



Designation: D 3261 – 97

An American National Standard

Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing¹

This standard is issued under the fixed designation D 3261; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers polyethylene (PE) butt fusion fittings for use with polyethylene 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 1248 Specification for Polyethylene Plastics Molding and Extrusion Materials²

D 1598 Test Method for Time-to-Failure of Plastic Pipe Under Constant Internal Pressure³

D 1599 Test Method for Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings³

D 1600 Terminology for Abbreviated Terms Relating to Plastics²

D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings³

D 2513 Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings³

F 412 Terminology Relating to Plastic Piping Systems³

2.2 Federal Standard:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)⁴

2.3 Military Standard:

MIL-STD-129 Marking for Shipment and Storage⁴

2.4 National Sanitation Foundation Standard:

Standard No. 14 for Plastic Piping Components and Related Materials⁵

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 polyethylene 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 Polyethylene 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 polyethylene plastics as defined in Specification D 1248. These are Grade P 23, Grade P 24, Grade P 33, and Grade P 34.

6.2 *Compounds*—The polyethylene fittings compounds shall meet the requirements for P 23 and P 24, Class C or Class

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

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

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

⁵ Available from the National Sanitation Foundation, P.O. Box 1468, Ann Arbor, MI 48106.