in figures 1-4
- Revision to clamp markings in section 11.2.1 to exclude reference to F1807
- Revision to package markings in section 11.2.2 to include reference to F2159
- Clarification of ASTM QA designation conformance to standards F2098 and F2159 in section 12.1
- Addition of section 13 ‘Dimensions’ to clarify that dimensions outside of Fig 2 will be at the manufacturer’s discretion, and
- Addition of section 14 ‘Tolerances’ for critical dimensions in Fig 2.

2. Referenced Documents

2.1 ASTM Standards:

A 240/~~A 240M~~ Specification for ~~Heat-Resisting~~ Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
~~D618 Practice for Conditioning Plastics and Electrical Insulating Materials for Testing~~ 618 Practice for Conditioning Plastics for Testing

D 1599 Test Method for ~~Short-Time, Hydraulic Failure~~ Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings

E 18 Test Methods for Rockwell Hardness ~~and Superficial Hardness~~ of Metallic Materials

F 2159 Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) ~~Tubing~~ Tubing

6. General Requirements

6.3 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~~ Metal insert fittings shall meet the material and dimensional requirements of Specification F 1807. Plastic insert fittings shall meet the material and dimensional requirements of Specification F 2159. PEX tubing shall meet the requirements of Specification F 876 or F 877. Assembly of test specimens shall be in accordance with 9.1.1. Each assembly shall contain at least two (2) joints. Use separate sets of assemblies for each performance test requirement.



9. Assembly

9.1 Clamp Joints—Insert fittings shall be joined to PEX tubing by deforming and locking a stainless steel clamp around the outer circumference of the tubing, forcing the tubing material into annular spaces formed by the ribs on the fitting. ~~Insert~~ Metal insert fittings shall meet the ~~dimensional~~material and dimensional requirements of Specification F 1807. Plastic insert fittings shall meet the material and dimensional requirements of ~~F1807~~.Specification F 2159. PEX tubing shall meet the requirements of Specifications F 876 or F 877. Clamps shall meet the dimensional and material requirements of this specification.

11. Product Marking

11.1 Quality of Marking—The marking shall be applied to the clamps in such a manner that it remains legible after installation and inspection.

11.2 Content of Marking:

11.2.1 Marking on clamps shall include manufacturer's name or trademark, or some other identifying mark, and if size permits, ~~"F 2098 for F1807"~~ the designation, "F 2098".

11.2.1.1 Where recessed marking is used on clamps, care shall be taken to see that the marking shall not cause cracks or reduce the wall thickness below the minimum specified.

11.2.2 Marking on packaging shall include manufacturer's name, clamp size, and "ASTM F 2098 for use with ASTM F 1807 and F 2159 insert fittings."

12. Quality Assurance

12.1 When the clamp or clamp packing is marked with the ASTM designation ~~"F 2098 for F1807"~~, "F 2098" the manufacturer affirms that the product was manufactured, inspected, sampled, and tested in accordance with this specification and has been found to meet the requirements of this specification. The manufacturer further affirms that when clamps so marked are used to in accordance with this specification to secure PEX tubing conforming to F 876 or F 877 to insert fittings conforming to Specifications F 1807 or F 2159, the assembled joints will conform to the performance requirements of this specification.

13. Dimensions

13.1 Design and Layout, as noted in Fig. 1 are for "reference" only. Specific dimensions and clamp features, other than what is noted in Fig. 2 as "Critical Dimensions" are to be left at the discretion of the individual manufacturer to accommodate varying manufacturing processes.

14. Tolerances

14.1 Tolerances on all critical dimensions, except "thickness" (T), are ± 0.010 in. (± 0.25 mm). "Thickness" (T) tolerances are specifically noted in Fig. 2.