



Standard Classification System for Poly(Ether Ether Ketone) (PEEK) Molding and Extrusion Materials¹

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1. Scope

1.1 This classification system covers poly(ether ether ketone) materials suitable for injection molding and extrusion. This classification system allows for the use of recycled materials provided that all specification requirements are met.

1.2 The properties included in this standard 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 the suffixes in Section 5.

1.3 This classification system and subsequent line callout (specification) are intended to provide means of calling out poly(ether ether ketone) materials used in the fabrication of end items or parts. It is not intended for the selection of materials. It is recommended that material selection 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 cost involved, and the inherent properties of the material other than those covered by this specification.

1.4 Poly(ether ether ketone), commonly referred to as PEEK, is a member of the poly (aryl ether ketone) or PAEK family. Specification D6262 covers properties of PAEK shapes and includes shapes produced from PEEK.

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

1.5 The following precautionary caveat pertains only to the test method 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 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
- D256 Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
- D257 Test Methods for DC Resistance or Conductance of Insulating Materials
- D570 Test Method for Water Absorption 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
- D2863 Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
- D3171 Test Methods for Constituent Content of Composite Materials
- D3641 Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials
- D3418 Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry
- D3801 Test Method for Measuring the Comparative Burning Characteristics of Solid Plastics in a Vertical Position
- D3835 Test Method for Determination of Properties of Polymeric Materials by Means of a Capillary Rheometer
- D3892 Practice for Packaging/Packing of Plastics

¹ This test method 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.