AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 3199G

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SYNTHETIC RUBBER SPONGE
Chloroprene Type, Firm

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. FORM: Sheet, strip, molded shapes, or as ordered.

3. APPLICATION: Primarily for general applications requiring the use of open cell firm sponge rubber as pads and seals in the temperature range of -40 to +80 C (-40 to +176 F).

4. TECHNICAL REQUIREMENTS:

4.1 General:

4.1.1 Weathering: When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.

4.1.2 Corrosion: The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.

4.1.3 Finish: The top and bottom surfaces of sheet and strip, and the exterior surfaces of molded parts, shall have a natural skin finish. Unless otherwise specified, fabric or wire mesh type of surface impressions are not objectionable.

4.1.4 Color: Shall be black, unless otherwise specified.

4.1.5 Low Temperature: When specified, the product shall have low temperature flexibility acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.

4.2 Properties: The product shall conform to the following requirements; tests shall be performed on the Ø product supplied and in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable.

4.2.1 As Received:

4.2.1.1 Compression-Deflection, psi	15 to 22	ASTM D1056 Temperature: 20 - 30 C (68 - 86 F)

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4.2.1.2 Specific Volume

Unless otherwise specified, the specific volume for each nominal thickness shall be as specified below; a tolerance of ±10% will be allowed.

Nominal Thickness Inches	Specific Volume cu in. per lb
1/16	31
3/32	33
1/8	35
3/16	37
1/4	38
5/16	40
3/8	41
1/2	43
5/8	45
3/4	47
7/8	49
1	51
1-1/2	54

4.2.1.3	Hydrogen Ion Concentration, pH	7.0 ± 1.0	See Note 1
4.2.2	Dry Heat Resistance:		See Note 2
4.2.2.1	Compression-Deflection Change, %	-5 to +30	Temperature: 100 C ± 1 (212 F ± 1.8)
4.2.2.2	Specific Volume Change, %	-10 to +10	Time: 22 hr
4.2.2.3	Bend (flat)	No cracking or checking	
Ø 4.2.3	Compression Set:		ASTM D1056
Ø 4.2.3.1	Percent of original deflection, max	60	Temperature: 70 C ± 1 (158 F ± 1.8)
4.2.3.2	Percent of original thickness, max	30	Time: 22 hr

Note 1. Dice approximately 1 cu in. of sponge to approximately 1/8 in. or smaller cubes and extract with continuous agitation for 1 hr with 100 ml of freshly distilled water. Determine pH of the extract.

Note 2. A sample of material 4 in. square shall be suspended in the oven by a wire attached to one corner of the sample. After heating, the sample shall be removed from the oven and trimmed to 2 in. square by removing 1 in. from each edge prior to testing. Standard compression-deflection specimens shall be cut from the sample and tested.

5. QUALITY: The product shall be uniform in quality and condition, clean, smooth, and free from foreign materials and from imperfections detrimental to fabrication, appearance, or performance of parts.

6. TOLERANCES: Unless otherwise specified, the following tolerances apply; measurements shall be made Ø in accordance with the issue of ASTM D1056 listed in the latest issue of AMS 2350.

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