



Standard Specification for Crosslinked Polyethylene (PEX) Tubing of 0.070 in. Wall and Fittings for Radiant Heating Systems up to 75 psig¹

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1. Scope

1.1 This specification covers 0.070 in. wall thickness cross-linked polyethylene (PEX) tubing that is outside diameter controlled, and intended for non-potable radiant heating applications for pressures up to 75 psig in sizes $\frac{5}{8}$ NTS (nominal tubing size) and $\frac{7}{8}$ NTS. This specification also includes fittings that are specifically designed for this 0.070 in.-wall PEX tubing. Only 75-psig relief valves shall be used with this tubing. Included in this specification are requirements and test methods for material, workmanship, dimensions, burst pressure, hydrostatic sustained pressure, environmental stress cracking, stabilizer functionality, bent-tube hydrostatic pressure, excessive temperature and degree of crosslinking. Requirements for tubing markings are also given. This tubing does not have an oxygen diffusion barrier layer and shall not be used in systems that require a barrier layer. This tubing is not intended for field bending at temperatures above 120°F (49°C).

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:

A269 Specification for Seamless and Welded Austenitic

Stainless Steel Tubing for General Service

A276 Specification for Stainless Steel Bars and Shapes

A312/A312M Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

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

B61 Specification for Steam or Valve Bronze Castings

B62 Specification for Composition Bronze or Ounce Metal Castings

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)

B371/B371M Specification for Copper-Zinc-Silicon Alloy Rod

B584 Specification for Copper Alloy Sand Castings for General Applications

B967/B967M Specification for Copper-Zinc-Tin-Bismuth Alloy Rod, Bar and Wire

D618 Practice for Conditioning Plastics for Testing

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

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

E18 Test Methods for Rockwell Hardness of Metallic Materials

F412 Terminology Relating to Plastic Piping Systems

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