



Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter- Controlled Polyethylene Pipe and Tubing¹

This standard is issued under the fixed designation D2683; 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 U.S. Department of Defense.

1. Scope*

1.1 This specification covers polyethylene socket-type fittings for use with outside diameter-controlled polyethylene pipe as specified by Specifications [D3035](#) and [D2513](#). Requirements for materials, workmanship, dimensions, and pressure performance are included. Where applicable in this specification, “pipe” shall mean “pipe and tubing.”

1.2 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.

1.3 The following safety hazards caveat pertains only to the test method portion, Section 8, 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:²

- [D618](#) Practice for Conditioning Plastics for Testing
- [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
- [D2513](#) Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings

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 Nov. 1, 2014. Published December 2014. Originally approved in 1968. Last previous edition approved in 2010 as D2683 – 10^{ε3}. DOI: 10.1520/D2683-14.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[D2657](#) Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings

[D3035](#) Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

[D3350](#) Specification for Polyethylene Plastics Pipe and Fittings Materials

[F412](#) Terminology Relating to Plastic Piping Systems

2.2 Federal Standard:

[Fed. Std. No. 123](#) Marking for Shipment (Civil Agencies)³

2.3 Military Standard:

[MIL-STD-129](#) Marking for Shipment and Storage³

2.4 Plastic Pipe Institute⁴

[PPI TR-3](#) Policies and Procedures for Developing Hydrostatic Design Basis (HDB), Pressure Design Basis (PDB), Strength Design Basis (SDB), and Minimum Required Strength (MRS) Ratings for Thermoplastic Piping Materials or Pipe⁷

[PPI TR-4](#) HDB/SDB/PDB/MRS Listed Materials, PPI Listing of Hydrostatic Design Basis (HDB), Strength Design Basis (SDB), Pressure Design Basis (PDB), and Minimum Required Strength (MRS) Ratings for Thermoplastic Piping Materials or Pipe

3. Terminology

3.1 Definitions are in accordance with Terminology [F412](#) and abbreviations are in accordance with Terminology [D1600](#), unless otherwise specified. The abbreviation of polyethylene plastic is PE.

3.2 *standard thermoplastic pipe dimension ratio (SDR)*—the ratio of pipe outside diameter to wall thickness. It is calculated by dividing the average outside diameter of the pipe by the minimum wall thickness.

4. Classification

4.1 This specification covers polyethylene fittings of the socket type made as specified in [5.1](#) and [5.2](#)

³ DLA Document Services Building 4/D 700 Robbins Avenue Philadelphia, PA 19111-5094 <http://quicksearch.dla.mil/>

⁴ Available from Plastics Pipe Institute (PPI), 105 Decker Court, Suite 825, Irving, TX 75062, <http://www.plasticpipe.org>.

*A Summary of Changes section appears at the end of this standard