

**AEROSPACE  
MATERIAL  
SPECIFICATION**

**SAE** AMS3643

REV. C

Issued 1964-01  
Revised 1992-10  
Reaffirmed 2004-06  
Stabilized 2011-08

Superseding AMS3643B

Plastic Moldings, Silicone, Thermosetting  
Glass Roving Filled  
Heat Resistant

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 a glass-roving-filled silicone resin in the form of compression moldings or transfer moldings.

### 1.2 Application:

These products have been used typically for parts requiring good mechanical and electrical properties and thermal stability in continuous service up to 315 °C (599 °F) or intermittent service up to 370 °C (698 °F), but usage is not limited to such applications.

### 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 following publications form a part of this specification 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.

## 2.1 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 150	A-C Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulating Materials
ASTM D 256	Impact Resistance of Plastics and Electrical Insulating Materials
ASTM D 257	D-C Resistance or Conductance of Insulating Materials
ASTM D 570	Water Absorption of Plastics
ASTM D 635	Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position
ASTM D 638	Tensile Properties of Plastics
ASTM D 638M	Tensile Properties of Plastics (Metric)
ASTM D 648	Deflection Temperature of Plastics Under Flexural Load
ASTM D 695	Compressive Properties of Rigid Plastics
ASTM D 695M	Compressive Properties of Rigid Plastics (Metric)
ASTM D 790	Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
ASTM D 790M	Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials (Metric)

## 2.2 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-STD-2073-1 DOD Materiel, Procedures for Development and Application of Packaging Requirements

## 3. TECHNICAL REQUIREMENTS:

### 3.1 Material and Fabrication:

Shall be a glass-roving-filled silicone resin fabricated by compression molding or transfer molding to meet the requirements of 3.2.

#### 3.1.1 Color: Shall be brown-red opaque.

#### 3.1.2 Glass Filler: The glass roving, prior to being chopped, shall be heat cleaned to a No. 112 finish followed by washing to a neutral pH or shall be subjected to an equivalent procedure which will promote good adhesion to the silicone resin. The length of the chopped glass shall be 1/2 to 5/8 inch (12.7 to 15.9 mm).