



Standard Specification for Crosslinked Polyethylene (PEX) Tubing¹

This standard is issued under the fixed designation F876; 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 crosslinked polyethylene (PEX) tubing that incorporates an optional polymeric inner, middle or outer layer and that is outside diameter controlled, made in nominal SDR9 tubing dimension ratios except where noted, and pressure rated for water at three temperatures (see [Appendix X1](#)). Included are requirements and test methods for material, workmanship, dimensions, burst pressure, hydrostatic sustained pressure, excessive temperature pressure, environmental stress cracking, stabilizer functionality, bent-tube hydrostatic pressure, oxidative stability in potable chlorinated water, and degree of crosslinking. Requirements for tubing markings are also given.

1.2 The text of this specification references notes, footnotes, and appendixes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 The following safety hazards caveat pertains only to the test methods portion, Section 7, 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:²

[D618 Practice for Conditioning Plastics for Testing](#)

¹ This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.26 on Olefin Based Pipe.

Current edition approved Sept. 1, 2015. Published November 2015. Originally approved in 1984. Last previous edition approved 2015 as F876 – 15. DOI: 10.1520/F0876-15A.

² 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.

[D792 Test Methods for Density and Specific Gravity \(Relative Density\) of Plastics by Displacement](#)

[D1505 Test Method for Density of Plastics by the Density-Gradient Technique](#)

[D1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure](#)

[D1599 Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings](#)

[D1600 Terminology for Abbreviated Terms Relating to Plastics](#)

[D1898 Practice for Sampling of Plastics \(Withdrawn 1998\)³](#)

[D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings](#)

[D2765 Test Methods for Determination of Gel Content and Swell Ratio of Crosslinked Ethylene Plastics](#)

[D2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products](#)

[D3895 Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry](#)

[F412 Terminology Relating to Plastic Piping Systems](#)

[F1281 Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene \(PEX-AL-PEX\) Pressure Pipe](#)

[F2023 Test Method for Evaluating the Oxidative Resistance of Crosslinked Polyethylene \(PEX\) Tubing and Systems to Hot Chlorinated Water](#)

[F2657 Test Method for Outdoor Weathering Exposure of Crosslinked Polyethylene \(PEX\) Tubing](#)

2.2 ANSI Standard:

[B36.10 Standards Dimensions of Steel Pipe \(IPS\)⁴](#)

2.3 Federal Standard:

[FED-STD-123 Marking for Shipment \(Civil Agencies\)⁵](#)

2.4 Military Standard:

[MIL-STD-129 Marking for Shipment and Storage⁵](#)

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁵ DLA Document Services Building 4/D 700 Robbins Avenue Philadelphia, PA 19111-5094 <http://quicksearch.dla.mil/>