



Standard Specification for Recycled Polystyrene Molding and Extrusion Materials¹

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1. Scope *

1.1 This specification covers only recycled post-consumer, or post-consumer or industrial/virgin blended polystyrene materials, both crystal and rubber modified, suitable for molding and extrusion.

1.2 This specification is intended as a means of calling out recycled 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 performance required of the part, environment to which it will be exposed, fabrication process to be used, inherent properties to the material other than those covered by this specification, and economics.

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

1.4 The values stated in SI units are to be regarded as the standard.

NOTE 1—There is no equivalent ISO standard.

2. Referenced Documents

2.1 ASTM Standards:

- D 256 Test Method 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 883 Terminology Relating of Plastics²
- D 1238 Test Method for 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

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.

D 2584 Test Method for Ignition Loss of Cured Reinforced Resins³

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

D 3892 Practice for Packaging/Packing of Plastics³

D 4000 Classification System for Specifying Plastic Materials³

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

D 5577 Guide for Techniques to Separate and Identify Contaminants in Recycled Plastics⁴

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications⁵

3. Terminology

3.1 Definitions:

3.1.1 For definitions of technical terms pertaining to plastics used in this specification, see Terminology D 883, and for terms related to recycle, see Guide D 5033.

3.1.2 RPS is an abbreviation chosen for use in this specification to represent recycled polystyrene materials. (See Terminology D 1600 for other abbreviated terms related to plastics.)

4. Classification

4.1 The RPS materials are classified into groups according to levels of recycled material and grade as shown in the basic property table (Table RPS).

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

NOTE 2—An example of this classification system for RPS0111 is as follows: The designation RPS0111 would indicate: RPS recycled polystyrene, 1 (group) = 100 % recycled, 1 class = post-consumer, and 1 (grade) = food service with requirements as found in Table RPS.

4.1.2 Although the values listed are necessary to include the range of properties available in existing materials, users should not infer that every possible combination on the properties exists or can be obtained.

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.

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