

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 3199

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Revised

SYNTHETIC RUBBER SPONGE (Firm)

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1. ACKNOWLEDGMENT: A vendor must mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: Sheet, strip, molded shapes, or as ordered.
3. APPLICATION: This material shall be suitable for general applications using sponge rubber.
4. QUALITY: (a) The material shall be 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.
5. REQUIREMENTS: (a) Compressibility - Tests shall be conducted in accordance with ASTM D552-41T. The pressure required to compress the material to 75% of its original thickness at $68^{\circ}\text{F} \pm 2^{\circ}\text{F}$ shall not be less than 20 or more than 30 lb per sq in.
(b) Compression set - Tests shall be conducted in accordance with ASTM D552-41T. Unless otherwise specified, compression set shall not exceed 25%.
(c) Oven Aging - After heating the material in a convection current air oven for 22 hours at 212°F , the sponge shall not be hard or brittle and shall show no surface cracks when bent 180° flat. The density change shall be within the limits of 0 to -15%. The compressibility change shall be within the limits of -20% and +20% of the original. Oven aging samples shall be 4 inches square. They shall be hung in the oven by a wire from one corner. Upon removal of samples from the oven, they shall be trimmed to 2 inches square by removing one inch from each edge.
(d) Sizes - Unless otherwise ordered, the thickness and specific volume shall be as specified below:

Thickness inches	Specific Volume cu. in. per pound
1/16	29
3/32	34
1/8	39
3/16	47
1/4	55
5/16	55
3/8	56
1/2	56
5/8	57
3/4	59
7/8	65
1	72
1 1/2	75

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

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(e) Finish - The finished material shall have rinds of finished surfaces on both the top and the bottom of the sheets.

(f) Color - Unless otherwise specified, synthetic sponge rubber shall be furnished in black only.

6. SAMPLES: Sampling procedure shall conform to ASTM D552-41T. When the form in which the material is furnished is unsuitable for preparation of the test specimens required, the vendor shall furnish sufficient sheet material for such specimens which he guarantees to be of equal quality to the material supplied.

7. TOLERANCES: Unless otherwise specified on the drawing or purchase order, the following tolerances apply; all dimensions are in inches:

(a) Sheet and Strip:

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

(b) Molded Parts:

<u>Nominal Dimension</u>	<u>Tolerance Plus or Minus</u>
1/4 and less	1/32
over 1/4 to 3, incl.	1/16
over 3	1/4

8. REPORTS: Unless otherwise specified, the vendor shall furnish three copies of a notarized report of the results of tests to determine conformance to this specification. This report shall include the purchase order number, material specification number, vendor's compound number, percentages and specific type of synthetic or synthetics used, part number and quantity.

9. IDENTIFICATION:

(a) Sheets: Unless otherwise specified, each sheet shall be marked to show the manufacturer's identification, AMS 3199, and the thickness in inches. The characters shall be not less than 3/8 inch in height and shall be applied in rows of constantly recurring symbols from one edge of the sheet to the opposite edge with rows spaced approximately 5 inches apart. The characters shall be clearly legible, and shall be applied to the material by suitable means and suitable marking fluid, and shall not be obliterated by normal handling.

(b) Other Forms: All other forms shall be identified as agreed by the vendor and the purchaser.