



Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe¹

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1. Scope

1.1 This specification covers requirements and test methods for materials, dimensions, workmanship, ring stiffness, flattening, joint systems, and a form of marking for large diameter, 10 to 120 in. (250 to 3050 mm), inside diameter based polyethylene (PE) pipe of profile wall construction and with butt-fused, bell and spigot, and other mechanical joints for use in low pressure and gravity flow applications, such as for sewers and drains.

NOTE 1—Pipe produced to this specification should be installed in accordance with Practice D 2321 and with the manufacturer's recommendations.

NOTE 2—For purposes of this specification, low pressure is defined as 50 ft (15.2 m) of water column or less.

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

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:

- D 618 Practice for Conditioning Plastics and Electrical Insulating Materials for Testing²
- D 1600 Terminology for Abbreviated Terms Relating to Plastics²
- D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings³
- D 2321 Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications³

¹ This specification is under the jurisdiction of ASTM Committee F-17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.26 on Olefin Based Pipe.

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² Annual Book of ASTM Standards, Vol 08.01.

³ Annual Book of ASTM Standards, Vol 08.04.

- D 2412 Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Pipe Loading³
- D 2657 Practice for Heat Joining of Polyolefin Pipe and Fittings³
- D 2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials³
- D 3212 Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals³
- D 3350 Specification for Polyethylene Plastics Pipe and Fittings Materials⁴
- F 412 Terminology Relating to Plastic Piping Systems³
- F 477 Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe³
- F 585 Practice for Insertion of Flexible Polyethylene Pipe into Existing Sewers³
- 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

3. Terminology

3.1 Definitions—Definitions are in accordance with Terminology F 412 and abbreviations are in accordance with Terminology D 1600, unless otherwise specified. The abbreviation for polyethylene is PE.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *closed profile (CP)*—a profile wall pipe wall construction that presents essentially smooth internal and external surfaces.

3.2.2 *extrusion welding*—a joining technique that is accomplished by extruding a molten polyethylene bead between two prepared surface ends.

3.2.3 *open profile (OP)*—a profile wall pipe wall construction that presents an essentially smooth internal surface with a ribbed or corrugated external surface.

3.2.4 *profile wall*—a pipe wall construction that presents an essentially smooth surface in the waterway but includes ribs or other shapes, which can be either solid or hollow, that help brace the pipe against diametrical deformation (see Fig. 1).

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.

