



Designation: D 6040 – 01

# Standard Guide to Standard Test Methods for Unsintered Polytetrafluoroethylene (PTFE) Extruded Film or Tape <sup>1</sup>

This standard is issued under the fixed designation D 6040; 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.

## 1. Scope\*

1.1 This guide identifies test methods to use in evaluating unsintered extruded films or tapes manufactured from polytetrafluoroethylene.

1.2 The values stated in SI units as detailed in IEEE/ASTM SI 10, are to be regarded as standard.

1.3 *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—There is no ISO standard that covers all of the information included in this guide. A few of these test methods are mentioned in ISO 12086-2:1995.

## 2. Referenced Documents

### 2.1 ASTM Standards:

- D 149 Test Methods for Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies<sup>2</sup>
- D 150 Test Methods for A-C Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation<sup>2</sup>
- D 257 Test Methods for D-C Resistance or Conductance of Insulating Materials<sup>2</sup>
- D 374 Test Methods for Thickness of Solid Electrical Insulation<sup>2</sup>
- D 792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement<sup>3</sup>
- D 882 Test Methods for Tensile Properties of Thin Plastic Sheeting<sup>3</sup>

<sup>1</sup> This guide 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> Annual Book of ASTM Standards, Vol 10.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 08.01.

- D 883 Terminology Relating to Plastics<sup>3</sup>
- D 1711 Terminology Relating to Electrical Insulation<sup>2</sup>
- D 2288 Test Method for Weight Loss of Plasticizers on Heating<sup>2</sup>
- D 3776 Test Methods for Mass per Unit Area (Weight) of Fabric<sup>4</sup>
- F 335 Terminology Related to Electrostatic Copying<sup>5</sup>
- F 412 Terminology Related to Plastic Piping Systems<sup>6</sup>
- IEEE/ASTM SI 10 Standard for Use of the International System of Units (SI): The Modern Metric System<sup>7</sup>
- 2.2 ISO Standard:
  - ISO 12086-2:1995 Plastics—Fluoropolymer Dispersions and Moulding and Extrusion Materials—Part 2: Preparation of Test Specimens and Determination of Properties<sup>8</sup>

## 3. Terminology

3.1 *Definitions:* Definitions are in accordance with Test Methods D 257 and Terminologies D 883 and D 1711, unless otherwise specified.

3.1.1 *apparent density, n*—the weight per unit volume of a material including voids inherent in the material as tested, see Terminology F 412.

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

### 3.2 Definitions of Terms Specific to This Standard:

3.2.1 *film, n*—full-width material received as finished film.

3.2.2 *tape, n*—material that has been slit from the finished film.

3.2.3 *volume resistivity, n*—the volume resistance (in ohm-centimetres) between opposite faces of a material where the

<sup>4</sup> Annual Book of ASTM Standards, Vol 07.02.

<sup>5</sup> Annual Book of ASTM Standards, Vol 15.09.

<sup>6</sup> Annual Book of ASTM Standards, Vol 08.04.

<sup>7</sup> Available from ASTM Headquarters, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

<sup>8</sup> Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

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