



Designation: D6262 – 23

Standard Specification for Extruded, Compression Molded, and Injection Molded Basic Shapes of Poly(aryl ether ketone) (PAEK)¹

This standard is issued under the fixed designation D6262; 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.

INTRODUCTION

This specification is intended to be a means of calling out PAEK plastic shapes used in the fabrication of end items or parts.

1. Scope*

1.1 This specification covers requirements for the PAEK materials used and the requirements and methods of test for the dimensions, workmanship, and the properties of extruded, compression molded, and injection molded PAEK sheet, plate, rod, and tubular bar manufactured from PAEK. PAEK is a family of thermoplastic materials that differ in properties (see Section 3).

1.2 The properties included in this specification are those required for the compositions covered. Requirements necessary to identify particular characteristics important to specialized applications are described by using the classification system given in Section 4.

1.3 This specification allows the use of key clad plastics (see Section 4).

1.4 The values are stated in inch-pound units and are regarded as the standard in all property and dimensional tables. For reference purposes, SI units are also included in Table 1.

1.5 The following precautionary caveat pertains only to the test method portion Section 11, 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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

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

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

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

D790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

D883 Terminology Relating to Plastics

D3892 Practice for Packaging/Packing of Plastics

D4000 Classification System for Specifying Plastic Materials

D7209 Guide for Waste Reduction, Resource Recovery, and Use of Recycled Polymeric Materials and Products (Withdrawn 2015)³

D8033 Classification System for Poly(Ether Ether Ketone) (PEEK) Molding and Extrusion Materials

3. Terminology

3.1 *Definitions:*

3.1.1 *plate, n*—flat stock 1/4 in. (6.4 mm), or greater.

3.1.2 *Polyaryletherketone (PAEK), n*—a family of semi-crystalline thermoplastics whose molecular backbone contains alternately ketone (R-CO-R) and ether groups (R-O-R). The linking group R between the functional groups consists of a 1,2-, 1,3- or 1,4-substituted aryl group.

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