



Standard Specification for Fluorocarbon Perfluoromethoxy (MFA) Resin Molding and Extrusion Materials¹

This standard is issued under the fixed designation D 6314; 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.

1. Scope

1.1 This specification covers melt processible molding and extrusion materials that are copolymers of tetrafluoroethylene (TFE) containing perfluoroalkoxy side chains. These side chains are predominately perfluoromethoxy (MFA) chains derived from perfluoro(methyl vinyl ether) and may contain perfluoroalkoxy groups from other perfluoro(vinyl ethers).

1.2 This specification does not cover recycled plastics.

1.3 The tests involved are intended to provide information for identifying the materials covered. It is not the function of this specification to provide engineering data for design purposes. Specimens prepared by injection molding or extrusion could yield test results that may vary from the values in this specification.

1.4 The values stated in SI units, as detailed in IEEE/ASTM SI 10, are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following safety hazards caveat pertains only to the test methods portion, Section 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 and health practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—The materials of this specification can be designated and specified according to the system of ISO 12086-1 and the test methods of ISO 12086-2. Details are provided in Appendix X1.

2. Referenced Documents

2.1 ASTM Standards:

- D 150 Test Methods for A-C Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulating Materials²
- D 618 Practice for Conditioning Plastics and Electrical Insulating Materials for Testing³
- D 638M Test Method for Tensile Properties of Plastics Metric³
- D 792 Test Methods for Specific Gravity (Relative Density)

of Plastics by Displacement³

D 883 Terminology Relating to Plastics³

D 1238 Test Method for Flow Rates of Thermoplastics by Extrusion Plastometer³

D 1505 Test Method for Density of Plastics by the Density-Gradient Technique³

D 1600 Terminology for Abbreviated Terms Relating to Plastics³

D 2116 Specification for FEP-Fluorocarbon Molding and Extrusion Materials³

D 3307 Specification for PFA-Fluorocarbon Molding and Extrusion Materials⁴

D 3892 Practice for Packaging/Packing of Plastics⁴

D 4591 Test Methods for Determining Temperatures and Heats of Transitions of Fluoropolymers by Differential Scanning Calorimetry⁵

D 4895 Specification for Polytetrafluoroethylene (PTFE) Resins Produced from Dispersion⁵

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods⁶

2.2 IEEE/ASTM Standard:

IEEE/ASTM SI 10 Standard for the Use of the International System of Units (SI): The Modern Metric System⁶

2.3 ISO Standards:

ISO 12086-1: 1995 Plastics—Fluoropolymer Dispersions and Moulding and Extrusion Materials, Part 1-Designation System and Basis for Specifications⁷

ISO 12086-2: 1995 Plastics—Fluoropolymer Dispersions and Moulding and Extrusion Materials, Part 2-Preparation of Test Specimens and Determination of Properties⁷

3. Terminology

3.1 *Definitions*—Definitions of terms used in this specification shall be in accordance with Terminology D 883.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *lot, n*—one production run or a uniform blend of two or more production runs.

3.2.2 *MFA*—a copolymer of tetrafluoroethylene and one or more perfluoro(alkyl vinyl ethers) in which perfluoro(methyl

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 10.01.

³ Annual Book of ASTM Standards, Vol 08.01.

⁴ Annual Book of ASTM Standards, Vol 08.02.

⁵ Annual Book of ASTM Standards, Vol 08.03.

⁶ Annual Book of ASTM Standards, Vol 14.02.

⁷ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.