AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 3251 B

Issued 11-1-44
Revised 2-1-56

SYNTHETIC RUBBER AND CORK COMPOSITION
General Purpose Medium

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 packings, seals, grommets, line support blocks, tank strap pads, and wherever cushioning and vibration damping are of prime importance.

4. MATERIAL AND FABRICATION:

4.1 Composition: Granulated cork uniformly dispersed in a synthetic rubber compound.

4.2 Joints: Joints shall be vulcanized and the joint section shall have the same strength and size as the solid section.

5. TECHNICAL REQUIREMENTS:

5.1 General:

5.1.1 Condition: Unless otherwise specified, a suitably cured product shall be furnished.

5.1.2 Weathering: When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.

5.1.3 Corrosion: Material 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.

5.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with listed ASTM methods, insofar as practicable:

5.2.1 As Received:

Ø 5.2.1.1	Compressibility, %	45 ± 5	ASTM D1147-53T
5.2.1.2	Elongation, %, min	100	ASTM D412-51T, Die B or C
Ø 5.2.1.3	Density, g per cc	0.83 to 1.05	ASTM D634-44

5.2.2	Fuel Resistance: (Immediate Deteriorated Properties)		ASTM D471-54T Medium: ASTM Ref. Fuel A Temperature: 70-85 F Time: 24 hr
Ø 5.2.2.1	Compressibility Change	-10 to +20	See Note 1
Ø 5.2.2.2	Volume Change, %	-5 to +25	
5.2.2.3	Weight Change, %		
Ø 5.2.2.3.1	Upon removal from fuel	0 to +25	
5.2.2.3.2	After 24 hr air drying at 70 to 85 F, max (based on unimmersed weight)	-8	
5.2.3	Lubricating Oil Resistance: (Immediate Deteriorated Properties)		ASTM D471-54T Medium: ASTM Oil No. 1 Temperature: 212 F ± 2 Time: 24 hr
Ø 5.2.3.1	Compressibility Change	-5 to +20	See Note 1
5.2.3.2	Volume Change, %	-15 to +15	
5.2.3.3	Decomposition	None	
5.2.3.4	Surface Tackiness	None	
5.2.4	Water Absorption: (Immediate Deteriorated Properties)		ASTM D471-54T Medium: Distilled Water Temperature: 212 F ± 2 Time: 1 hr
Ø 5.2.4.1	Compressibility Change	-5 to +10	See Note 1
5.2.4.2	Volume Change, %	0 to +10	
5.2.4.3	Weight Change, %	0 to +10	
5.2.5	Dry Heat Resistance:		ASTM D573-53 Temperature: 212 F ± 2 Time: 70 hr
Ø 5.2.5.1	Compressibility Change	-15 to +5	See Note 1
Ø 5.2.5.2	Flexibility	Pass	ASTM D1170-54T

5.2.6	Compression Set:		ASTM D395-53T, Method B Temperature: 158 F ± 2
5.2.6.1	Per cent of original deflection, max	80	Time: 22 hr Compressed to 75% original
5.2.6.2	Per cent of original thickness, max	20	thickness
Ø 5.2.7	Brittleness Temperature:	-40 F	ASTM D746-54T See Note 2

Note 1. Compressibility change is the arithmetic difference between the original and the conditioned compressibilities, both expressed in percentage.

Note 2. Specimen shall be between 0.060 and 0.125 in. thick.

6. QUALITY: The product shall be uniform in quality and condition, clean, smooth, and free from foreign materials and from defects detrimental to fabrication, appearance, or performance of parts.

7. TOLERANCES: Unless otherwise specified, the following tolerances apply:

7.1 Sheet and Strip:

Nominal Thickness Inches	Tolerance, Inch Plus and Minus
1/8 and under	1/64
Over 1/8 to 1/2, incl	1/32
Over 1/2	3/64

8. REPORTS:

8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product meets the requirements of this specification. This report shall include the purchase order number, material specification number, vendor's compound number, form or part number, and quantity.

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8.2 Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or other direct supplier of material, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

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9. IDENTIFICATION: Unless otherwise specified, all material shall be identified in accordance with the latest issue of AMS 2810.