



Standard Specification for Polystyrene and Rubber-Modified Polystyrene Molding and Extrusion Materials (PS)¹

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1. Scope*

1.1 This specification covers polystyrene materials, both crystal and rubber modified, suitable for molding and extrusion. Recycled polystyrene products are addressed in Specification D 5676.

1.2 This specification is intended to be a means of calling out plastic materials 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, 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 as given in Section 5.

NOTE 1—This standard combines elements from ISO 1622-1-2 and ISO 2897-1-2, but is not equivalent to either ISO standard.

2. Referenced Documents

2.1 ASTM Standards:

- D 256 Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics²
- D 638 Test Method for Tensile Properties of Plastics²
- D 648 Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position²
- 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

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.

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

D 1525 Test Method for Vicat Softening Temperature of Plastics²

D 1600 Terminology for Abbreviated Terms Relating to Plastics²

D 2584 Test Method for Ignition Loss of Cured Reinforced Resins³

D 3892 Practice for Packaging/Packing of Plastics³

D 4000 Classification System for Specifying Plastic Materials³

D 5676 Specification for Recycled Polystyrene Molding and Extrusion Materials⁴

E 105 Practice for Probability Sampling of Materials⁵

2.2 ISO Standards:⁶

ISO 1622-1-2 Polystyrene (PS) Molding and Extrusion Materials

ISO 2897-1-2 Impact Resistant Polystyrene (PS-I) Molding and Extrusion Materials

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 Polystyrene materials are classified into groups in accordance with classes and grades as shown in the basic property table (Table PS). Injection molded properties are the preferred standard and are used for the basis of call out examples.

NOTE 2—Since compression molded properties have been removed from the standard with this publication, refer to previous publications of this standard, if interested in these properties.

NOTE 3—An example of this classification system for PS0111 is as follows: The designation PS0111 would indicate: PS = polystyrene as

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 (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

*A Summary of Changes section appears at the end of this standard.