

**AEROSPACE
MATERIAL
SPECIFICATION**

SAE AMS3660

REV. E

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Superseding AMS3660D	

Polytetrafluoroethylene (PTFE) Moldings
General Purpose 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 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 dimension parallel to the direction of applied molding pressure, 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 such as, bushings and insulators, requiring chemical inertness and good mechanical and electrical properties up to 500 °F (260 °C), 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 Material

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 following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

2.1 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	Polytetrafluoroethylene (PTFE) Granular Molding and Ram Extrusion Materials

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 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 a detrimental effect on the end usage of the finished product.

3.3 Properties

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

3.4 Quality

Moldings, as received by purchaser, shall be uniform in quality and condition, smooth, and free from foreign materials and from imperfections detrimental to usage of the moldings. Surface discoloration from the molding and/or sintering process shall not be considered detrimental.

3.5 Tolerances

Unless otherwise agreed between purchaser and supplier, the tolerances shown in Table 2, Table 3, and Table 4 apply at 73 to 86 °F (23 to 30 °C).