

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS 3199C

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Page 1 of 3

## SYNTHETIC RUBBER SPONGE (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: This material is intended for general applications (i.e. pads and seals) requiring the use of firm sponge rubber.
4. REQUIREMENTS:
  - (a) General.-
    - (1) Weathering.- When specified, a weathering test shall be conducted as agreed between purchaser and the vendor.
    - (2) Finish.- The top and bottom surfaces of sheet and strip, and the exterior surfaces of molded parts shall have a natural skin finish.
    - (3) Color.- Unless otherwise specified, the material shall be furnished in black only.
  - (b) Compression-Deflection.- Tests shall be conducted in accordance with ASTM D552-44T. The pressure required to compress the material to 75% of its original thickness at room temperature shall be within the limits of 15 to 22 psi.
  - (c) Compression Set.- Tests shall be conducted in accordance with ASTM D552-44T. Time of test shall be 22 hours. Compression set shall not exceed 30%.
  - (d) Oven Aging.- Specimens shall be 4 inches square, and shall be suspended in the oven by a wire attached to one corner of the specimen. After heating in a forced convection current air oven for 22 hours at 212F, the specimens shall be removed from the oven and trimmed to 2 inches square by removing 1 inch from each edge. The material shall not be hard or brittle and shall show no surface cracks when bent 180° flat. The specific volume change shall be within the limits of  $\pm 10\%$ . The change in compression-deflection shall be within the limits of -5 to +30% of the original.

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(e) Specific Volume.- Unless otherwise specified, the thickness and specific volume shall be as specified below:

<u>Thickness</u> <u>inches</u>	<u>Specific Volume</u> <u>cu. in. per pound</u>
1/16	35
3/32	38
1/8	39
3/16	40
1/4	42
5/16	44
3/8	46
1/2	48
5/8	49
3/4	51
7/8	54
1	55
1-1/2	60

Note: A tolerance of  $\pm 10\%$  is permissible on the above values of specific volume.

5. QUALITY: (a) The material shall be uniform in quality and free from manufacturing imperfections which will affect the serviceability, and shall conform to the requirements specified herein.

(b) Workmanship shall be in accordance with high grade commercial practice governing this type of material.

6. TOLERANCES: Unless otherwise specified on the drawing or purchase order, the following tolerances apply. All dimensions are in inches and procedures for measurement shall conform to ASTM D552-44T.

(a) Sheet and Strip.-

<u>Nominal Thickness</u>	<u>Tolerance</u> <u>Plus and Minus</u>
1/8 and less	1/64
Over 1/8 to 1/2, incl.	1/32
5/8 and over	3/64

<u>Nominal Width</u>	<u>Tolerance</u> <u>Plus and Minus</u>
6 and less	1/16
Over 6 to 18, incl.	1/8
Over 18	1/4

(b) Molded Parts.- Tolerances shall be as specified on the drawing.