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AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for Sulfone Plastics (SP)¹

This standard is issued under the fixed designation D 6394; 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 specification covers the classification of sulfone plastics suitable for injection molding and extrusion.

1.2 The properties included in this specification are those required to identify the compositions covered. There may be other requirements necessary to identify particular characteristics important to specialized applications. These will be specified by using the suffixes in Section 5.

1.3 This specification is intended to be a means of calling out sulfone plastics used in the fabrication of end items or parts. Material selection should be made by those having expertise in the plastics field 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, and the inherent properties of the material other than those covered by this specification.

1.4 Sulfone polymers, being thermoplastic, are reprocessable and recyclable. This specification allows for the use of those sulfone polymer materials, provided that any specific requirements are met.

1.5 The following safety hazards caveat pertains only to the test method portion, Section 11, of this standard: *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—Reference Guide D 5033 for information and definitions related to recycled plastics.

NOTE 2—There is no equivalent or similar ISO standard.

2. Referenced Documents

2.1 ASTM Standards:

- D 256 Test Methods for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics²
- D 618 Practice for Conditioning Plastics and Electrical Insulating Materials for Testing²
- D 638 Test Method for Tensile Properties of Plastics²
- D 648 Test Method for Deflection Temperature of Plastics Under Flexural Load²

D 789 Test Methods for Determination of Relative Viscosity and Moisture Content of Polyamide (PA)²

D 790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials²

D 792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement²

D 883 Terminology Relating to Plastics²

D 1238 Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer²

D 1600 Terminology for Abbreviated Terms Relating to Plastics²

D 3641 Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials³

D 3892 Practice for Packaging/Packing of Plastics³

D 4000 Classification System for Specifying Plastic Materials³

D 4019 Test Method for Moisture in Plastics by Coulometric Regeneration of Phosphorus Pentoxide³

D 5033 Guide for the Development of Standards Relating to the Proper use of Recycled Plastics⁴

D 5630 Test Method for Ash Content in Thermoplastics⁴

E 29 Practice for Using Digits on Test Data to Determine Conformance With Specifications⁵

2.2 ISO Standards:⁶

ISO 1628-1 Determination of the Viscosity of Polymers in Dilute Solution Using Capillary Viscometer—Part 1: General Principles

ISO 1628-5 Determination of the Viscosity of Polymers in Dilute Solution Using Capillary Viscometers

3. Terminology

3.1 Except for terms defined below, the terminology used in this specification is in accordance with Terminologies D 883 and D 1600.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *sulfone plastics, n*—plastics based on any of various aromatic polymers which contain diphenyl sulfone in the backbone of the repeating unit of the molecule.

3.2.1.1 *Discussion*—All of the sulfone polymers which are

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 Annual Book of ASTM Standards, Vol 08.01.

³ Annual Book of ASTM Standards, Vol 08.02.

⁴ Annual Book of ASTM Standards, Vol 08.03.

⁵ Annual Book of ASTM Standards, Vol 14.02.

⁶ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.