



AEROSPACE MATERIAL SPECIFICATION

AMS3327™
REV. E

Issued	1968-11
Reaffirmed	2001-04
Revised	2019-02

Superseding AMS3327D

(R) Elastomer: Fluorosilicone Rubber (FVMQ)
 High Temperature, High Modulus, Fuel and Oil Resistant
 70 - 80 Shore A Hardness
 For Products in Fuel Systems/Lubricating Oils

RATIONALE

Five-Year Review and update of specification and to incorporate new AMS3XXX series template format.

FOREWORD

Some technical changes have been made to better align with the requirements of MIL-DTL-25988 Type II, Class 3, Grade 75 in preparation for the planned future obsolescence of that specification. Where the Physical Property requirements differed between the two specifications, the more stringent requirement was used. Where additional requirements/testing were present in the MIL-DTL-25988 specification, they were incorporated into this specification.

1. SCOPE

1.1 Form

This specification covers a fluorosilicone (FVMQ) elastomer that can be used to manufacture product in the form of sheet, strip, and molded shapes. This specification should not be used for molded rings, compression seals, O-ring cord, and molded in place gaskets for aeronautical and aerospace applications without complete consideration of the end use prior to the selection of this material.

1.2 Application

This material type has resistance to jet fuel and lubricating oils, but usage is not limited to such applications. This material type has a typical service temperature range of -76 to +350 °F (-60 to +176.6 °C). The service temperature range of the material is a general temperature range, but the presence of particular fluids and specific design requirements may modify this range. Each application should be considered separately. It is the responsibility of the user to determine that this specification is appropriate for the environments (temperature range, fluids exposure, etc.) in which it is sought to be used.

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1.3 Order of Precedence

This specification is in addition to and in no way limiting, superseding, or abrogating any contractual obligation as required by the applicable procurement document. In the event of conflict in requirements, the order of precedence shall be:

1. Procurement Document or Contractual Agreement and all statutory and regulatory requirements (excluding this document)
2. Applicable purchaser's drawing and/or design data
3. Specifications referenced on the drawing
4. This document
5. All specifications referenced in this document

1.4 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 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2279	Tolerances, Rubber Products
AMS2629	Fluid, Jet Reference
AMS2810	Identification and Packaging, Elastomeric Products
AMS3021	Fluid, Reference for Testing Di-Ester (Polyol) Resistant Materials

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 D297	Standard Test Methods for Rubber Products Chemical Analysis
ASTM D395	Standard Test Methods for Rubber Property Compression Set
ASTM D412	Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
ASTM D471	Standard Test Methods for Rubber Property - Effect of Liquids
ASTM D573	Standard Test Methods for Rubber Property Deterioration in an Air Oven

- ASTM D624 Standard Test Methods for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- ASTM D1329 Standard Test Method for Evaluating Rubber Property Retraction at Low Temperature (TR Test)
- ASTM D2137 Standard Test Methods for Rubber Property - Brittleness Point of Flexible Polymers and Coated Fabrics
- ASTM D2240 Standard Test Methods for Rubber Property - Durometer Hardness

2.3 U.S. Government Publications

Copies of these documents are available online at <https://quicksearch.dla.mil>.

- MIL-STD-289 Visual Inspection Guide for Rubber Sheet Material
- MIL-STD-298 Visual Inspection Guide for Rubber Extruded Goods
- MIL-STD-407 Visual Inspection Guide for Rubber Molded Items

2.4 Other Publications

Available from NCSL International, 2995 Wilderness Place, Suite 107, Boulder, CO 80301, Tel: 303-440-3339, www.ncsli.org.

ANSI/ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be prepared from ingredients as shall be necessary to achieve the requirements detailed in this standard and shall be a compound, based on the polymer specified in 1.1, suitably cured to produce product meeting the requirements of 3.2. Material shall be based on 100% virgin fluorosilicone (FVMQ) elastomer. Reprocessed vulcanized material is not acceptable.

3.1.1 Color

Unless otherwise specified, the color shall be blue.

(A pigment which has been successfully used is Ferro Blue No. 3247, supplied by Ferro Corporation, 4150 East 56th Street, Cleveland, Ohio 44101, or 1395 Aspen Way, Vista, California 92083. A formula of 1.5 parts of this pigment per 100.0 parts of fluorosilicone is suggested.)

3.2 Properties

The product shall conform to requirements shown in Table 1.