



Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing¹

This standard is issued under the fixed designation F 1924; 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 describes requirements and test methods for the qualification of plastic bodied mechanical fittings for use with outside diameter controlled polyethylene (PE) gas distribution pipe, nominal 2 pipe size (IPS) and smaller complying with Specification D 2513. In addition, it specifies general requirements of the material from which these fittings are made.

1.2 The test methods described in this specification are not intended to be used as routine quality control tests.

1.3 This specification covers the types of mechanical fittings described in 3.2.1.

1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following safety hazards caveat pertains only to the test method 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.*

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

2. Referenced Documents

2.1 ASTM Standards:

- D 638 Test Method for Tensile Properties of Plastics²
- D 1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure³
- D 1600 Terminology for Abbreviated Terms Relating to Plastics²
- D 2513 Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings³
- D 2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials³
- F 412 Terminology Relating to Plastic Piping Systems³

¹ This specification is under the jurisdiction of ASTM Committee F-17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.60 on Gas. Current edition approved Oct. 10, 1998. Published March 1999.

² Annual Book of ASTM Standards, Vol 08.01.

³ Annual Book of ASTM Standards, Vol 08.04.

F 1588 Test Method for Constant Tensile Load Joint Test (CTLJT)³

2.2 ASME Standard:

ASME B31.8 Gas Transmission and Distribution Piping Systems⁴

2.3 Federal Standard:

CFR, Title 49, Part 192 Pipeline Safety Regulations⁵

2.4 Plastics Pipe Institute Standard:

PPI TR-4 Recommended Hydrostatic Strengths and Design Stresses for Thermoplastic Pipe and Fittings Compounds⁶

3. Terminology

3.1 *Definitions*—Definitions of terms used in this specification are in accordance with Terminology F 412 unless otherwise specified. Abbreviations are in accordance with Terminology D 1600 unless otherwise specified.

3.1.1 The Gas Industry terminology used in this specification is in accordance with ASME B31.8 or CFR, Title 49, Part 192 unless otherwise indicated.

3.1.2 The term “pipe” used herein refers to both “pipe” and “tubing” unless specifically stated otherwise. The term “fitting” refers to a mechanical connecting device as described in 3.1.4 and 3.1.6.

3.1.3 *joint, n*—the location at which two pieces of pipe, or a pipe and a fitting are connected together, for example, an installed coupling has two joints.

3.1.4 *joint, mechanical, n*— a connection between piping components employing physical force to develop a seal or produce alignment.

3.1.5 *long-term strength (LTS), n*—the estimated tensile stress that when applied continuously will cause failure at 100 000 h. This is the intercept of the stress regression line with the 100 000 h coordinate.

3.1.6 *mechanical fitting, n*—fitting for making a mechanical joint to provide for pressure integrity, leak tightness, and depending on category, as defined in this specification, resistance to end loads.

⁴ Available from American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

⁵ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

⁶ Available from Plastics Pipe Institute, 1801 K Street NW, Suite 600K, Washington, DC 20402.