

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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SYNTHETIC RUBBER SPONGE (Soft)

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1. ACKNOWLEDGMENT: 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 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) 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 1 to 4 psi.

(b) Compression Set.- Tests shall be conducted in accordance with ASTM D552-44T. Compression set shall not exceed 20%.

(c) Oven Aging.- Oven aging samples shall be 4 inches square, and shall be suspended in the oven by a wire attached to one corner of the sample. After heating the material in a convection current air oven for 22 hours at 212°F, the samples shall be removed from the oven and trimmed to 2 inches square by removing 1 inch from each edge. The sponge 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 ±10%. The compressibility change shall be within the limits of ±20% of the original.

(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	-40
3/32	-47
1/8	-53
3/16	-68
1/4	-73
5/16	-73
3/8	-73
1/2	-74
5/8	-74
3/4	-80
7/8	-85
1	-97
1 1/2	-110

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

(e) Weathering.- When specified, a weathering test shall be conducted as agreed between the purchaser and the vendor.

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

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

6. **SAMPLING:** (a) Sampling procedures shall conform to ASTM D552-44T. The vendor shall furnish sufficient material for such specimens from production run materials which he guarantees to be of equal quality to the material supplied, except where the buyer desires specimens from production run parts, in which case the procedure in paragraph (b) shall be followed.

(b) When the form in which the material is furnished is unsuitable for the proper preparation of the required test specimens, the size of the test specimens shall be modified for adaptation to the finished part. This modification of the sampling procedure shall be agreed upon by both the vendor and purchaser. If the requirements of the specification cannot be met using the modified test specimens, the modified test requirements shall be agreed upon by both the vendor and the purchaser.

7. **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.-

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