AEROSPACE MATERIAL SPECIFICATION

AMS3323™	REV. B

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Superseding AMS3323A

Sponge, Fluorosilicone (FVM) Rubber Closed Cell

RATIONALE

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

STABILIZED NOTICE

AMS3323B has been declared "STABILIZED" by SAE AMS Committee CE Elastomers and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

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1. SCOPE

1.1 Form

This specification covers a fluorosilicone (FVM) rubber sponge in the form of sheet, strip, extrusions, and molded shapes.

1.2 Application

Primarily for applications requiring closed-cell sponge rubber, resistant to fuel, and which will be flexible from -85 to +401 °F (-65 to +205 °C). Material covered by this specification is not intended to be resistant to aircraft turbine engine oils.

1.3 Classification

Sponge shall be classified by degree of firmness as follows:

Class 1 - Soft

Class 2 - Moderate Firm

Class 3 - Firm

1.3.1 Unless a specific class is ordered, Class 2 shall be supplied.

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 724-776-4970 (outside), www.sae.org.

AMS2810 Identification and Packaging, Elastomeric Products

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 471 Rubber Property - Effect of Liquids

ASTM D 1056 Flexible Cellular Materials - Sponge or Expanded Rubber

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be a compound, based on a fluorosilicone (FVM) rubber, suitably cured to produce a product meeting the requirements of this specification.

3.2 Finish

The top and bottom surfaces of sheet and strip and the exterior surfaces of molded parts and extrusions (except ends) shall have a natural finish.

3.3 Properties

The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with ASTM D 1056, insofar as practicable:

3.3.1 Compression-Deflection

3.3.1.1 At Room Temperature

Class 1 2 to 9 psi (14 to 62 kPa)

Class 2 9 to 18 psi (62 to 124 kPa)

Class 3 18 to 27 psi (124 to 186 kPa)

3.3.1.2 At -85 °F ± 5 (-65 °C ± 3) after 5 hours ± 0.2 at -85 °F ± 5 (-65 °C ± 3)

Class 160 psi (414 kPa), maximum

Class 260 psi (414 kPa), maximum

Class 3report

3.3.2 Density, maximum

Class 1 0.025 pound/cubic inch (692 kg/m^3)

Class 2 0.030 pound/cubic inch (830 kg/m^3)

Class 3 0.035 pound/cubic inch (969 kg/m^3)

3.3.3 Fluid Resistance

(Immediate Deteriorated Properties)

Medium: ASTM Ref. Fuel B (ASTM D 471)

Temperature: 68 to 86 °F (20 to 30 °C)

3.3.3.1 Weight Change, maximum

0 to 50% Time: 72 hours ± 2

3.3.4 Compression Set

Temperature: 212 °F ± 2 (100 °C ± 1)

3.3.4.1 Percent of Original Deflection, maximum

25% Time: 22 hours ± 0.2

3.3.5 Weathering

When specified, the product shall have weather resistance acceptable to purchaser, determined by a procedure acceptable to purchaser and vendor.

3.3.6 Corrosion

The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service, determined by a procedure agreed upon by purchaser and vendor. Discoloration of metal shall not be considered objectionable.

3.4 Quality

The product, as received by purchaser, shall be uniform in quality and condition, smooth, as free from foreign materials as commercially practicable, and free from imperfections detrimental to usage of the product.

3.5 Tolerances

Shall be as follows; measurements shall be made in accordance with ASTM D 1056.

3.5.1 Sheet and Strip

3.5.1.1 Thickness

TABLE 1A

Nominal Thickness Inch	Tolerance, Inch plus	Tolerance, Inch minus
0.063	0.016	0.016
Over 0.063 to 0.188, incl	0.031	0.031
Over 0.188 to 0.312, incl	0.047	0.031
Over 0.312 to 0.500, incl	0.047	0.047

TABLE 1B – SI UNITS

Nominal Thickness Millimetres	Tolerance, Millimetres plus	Tolerance, Millimetres minus
1.60	0.41	0.41
Over 1.60 to 4.78, incl	0.79	0.79
Over 4.78 to 7.92, incl	1.19	0.79
Over 7.92 to 12.70, incl	1.19	1.19

3.5.1.2 Length and Width

TABLE 2A

Nominal Length and Width Inches	Tolerance, Inch plus and minus
Up to 6, incl	0.125
Over 6 to 18, incl	0.250
Over 18	0.375

TABLE 2B – SI UNITS

Nominal Length and Width Millimetres	Tolerance, Millimetres plus and minus
Up to 152, incl	3.18
Over 152 to 457, incl	6.35
Over 457	9.52

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection

The vendor of sponge shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the sponge conforms to the requirements of this specification.

4.2 Classification of Tests

4.2.1 Acceptance Tests

Tests for the following requirements are acceptance tests and shall be performed on each lot:

Requirement	Paragraph Reference
Compression-Deflection at room temperature	3.3.1.1
Density	3.3.2