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Standard Specification for Perfluoroalkoxy (PFA)-Fluoropolymer Tubing[1]

This standard is issued under the fixed designation D 6867; 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 tubing produced from PFA Fluoropolymer resins which are cited in Specification D 3307. 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 D 1600.

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

1.2 The values stated in SI units are to be regarded as ~~the~~ standard. The values given in ~~brackets~~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]

D 618 Practice for Conditioning Plastics for Testing

D 792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement

D 883 Terminology Relating to Plastics

D 1600 Terminology for Abbreviated Terms Relating to Plastics

D 1675 Test Methods for Polytetrafluoroethylene Tubing

D 3307 Specification for Perfluoroalkoxy (PFA)-Fluorocarbon Resin Molding and Extrusion Materials

D 4894 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*—Definitions are in accordance with Terminology D 883 unless otherwise specified.

3.1.1 *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 D 3307.

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]~~(1500 psi) and a minimum elongation of 200 % when determined in accordance with 7.1.5.

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[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* ~~, Vol 08.01.~~volume information, refer to the standard's Document Summary page on the ASTM website.

~~[3] Annual Book of ASTM Standards, Vol 10.01.~~

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