AEROSPACE MATERIAL SPECIFICATION

AMS3195™	REV. H

Issued 1957-07
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Superseding AMS3195G

Silicone Rubber Sponge Closed Cell, Medium

RATIONALE

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

STABILIZED NOTICE

AMS3195H 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 silicone rubber sponge in the form of sheet, strip, extrusions, and molded shapes.

1.2 Application

This product has been used typically for general applications requiring closed-cell, medium sponge rubber that will be flexible from -103 to +401 °F (-75 to +205 °C), but usage is not limited to such applications. Compression set may be high at the higher temperature.

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 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 USA), 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 746 Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact

ASTM D 1056 Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be a compound, based on a silicone rubber, suitably cured to produce a product meeting the requirements of 3.2 and 3.3.

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 requirements shown in Table 1, tests shall be performed on the product supplied and in accordance with ASTM D 1056, except as otherwise specified herein:

TABLE 1 - PROPERTIES

Paragraph	Test	Requirement	Test Method
3.3.1	Compression-Deflection	6 to 14 psi (41.3 to 96.5 kPa)	77 °F ± 9 (25 °C ± 5)
3.3.2	Density, maximum Nominal Thickness		
3.3.2.1	Under 0.25 inch (6.35 mm)	0.025 pounds/cubic inch (0.69 g/cm³)	
3.3.2.2	0.25 inch (6.35 mm) and over	0.020 pounds/cubic inch (0.55 g/cm³)	
3.3.3	Compression Set		212 °F ± 2 (100 °C ± 1)
3.3.3.1	Percent of Original Deflection, maximum	60%	22 hours ± 0.2
3.3.4	Brittleness Temperature, maximum	-67 °F (-55 °C)	ASTM D 746

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 shown in Table 2 and Table 3; measurements shall be made in accordance with ASTM D 1056:

3.5.1 Sheet and Strip

3.5.1.1 Thickness

TABLE 2A - TOLERANCES, INCH/POUND UNITS

Nominal Thickness Inch					Tolerance Inch plus	Tolerance Inch minus
	Up	to	0.063,	inclusive	0.030	0.016
Over	0.063	to	0.188,	inclusive	0.030	0.030
Over	0.188	to	0.313,	inclusive	0.050	0.030
Over	0.313	to	0.500,	inclusive	0.060	0.060
Over	0.500	to	0.750,	inclusive	0.090	0.090
Over	0.750				0.120	0.120

TABLE 2B - TOLERANCES, SI UNITS

Nominal Thickness Millimeters					Tolerance Millimeters plus	Tolerance Millimeters minus
	Up	to	1.60,	inclusive	0.76	0.41
Over	1.60	to	4.78,	inclusive	0.76	0.76
Over	4.78	to	7.95,	inclusive	1.27	0.76
Over	7.95	to	12.70,	inclusive	1.52	1.52
Over	12.70	to	19.05,	inclusive	2.29	2.29
Over	19.05				3.05	3.05

3.5.1.2 Length and Width

TABLE 3A - TOLERANCES, INCH/POUND UNITS

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

TABLE 3B - TOLERANCES, SI UNITS

Nominal Length and Width Millimeters					Tolerance, Millimeters plus and minus
	Up	to	152,	inclusive	3.18
Over	152	to	457,	inclusive	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 the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the sponge conforms to specified requirements.

4.2 Classification of Tests

Tests for all technical requirements are acceptance tests and preproduction tests and shall be performed prior to or on the initial shipment of sponge to a purchaser, on each lot, when a change in ingredients and/or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

4.3 Sampling and Testing

Shall be as follows: