

AEROSPACE MATERIAL SPECIFICATIONS

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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 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 $\pm 10\%$ 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: $100\text{ C} \pm 1$ $(212\text{ F} \pm 1.8)$

Time: 22 hr

4.2.2.2 Specific Volume Change, %

 -10 to $+10$

4.2.2.3 Bend (flat)

No cracking
or checkingØ 4.2.3 Compression Set:

ASTM D1056

Ø 4.2.3.1 Percent of original deflection, max

60

Temperature: $70\text{ C} \pm 1$ $(158\text{ F} \pm 1.8)$

Time: 22 hr

4.2.3.2 Percent of original thickness, max

30

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 in accordance with the issue of ASTM D1056 listed in the latest issue of AMS 2350.