



Designation: F 1733 – 96^{ε1}

Standard Specification for Butt Heat Fusion Polyamide(PA) Plastic Fitting for Polyamide(PA) Plastic Pipe and Tubing¹

This standard is issued under the fixed designation F 1733; 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.

^{ε1} NOTE—Section 12 was editorially added in December 2002.

1. Scope

1.1 This specification covers polyamide (PA) butt fusion fittings for use with polyamide pipe (IPS and ISO) and tubing (CTS). Included are requirements for materials, workmanship, dimensions, marking, sustained pressure, and burst pressure.

1.2 The values given in parentheses are provided for information only.

2. Referenced Documents

2.1 ASTM Standards:

D 1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure²

D 1599 Test Method for Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings²

D 1600 Terminology for Abbreviated Terms Relating to Plastics³

D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings²

D 2513 Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings²

D 4066 Specification for Nylon Injection and Extrusion Materials⁴

F 412 Terminology Relating to Plastic Piping Systems²

2.2 Federal Standard:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)⁵

2.3 Military Standard:

MIL-STD-129 Marking for Shipment and Storage⁵

2.4 National Sanitation Foundation Standard:

Standard No. 14 for Plastic Piping Components and Related Materials⁶

3. Terminology

3.1 Definitions are in accordance with Terminology F 412 and abbreviations are in accordance with Terminology D 1600, unless otherwise specified.

3.2 *dimension ratio (DR) for thermoplastic pipe*—the ratio of diameter to wall thickness. For this specification it is calculated by dividing the specified outside diameter by the specified wall thickness of the fitting at its area of fusion. DRs are rounded and do not calculate exactly.

4. Classification

4.1 *General*—This specification covers butt fusion fittings intended for use with polyamide pipe and tubing.

4.1.1 Fittings covered by this specification are normally molded. Fittings may be machined from extruded or molded stock.

4.1.2 Fittings fabricated by thermal welding are not included in this specification.

4.1.3 Fittings intended for use in the distribution of natural gas or petroleum fuels shall also meet the requirements of Specification D 2513.

5. Ordering Information

5.1 When ordering fittings under this specification, the following should be specified:

5.1.1 Polyamide compound (material designation or trade name)

5.1.2 Style of fitting (tee, 90° ell, and the like)

5.1.3 Size:

5.1.3.1 Nominal diameter.

5.1.3.2 CTS, IPS, or schedule.

5.1.3.3 Dimension ratio number or schedule number.

6. Materials

6.1 *Basic Materials*—This specification covers fittings made from polyamide plastics as defined in Specification D 4066.

NOTE 1—The PA plastic fittings intended for use in the transport of potable water should be evaluated and certified as safe for this purpose by a testing agency acceptable to the local health authority. The evaluation

¹ This specification is under the jurisdiction of ASTM Committee F-17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.10 on Fittings. Current edition approved Sept. 10, 1996. Published November 1996.

² *Annual Book of ASTM Standards*, Vol 08.04.

³ *Annual Book of ASTM Standards*, Vol 08.01.

⁴ *Annual Book of ASTM Standards*, Vol 08.02.

⁵ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁶ Available from the National Sanitation Foundation, P.O. Box 1468, Ann Arbor, MI 48106.