



Standard Specification for Perfluoroalkoxy (PFA)-Fluoropolymer Tubing¹

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1. Scope

1.1 This specification covers tubing produced from PFA Fluoropolymer resins which are cited in Specification [D3307](#). This document specifies tubing dimensional tolerances, tensile properties and related electrical properties as noted in the appropriate tables when tested in accordance with the methods cited in this specification. This specification is for virgin material only and does not address recycled material, as it is not appropriate for PFA tubing.

NOTE 1—Abbreviations are in accordance with Terminology [D1600](#).

NOTE 2—There is no known ISO equivalent to this standard.

1.2 The values stated in SI units are to be regarded as standard. The values given in parentheses are for information only.

1.3 The following safety hazards caveat pertains only to the test methods portion, Section 7, 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 requirements prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

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

[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](#)

[D1675 Test Methods for Polytetrafluoroethylene Tubing](#)

[D3307 Specification for Perfluoroalkoxy \(PFA\)-Fluorocarbon Resin Molding and Extrusion Materials](#)

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.

[D4894 Specification for Polytetrafluoroethylene \(PTFE\) Granular Molding and Ram Extrusion Materials](#)
[IEEE/ASTM SI 10 Standard for Use of the International System of Units \(SI\): The Modern Metric System](#)³

3. Terminology

3.1 *Definitions:*

3.1.1 Definitions are in accordance with Terminology [D883](#) unless otherwise specified.

3.1.2 *lot, n*—one continuous production run or a uniform blend of two or more production runs of one size sheet or molded basic shape.

4. Physical Requirements

4.1 The tubing shall be made of PFA-fluoropolymer resin meeting the requirements of Specification [D3307](#).

4.2 The inside diameter and wall thickness and tolerances of the tubing shall be as shown in [Table 1](#), when determined in accordance with [7.1.3.1](#) and [7.1.3.2](#).

4.3 The specific gravity of the tubing shall be between 2.12 and 2.17 inclusive when determined in accordance with [7.1.4](#).

4.4 The tubing shall have a minimum tensile strength of 10.0 MPa (1500 psi) and a minimum elongation of 200 % when determined in accordance with [7.1.5](#).

4.5 The tubing shall remain free from cracks and exhibit no splitting when tested for dimensional stability in accordance with [7.1.6](#).

5. Sampling

5.1 Sampling shall be statistically adequate to satisfy the requirements of [8.2](#).

6. Number of Tests and Retests

6.1 One set of five test specimens shall be considered sufficient for testing each batch. The average result of the specimens tested shall conform to the requirements of this specification.

³ Available from ASTM International Headquarters, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959.