



Designation: D1430 – 17

Standard Classification System for Polychlorotrifluoroethylene (PCTFE) Plastics¹

This standard is issued under the fixed designation D1430; 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 polychlorotrifluoroethylene (PCTFE) plastics that consist of at least 90 % chlorotrifluoroethylene and are suitable for extrusion and for compression and injection molding. Additional components allow for chemical modifications, such as co-monomers, but not colorants, fillers, plasticizers, or mechanical blends with other resins. This classification system does not cover recycled PCTFE materials.

1.2 The physical and electrical properties of parts molded or extruded from PCTFE molding compounds vary with the crystalline content obtained during processing and subsequent annealing. Accordingly, the numerical values listed in **Table 1** apply only to the test specimens molded in accordance with Section 8. These values are not applicable as design criteria to semi-finished and finished parts prepared and annealed under other conditions.

1.3 The values stated in SI units as detailed in **IEEE/SI-10** are to be regarded as the standard. The values given in parentheses are for information only.

1.4 The following precautionary statement pertains only to the test methods portion, Section 10, 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—Although this classification system and ISO 12086-1 (1995) and ISO 12086-2 (1995) differ in approach or detail, data obtained using either are technically equivalent.

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 (Section D20.15.12).

Current edition approved March 1, 2017. Published March 2017. Originally approved in 1956. Last previous edition approved in 2016 as D1430 – 11(2016). DOI: 10.1520/D1430-17.

2. Referenced Documents

2.1 ASTM Standards:²

D150 Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation

D618 Practice for Conditioning Plastics for Testing

D621 Test Methods for Deformation of Plastics Under Load (Withdrawn 1994)³

D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement

D883 Terminology Relating to Plastics

D1600 Terminology for Abbreviated Terms Relating to Plastics

D3418 Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry

D3892 Practice for Packaging/Packing of Plastics

D4591 Test Method for Determining Temperatures and Heats of Transitions of Fluoropolymers by Differential Scanning Calorimetry

D4895 Specification for Polytetrafluoroethylene (PTFE) Resin Produced From Dispersion

D7194 Specification for Aerospace Parts Machined from Polychlorotrifluoroethylene (PCTFE)

D7211 Specification for Parts Machined from Polychlorotrifluoroethylene (PCTFE) and Intended for General Use

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

2.2 ISO Standard:⁴

ISO 12086-1 (1995) Plastics—Fluoropolymer Dispersions and Moulding and Extrusion Materials, Part 1

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, <http://www.ansi.org>.

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