



# Standard Classification System for E-CTFE-Fluoroplastic Molding, Extrusion, and Coating Materials<sup>1</sup>

This standard is issued under the fixed designation D3275; 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 classification system covers melt processible molding, extrusion, and coating materials of ethylene-chlorotrifluoroethylene (E-CTFE) fluoroplastics. The resin is a copolymer of ethylene and chlorotrifluoroethylene containing approximately 80 weight % of chlorotrifluoroethylene.

1.2 The values stated in SI units, as detailed in [IEEE/ASTM SI-10](#), are to be regarded as standard.

1.3 The following precautionary statement pertains only to the test methods portion, Section 11 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 and ISO 12086-2 differ in approach or detail, data obtained using either are technically equivalent.

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>2</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

<sup>1</sup> 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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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[D1600](#) Terminology for Abbreviated Terms Relating to Plastics

[D1708](#) Test Method for Tensile Properties of Plastics by Use of Microtensile Specimens

[D2863](#) Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)

[D3892](#) Practice for Packaging/Packing of Plastics

[D4591](#) Test Method for Determining Temperatures and Heats of Transitions of Fluoropolymers by Differential Scanning Calorimetry

[IEEE/ASTM SI-10](#) Use of the International System of Units (SI): The Modern Metric System

### 2.2 ISO Standards:<sup>3</sup>

[ISO 12086-1](#) Plastics—Fluoropolymer Dispersion and Moulding and Extrusion Materials—Part 1: Designation and Basis for Specification

[ISO 12086-2](#) Plastics—Fluoropolymer Dispersion and Moulding and Extrusion Materials—Part 2: Preparation of Test Specimens and Determination of Properties

## 3. Terminology

### 3.1 Definitions:

3.1.1 Definitions of terms used in this classification system shall be in accordance with Terminology [D883](#).

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

### 3.2 Abbreviations:

3.2.1 Abbreviations are in accordance with Terminology [D1600](#).

## 4. Classification

4.1 ECTFE materials are classified into groups in accordance with their physical appearance. The groups are further divided into classes based on melt flow rate. These classes are subdivided into grades as shown in the Table E-CTFE. An example of a material of this classification system is given as follows: ECTFE 01 1 1

<sup>3</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