



Designation: D7193 – 05

Standard Specification for Unsintered Pigmented Polytetrafluoroethylene (PTFE) Extruded Film or Tape¹

This standard is issued under the fixed designation D7193; 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 unsintered, pigmented, extruded films or tapes manufactured from polytetrafluoroethylene, in nominal thicknesses from 0.025 mm (0.001 in.) to 0.51 mm (0.020 in.), that are >97 % virgin PTFE in composition prior to introducing pigments.

1.1.1 The use of recycled PTFE for production of unsintered extruded films or tapes has not been identified at this time. When commercial usable processes and materials are available, this specification will be revised to include recycled materials.

1.2 The values stated in SI units are detailed in [IEEE/ASTM SI-10](#) are to be regarded as the standard. The values given in parentheses are for information only.

1.3 *This standard does not purport to address all of the safety problems 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 specification and [ISO/DIS 13000-1](#) (1997) and [ISO/DIS 13000-2](#) (1997) differ in approach or detail, data obtained relating to specific properties, using either are technically equivalent.

NOTE 2—This specification is intended to be a complement to Specification [D6585](#), as the materials covered herein vary significantly enough due to their additives to warrant a stand-alone set of requirements.

2. Referenced Documents

2.1 ASTM Standards:²

[D257](#) Test Methods for DC Resistance or Conductance of Insulating Materials

[D618](#) Practice for Conditioning Plastics for Testing

[D638](#) Test Method for Tensile Properties of Plastics

[D883](#) Terminology Relating to Plastics

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

¹ This specification 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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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.

[D1711](#) Terminology Relating to Electrical Insulation

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

[D6040](#) Guide to Test Methods for Unsintered Polytetrafluoroethylene (PTFE) Extruded Film or Tape

[D6585](#) Specification for Unsintered Polytetrafluoroethylene (PTFE) Extruded Film or Tape

[E29](#) Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

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

2.2 *ISO Standards:*³

[ISO/DIS 13000-1](#) Plastics—Polytetrafluoroethylene (PTFE) Semi-Finished Products—Part 1: Requirements and Designation

[ISO/DIS 13000-2](#) Plastics—Polytetrafluoroethylene (PTFE) Semi-Finished Products—Part 2: Preparation of Test Specimens and Determination of Properties

2.3 *GSA Standard:*⁴

[A-A-58092](#) Tape, Anti-Seize Polytetrafluoroethylene

3. Terminology

3.1 *Definition*—Definitions are in accordance with Terminologies [D883](#), [D1711](#), and Test Methods [D257](#); and abbreviated terms are in accordance with Terminology [D1600](#), unless otherwise specified.

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

3.3 *Definitions of Terms Specific to This Standard:*

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

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

3.3.3 *tensile strength at yield, n*—from Test Methods [D638](#), Figure A2.3.

3.3.4 *pigment*—liquid or dry matter used as an additive, to alter the color of finished film or tape.

4. Classification

4.1 This specification covers three types of unsintered, pigmented, extruded PTFE tapes:

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁴ Available from General Services Administration, Engineering and Commodity Management Division (9FTE-10), 400 15th St. SW, Auburn, WA 98001