



# Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications<sup>1</sup>

This standard is issued under the fixed designation F2648/F2648M; 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 requirements and test methods for annular corrugated profile wall polyethylene pipe and fittings with an interior liner. The inside diameters covered are 2 to 60 in. [50 to 1500 mm].

1.2 The requirements of this specification are intended to provide non-pressure (gravity flow) pipe and fittings suitable for underground use for subsurface and land drainage systems, which do not operate under surcharge pressure heads.

NOTE 1—Pipe and fittings produced in accordance with this specification are to be installed in compliance with Practice D2321 or Practice F449 based on diameter limitations within the respective standards.

NOTE 2—Subsurface and land drainage systems pertain principally to non-municipal or private facilities for water table control, storm drainage and agricultural drainage applications. The products supplied under this specification are not intended for any sanitary sewer or municipal storm sewer applications.

1.3 This specification covers pipe and fittings with an interior liner using an annular exterior corrugated profile (Fig. 1).

1.4 This specification permits the use of recycled materials for pipe in accordance with the requirements in Section 5.

1.5 *Units*—The values stated in either inch-pound units or SI units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.6 *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:<sup>2</sup>

- D618 Practice for Conditioning Plastics for Testing
- D1600 Terminology for Abbreviated Terms Relating to Plastics
- D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
- D2321 Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
- D2412 Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
- D2444 Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
- D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials
- D4218 Test Method for Determination of Carbon Black Content in Polyethylene Compounds By the Muffle-Furnace Technique
- D5630 Test Method for Ash Content in Plastics
- D7209 Guide for Waste Reduction, Resource Recovery, and Use of Recycled Polymeric Materials and Products (Withdrawn 2015)<sup>3</sup>
- D7399 Test Method for Determination of the Amount of Polypropylene (PP) in Polypropylene/LDPE Mixtures Using Infrared Spectrophotometer (FTIR)
- F412 Terminology Relating to Plastic Piping Systems
- F449 Practice for Subsurface Installation of Corrugated Polyethylene Pipe for Agricultural Drainage or Water Table Control
- F2136 Test Method for Notched, Constant Ligament-Stress (NCLS) Test to Determine Slow-Crack-Growth Resistance of HDPE Resins or HDPE Corrugated Pipe

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.65 on Land Drainage.

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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).