



Designation: D 6339 – 98

Standard Specification for Syndiotactic Polystyrene Molding and Extrusion (SPS)¹

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1. Scope

1.1 This specification covers syndiotactic polystyrene materials including homopolymer, copolymers and impact modified, suitable for molding and extrusion. Recycled product will be addressed in a separate standard.

1.2 This specification is intended to be a means of calling out plastic materials used in fabrication of end use 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, the inherent properties of the material other than those covered by this specification, and the economics.

1.3 The properties included in this specification are those required to identify the compositions covered. Other requirements necessary to identify particular characteristics important to specialized applications can be called out using the suffixes given in Section 5.

NOTE 1—There is no ISO equivalent.

2. Referenced Documents

2.1 ASTM Standards:

- D 256 Test Methods for Impact Resistance of Plastics and Electrical Insulating Materials²
- 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 790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials²
- D 792 Test Methods for Specific Gravity (Relative Density) of Plastic by Displacement²
- D 883 Terminology Relating to Plastics²

D 1238 Test Methods for Flow Rate of Thermoplastics by Extrusion Plastometer²

D 1525 Test Method for Vicat Softening Temperature of Plastics²

D 1898 Practice for Sampling of Plastics²

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

D 3892 Practice for Packaging/Packing of Plastic³

D 4000 Classification System for Specifying Plastic Materials³

D 5630 Test Method for Ash Content in Thermoplastics⁴

2.2 *Military Standard*:⁵

MIL-STD-105 Sampling Procedure and Tables for Inspection by Attributes

3. Terminology

3.1 *Definitions*—For definitions of technical terms pertaining to plastics used in this specification, see Terminology D 883.

4. Classification

4.1 Syndiotactic polystyrene materials are classified into groups according to classes and grades shown in the basic properties table, Table SPS. Injection molded properties are the preferred standard and are used for the basis of call out examples.

NOTE 2—An example of this classification system for SPS is as follows: For SPS0111, the designation SPS would indicate SPS = syndiotactic polystyrene = homopolymer = general purpose, and 1 (grade) = minimum grade requirements as found in Table SPS.

4.1.1 To facilitate the incorporation of future or special materials the “Other/Unspecified” category (0) for group, class, and grade is shown in Table SPS. The basic properties can be obtained from Tables A or B as they apply (see 4.3).

4.2 Reinforced and filled syndiotactic polystyrene materials are classified in accordance with Table SPS as noted or with Table A.

¹ This specification is under the jurisdiction of ASTM Committee D-20 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 Available from Standardization Documents Order Desk, Bldg. 4 Section D, Philadelphia, PA, 199111-5094, Attn: PODS.