



Standard Specification for Metric Outside Diameter Polyethylene (PE) Plastic Pipe (DR- PN)¹

This standard is issued under the fixed designation F3123; 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.

1. Scope*

1.1 This specification covers metric outside diameter polyethylene (PE) pipe made from polyethylene compound that qualifies for MRS, HDB and HDS ratings and for PE100 and PE4710 designations. Included are requirements for polyethylene compound, workmanship, dimensions, short-term stress and ductility, long-term stress, marking, quality assurance and verification of joining.

1.1.1 Polyethylene pipe in accordance with this specification is intended to be compatible with nominal diameters and nominal pressures in accordance with ISO 161-1 and wall thickness in accordance with ISO 4065.

1.2 Pipes produced under this specification are intended for the pressure or non-pressure conveyance of liquid or gaseous media. Pipes produced under this specification are not intended as enclosures for electrical or communications components. See [Appendix X1](#).

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 This international standard was developed in accordance with internationally recognized principles on standardization established in the *Decision on Principles for the Development of International Standards, Guides and Recommendations* issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee. The ANS label on this international standard certifies the development of this international standard in accordance with requirements for openness, balance, consensus and due process in accordance with *ANSI Essential Requirements: Due Process Requirements for American National Standards* and denotes in addition that this international standard is an American National Standard.

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 limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:²

- D618 Practice for Conditioning Plastics for Testing
- D638 Test Method for Tensile Properties of Plastics
- D746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
- D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- D1238 Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
- D1435 Practice for Outdoor Weathering of Plastics
- D1505 Test Method for Density of Plastics by the Density-Gradient Technique
- 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
- D1603 Test Method for Carbon Black Content in Olefin Plastics
- D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
- D2290 Test Method for Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic Pipe
- D2565 Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications
- D2837 Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials or Pressure Design Basis for Thermoplastic Pipe Products
- D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials

¹ This test method is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.26 on Olefin Based Pipe.

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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.