



Designation: D1248 – 16

Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable¹

This standard is issued under the fixed designation D1248; 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 provides for the identification of polyethylene plastics extrusion materials for wire and cable in such a manner that the seller and the purchaser can agree on the acceptability of different commercial lots or shipments. The tests involved in this specification are intended to provide information for identifying materials according to the types, classes, categories, and grades covered. It is not the function of this specification to provide specific engineering data for design purposes.

1.2 This specification does not allow for the use of recycled plastics (see [Note 3](#)).

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are mathematical conversions to inch-pound units that are provided for information only and are not considered standard.

1.4 The following safety hazards caveat pertains only to the test method portion, Section 12, 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.*

NOTE 1—There is no known ISO equivalent to this standard.

NOTE 2—This standard has undergone major revision from the reapproval of 1989 and now covers only polyethylene for wire and cable applications. For information regarding molding and extrusion materials, see Specification [D4976](#). For information regarding plastic pipe materials, see Specification [D3350](#).

NOTE 3—See Guide [D7209](#) and [3.1.2](#) of this standard for information and definitions related to recycled plastics.

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. Referenced Documents

2.1 ASTM Standards:²

- [D150](#) Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation
- [D257](#) Test Methods for DC Resistance or Conductance of Insulating Materials
- [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
- [D1505](#) Test Method for Density of Plastics by the Density-Gradient Technique
- [D1531](#) Test Methods for Relative Permittivity (Dielectric Constant) and Dissipation Factor by Fluid Displacement Procedures (Withdrawn 2012)³
- [D1603](#) Test Method for Carbon Black Content in Olefin Plastics
- [D1693](#) Test Method for Environmental Stress-Cracking of Ethylene Plastics
- [D2565](#) Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications
- [D2633](#) Test Methods for Thermoplastic Insulations and Jackets for Wire and Cable
- [D2839](#) Practice for Use of a Melt Index Strand for Determining Density of Polyethylene
- [D2951](#) Test Method for Resistance of Types III and IV Polyethylene Plastics to Thermal Stress-Cracking (Withdrawn 2006)³

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