



Designation: D5336 – 21

Standard Classification System and Basis for Specification for Polyphthalamide (PPA) Injection Molding Materials¹

This standard is issued under the fixed designation D5336; 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 classification system covers polyphthalamide (PPA) materials suitable for injection molding.

1.2 The properties included in this classification system are those required to identify the compositions covered. Other requirements necessary to identify particular characteristics important to specialized applications are to be specified by using suffixes as given in Section 5.

1.3 This classification system allows for the use of recycled materials provided that all specification requirements are met.

1.4 This classification system is intended to be a means of calling out plastics materials used in the fabrication of end items or parts. It is not intended for the selection of materials. Material selection can be made by those having expertise in the plastics field only after careful consideration of the design and the performance required of the part, the environment to which it will be exposed, the fabrication process to be employed, the costs involved, and the inherent properties of the material other than those covered by this classification system.

1.5 The values stated in SI units are to be regarded as the standard (see [IEEE/ASTM SI-10](#)). The values given in parentheses are for information only.

1.6 The following precautionary caveat pertains only to the test methods portion, Section 11, of this classification system: *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.* Specific precautionary statements are given in 11.7.1.

NOTE 1—There is no known ISO equivalent to this standard. ISO 16936-1/-2 for polyamides may also be used to describe and classify these PPA materials, but the technical content is significantly different.

NOTE 2—ASTM Standard [D6779](#) on polyamide materials also includes PPA materials in its coverage of various polyamide chemistries. This standard gives additional information for classification and specification

for PPA compositions classified as Group 10 (PA6T/66), Group 12 (PA6T/6I/66) and Group 13 (PA6T/6I) in ASTM Standard [D6779](#) and includes provisions for other PPA compositions to utilize the classification presented.

1.7 *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

- [D256](#) Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
- [D618](#) Practice for Conditioning Plastics for Testing
- [D638](#) Test Method for Tensile Properties of Plastics
- [D648](#) Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
- [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
- [D1600](#) Terminology for Abbreviated Terms Relating to Plastics
- [D2857](#) Practice for Dilute Solution Viscosity of Polymers
- [D3418](#) Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry
- [D3641](#) Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials
- [D3892](#) Practice for Packaging/Packing of Plastics
- [D4000](#) Classification System for Specifying Plastic Materials
- [D5225](#) Test Method for Measuring Solution Viscosity of Polymers with a Differential Viscometer
- [D5630](#) Test Method for Ash Content in Plastics

¹ This standard is under the jurisdiction of ASTM Committee [D20](#) on Plastics and is the direct responsibility of Subcommittee [D20.15](#) on Thermoplastic Materials (Section D20.15.09).

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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.

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