



Standard Specification for Polyamide 11 (PA 11) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 Pipe and Tubing¹

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1. Scope

1.1 This specification describes requirements and test methods for the qualification of Polyamide 11 (PA 11) bodied mechanical fittings for use with outside diameter controlled Polyamide 11 (PA 11) 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 tests.

1.3 This specification covers the types of mechanical fittings covered 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 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 requirements 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 Basics for Thermoplastic Pipe Materials³

F 412 Terminology Relating to Plastic Piping Systems³

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 Plastic Pipe Institute Standard:

PPI TR-4 PPI Listing of Hydrostatic Design Bases (HDB), Pressure Design Bases (PDB), and Minimum Required Strength (MRS) Ratings for Thermoplastic Piping Materials or Pipe⁶

3. Terminology

3.1 *Definitions*—Definitions of the 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 is in accordance with ASME B31.8 or CFR, Title 49, Part 192 unless otherwise specified.

3.1.2 The term “pipe” refers to both “pipe” and “tubing”. 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 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 and 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

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 Oct. 10, 2001. Published December 2001.

² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 08.04.

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 D.C. 20402.

⁶ Available from Plastic Pipe Institute, 1825 Connecticut Ave., NW Suite 680, Washington D.C. 20009.