



Standard Classification System for and Basis for Specification for Acrylonitrile–Butadiene–Styrene (ABS) Plastics and Alloys Molding and Extrusion Materials¹

This standard is issued under the fixed designation D4673; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This classification system covers only ABS materials and ABS alloys suitable for injection molding and extrusion. Some of these compositions are also suitable for compression molding. Recycle ABS and alloys will be addressed in a separate standard.

1.2 This classification system and subsequent line callout (specification) are intended to provide a means of calling out plastic materials used in the fabrication of end items or parts. It is not intended for the selection of materials. Materials are to be selected by personnel with expertise in the plastics field where the economics, the environment to be encountered, the inherent properties of the materials, the part design, the part performance required, and the manufacturing process to be employed all enter into the selection.

1.3 The properties included in this classification system are those required to identify the compositions covered. Other requirements necessary to identify particular characteristics important to specialized applications are addressed by using the suffixes given in Section 5.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following precautionary caveat pertains only to the test methods portion, Section 12, of this classification system: *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—This standard and ISO 2580 address the same subject matter, but differ in technical content.

¹ This classification system 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. 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

D648 Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position (Withdrawn 2016)³

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

D883 Terminology Relating to Plastics

D1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics

D1525 Test Method for Vicat Softening Temperature of Plastics

D3641 Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials

D3892 Practice for Packaging/Packing of Plastics

D4000 Classification System for Specifying Plastic Materials

D5630 Test Method for Ash Content in Plastics

E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

2.2 ISO Standards:⁴

ISO 75-1 Plastics—Determination of Temperature of Deflection Under Load—Part 1: General Test Methods

ISO 75-2 Plastics—Determination of Temperature of Deflection Under Load—Part 2: Plastics and Ebonite

ISO 179 Plastics—Determination of Charpy Impact Strength of Rigid Materials

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.

⁴ 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