



Standard Classification System for Poly(Methyl Methacrylate) (PMMA) Molding and Extrusion Compounds¹

This standard is issued under the fixed designation D788; 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 The purpose of this classification system is to provide a method of adequately identifying PMMA materials using a system consistent with that of Classification System **D4000**. It further provides a means for specifying these materials by the use of a simple line callout designation.

1.2 This classification system covers poly(methyl methacrylate) molding and extrusion compounds. These compounds are polymers based on methyl methacrylate, and at least 70 % of the polymer shall be polymerized from methyl methacrylate.

1.3 The properties in this classification system are those required to identify the compositions covered. Other requirements necessary to identify particular characteristics important to specific applications shall be described by using the suffixes as given in Section 5.

1.4 Acrylic molding and extrusion compounds are used frequently in applications where extreme clarity and the ability to retain that clarity and color under severe weathering and other environmental exposures are of primary significance. While the test specimen properties of this document extend to the evaluation of nonvirgin materials, the user must take precautions to ensure that parts made from these materials meet the desired end-use requirements. Accordingly, this specification allows for the use of those acrylic plastic materials that can be recycled, reconstituted, and reground provided the following:

1.4.1 The requirements as stated in this specification are met, and

1.4.2 The requirements of the particular end-use application are met.

1.5 This classification system and subsequent line callout (specification) are not intended for the selection of materials, but only as a means to call out plastic materials to be used for

the manufacture of parts. The selection of these materials is to be made by personnel with expertise in the plastics field in which the environment, inherent properties of the materials, performance of the parts, part design, manufacturing process, and economics are considered.

NOTE 1—This classification system is similar to ISO 8257-1:1987 in title only. The technical content is significantly different.

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

1.7 *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

- D149** Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
- 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
- D883** Terminology Relating to Plastics
- D1003** Test Method for Haze and Luminous Transmittance of Transparent Plastics
- D1238** Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
- D1600** Terminology for Abbreviated Terms Relating to Plastics
- D3641** Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials
- D3892** Practice for Packaging/Packing of Plastics

¹ This classification system 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.