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AERONAUTICAL MATERIAL SPECIFICATION

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

AMS
3220

SYNTHETIC RUBBER

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

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

3. APPLICATION: The compound shall be suitable for packing and sealing joints which come in contact with gasoline, hot lubricating oils and ethylene glycol.

4. QUALITY: (a)It shall be uniform in quality, free from foreign materials or imperfections, tough and not easily torn by hand and shall resist the solvent and swelling action of oils and gasolines.

(b)Parts must be smooth and free from flash. Sections may be as much as plus or minus .005" outside of the drawing limits provided the cross sectional area is within the limits given by the drawing dimensions.

(c)If rings have a vulcanized joint, joint section must have same strength and size as solid section.

5. TESTS: (a)Durometer.- As received it shall be 55 to 65 Durometer, unless otherwise specified on the drawing.

(b)Elongation.- As received it shall have minimum elongation of 200%.

(c)Gasoline immersion.- After soaking material in straight run aviation grade gasoline at room temperature for 5 hours, it shall increase in volume 15 - 35%. Elongation shall then be not less than 200% and test pieces shall stand bending flat without cracking. The time of testing shall not be more than 30 minutes after removing from the gasoline.

(d)Oil immersion.- After soaking the material in a paraffin base lubricating oil (viscosity 120 at 210°F) at 300°F for 5 hours, the surface shall neither be tacky nor show signs of decomposition. Elongation shall then be not less than 150% and Durometer shall be not more than 5 over the maximum requirement.

(e)Aging.- After heating the material in air at 200°F for 15 hours the surface shall not be hard and brittle and Durometer shall be not more than 5 over the maximum requirement. Elongation shall then be over 150% and test pieces shall stand bending 180° flat without showing surface cracks.

6. APPROVAL: A manufacturer shall not begin to supply material to this specification until samples are approved by the purchaser and after approval the compounds, type of construction, end method of manufacture shall not be changed without his permission. Results of tests on incoming shipments shall be as good or better than those on the approved samples.