

**AEROSPACE
MATERIAL
SPECIFICATION**

SAE AMS3756

REV. C

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Superseding AMS3756B

Moldings, Glass Fiber Filled Polytetrafluoroethylene (PTFE)
75% PTFE Resin, 25% Glass Fibers, 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 one grade of glass-fiber-filled polytetrafluoroethylene (PTFE) in the form of molded billets.

1.2 Application

Primarily for parts, such as seals and back-up rings, requiring chemical inertness and superior mechanical properties up to 500 °F (260 °C).

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.

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 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 621	Standard Test Methods for Deformation of Plastics Under Load
ASTM D 792	Specific Gravity 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 from a mixture of 75% \pm 2 by weight of virgin polytetrafluoroethylene (PTFE) powder conforming to ASTM D 4894, Type II or Type IV and 25% \pm 2 by weight glass fiber without admixture of other fillers, pigments, or adulterants and shall be sintered. Glass content shall be determined in accordance with 4.5.1.

3.1.1 Parts etched to remove the glass near the surface are acceptable with glass fiber content as low as 21%.

3.2 Color

Shall be opaque white. Minor discolorations shall not be cause for rejection.

3.3 Properties

The product shall conform to the requirements of Table 1; tests shall be performed on production product supplied and in accordance with specified test methods:

TABLE 1 - PROPERTIES

Paragraph	Property	Requirement	Test Method
4.4.2	Tensile Strength at 75 °F \pm 3 (24 °C \pm 2), minimum:		4.4.2
4.4.2	Parallel to Direction of Molding	2100 psi (14.5 MPa)	
4.4.2	Perpendicular to Direction of Molding	2700 psi (18.6 MPa)	
4.4.2	Elongation at 75 °F \pm 3 (24 °C \pm 2), minimum:		4.4.2
4.4.2	Parallel to Direction of Molding	270%	
4.4.2	Perpendicular to Direction of Molding	240%	
4.4.3	Specific Gravity at 73 °F \pm 3 (23 °C \pm 2)	2.22 \pm 0.02	4.4.3
4.4.4	Compressive Creep under 2000 psi (13.8 MPa) at 75 °F \pm 5 (24 °C \pm 3), maximum:		4.4.4
4.4.4	After 24 hours at load	7.1%	
4.4.4	After 24 hours recovery	3.9%	