

**AEROSPACE
MATERIAL
SPECIFICATION**

SAE AMS3668

REV. E

Issued	1967-04
Reaffirmed	2003-05
Revised	2010-05
Stabilized	2011-08
Superseding AMS3668D	

Polytetrafluoroethylene (PTFE) Moldings
Premium Grade, As Sintered

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE

1.1 Form

This specification covers two types of virgin, unfilled polytetrafluoroethylene (PTFE) in the form of molded rods, tubes, and shapes. This specification does not apply to product over 12 inches (305 mm) in length, rods under 0.750 inch (19.05 mm) in diameter, and tubes having wall thickness under 0.500 inch (12.70 mm).

1.2 Application

These moldings have been used typically for parts requiring chemical inertness up to 500 °F (260 °C), and better mechanical and/or electrical properties than AMS3660, but usage is not limited to such applications. For applications such as bearings, seals, and back-up rings that do not require dielectric properties it is recommended to use AMS3678/1 Grade A.

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

1.4 Types 1 and 2, which were defined in previous revisions of this specification, have been combined. For documentation which specifies Type 1 or Type 2 of this specification, all of the requirements of this specification now apply.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE Internatioanl, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AMS3660	Polytetrafluoroethylene (PTFE) Moldings, General Purpose Grade, As Sintered
AMS3678	Polytetrafluoroethylene (PTFE) Moldings and Extrusions, Unfilled, Pigmented and Filled Compounds

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D 149	Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM D 792	Specific Gravity (Relative Density) and Density of Plastics by Displacement
ASTM D 4894	Standard Specification for Polytetrafluoroethylene (PTFE) Granular Molding and Ram Extrusion Materials

2.3 U.S. Government Publications

Available from the Document Automation and Production Service (DAPS), Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6257, <http://assist.daps.dla.mil/quicksearch/>.

MIL-STD-2073-1 Military Packaging, Standard Practice for

3. TECHNICAL REQUIREMENTS

3.1 Material

The product shall be molded by either compression or isostatic process from virgin polytetrafluoroethylene (PTFE) powder conforming to ASTM D 4894 Type IV or Type V without admixture of fillers, pigments, or adulterants and shall be sintered. . "Virgin" shall mean no previous heat or pressure history.

3.2 Color

Shall be predominantly white. Surface discoloration from sintering and/or annealing may vary from white to mottled gray or brown. Small gray, brown, or black spots shall not in themselves be unacceptable provided they do not have an adverse effect on the end usage of the finished product.

3.3 Properties

Moldings shall conform to requirements shown in Table 1; tests shall be performed on the product supplied and in accordance with specified test methods, insofar as practicable.