



Designation: D3350 – 21

Standard Specification for Polyethylene Plastics Pipe and Fittings Materials¹

This standard is issued under the fixed designation D3350; 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 the identification of polyethylene plastic pipe and fittings materials in accordance with a cell classification system. It is not the function of this specification to provide specific engineering data for design purposes, to specify manufacturing tolerances, or to determine suitability for use for a specific application.

1.1.1 Some plastic pipe and fitting PE compounds classified by this standard are sold as a base material and then combined with other material(s) (for example, color or additive concentrate) by the pipe or fitting manufacturer into a final classified compound either prior to or during production of the final article. This standard, excluding the requirements of [Table 1](#), properties 5 and 6, and [6.1.1](#), can be used for property verification of the incoming base material(s) in accordance with [8.1](#).

1.1.2 In the case of PE compounds sold as the compound classified by the standard, see [8.1](#) regarding property verification of the incoming classified compound.

1.1.3 Compounds with a cell classification value other than '0' for the Hydrostatic Strength Classification (property 6) rely on a defined formulation. The composition of the defined formulation can be obtained from the owner of the formulation.

NOTE 1—Deviations from the defined formulation may affect the Hydrostatic Strength Classification.

1.2 Polyethylene plastic materials, being thermoplastic, are reprocessible and recyclable ([Note 3](#)). This specification allows for the use of those polyethylene materials, provided that all specific requirements of this specification are met.

NOTE 2—The notes in this specification are for information only and shall not be considered part of this specification.

NOTE 3—See Guide [D5033](#) for information and definitions related to recycled plastics.

1.3 The values stated in SI units are to be regarded as standard.

1.4 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

NOTE 4—There is no known ISO equivalent to this standard.

1.5 For information regarding molding and extrusion materials see Specification [D4976](#). For information regarding wire and cable materials see Specification [D1248](#).

1.6 *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.*

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](#)
- [D790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials](#)
- [D792 Test Methods for Density and Specific Gravity \(Relative Density\) of Plastics by Displacement](#)
- [D883 Terminology Relating to Plastics](#)
- [D1238 Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer](#)
- [D1248 Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable](#)
- [D1505 Test Method for Density of Plastics by the Density-Gradient Technique](#)
- [D1603 Test Method for Carbon Black Content in Olefin Plastics](#)
- [D1693 Test Method for Environmental Stress-Cracking of Ethylene Plastics](#)
- [D1898 Practice for Sampling of Plastics](#) (Withdrawn 1998)³

¹ This specification is under the jurisdiction of ASTM Committee [D20](#) on Plastics and is the direct responsibility of Subcommittee [D20.15](#) on Thermoplastic Materials.

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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.

³ The last approved version of this historical standard is referenced on www.astm.org.

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