



Designation: D3307 – 21

# Standard Specification for Perfluoroalkoxy (PFA) Resin Molding and Extrusion Materials<sup>1</sup>

This standard is issued under the fixed designation D3307; 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 ( $\epsilon$ ) 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 specification covers melt processable molding and extrusion materials of Perfluoroalkoxy (PFA) resin. The materials are copolymers of tetrafluoroethylene and perfluoroalkoxy.

1.2 This specification is intended to provide a means for calling out plastic materials used in the fabrication of end items or parts. It is not intended for the selection of materials. 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 costs involved, and the inherent properties of the material other than those covered by this specification.

1.3 This specification does not cover recycled plastics.

1.4 The values stated in SI units<sup>2</sup> are to be regarded as standard. The values given in parentheses are for information only.

1.5 The following precautionary caveat pertains only to the test methods portions, Sections 8 and 9 of this specification: *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—This specification, ISO 20568-1, and ISO 20568-2 differ in approach or detail. Data obtained using either may not be technically equivalent.

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recom-*

*mendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>3</sup>

- D150 Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation
- D618 Practice for Conditioning Plastics for Testing
- D638 Test Method for Tensile Properties of Plastics
- D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- D883 Terminology Relating to Plastics
- D1238 Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
- D1600 Terminology for Abbreviated Terms Relating to Plastics
- D1708 Test Method for Tensile Properties of Plastics by Use of Microtensile Specimens
- D3892 Practice for Packaging/Packing of Plastics
- D4591 Test Method for Determining Temperatures and Heats of Transitions of Fluoropolymers by Differential Scanning Calorimetry
- E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods
- IEEE/ASTM SI-10 Standard for Use of the International System of Units (SI): The Modern Metric System

### 2.2 ISO Standards:<sup>4</sup>

- ISO 20568-1 Plastics—Fluoropolymer Dispersions and Moulding and Extrusion Materials—Part 1
- ISO 20568-2 Plastics—Fluoropolymer Dispersions and Moulding and Extrusion Materials—Part 2

## 3. Terminology

3.1 *Definitions*—Definitions are in accordance with Terminologies D883 and D1600.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15.12.

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<sup>2</sup> As defined in IEEE/ASTM SI-10.

<sup>3</sup> 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.

<sup>4</sup> Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

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

