AERONAUTICAL MATERIAL SPECIFICATION

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

AMS3210

Issued 3-1-51
Revised

SYNTHETIC RUBBER
Electrical Resistant, Chloroprene Type (65-75)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Sheet, strip, molded shapes, extrusions, or as ordered.

3. APPLICATION: Primarily for applications requiring resistance to electrical breakdown and the embrittling action of corona and ozone.

4. TECHNICAL REQUIREMENTS:

4.1 General:

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

4.1.2 Corrosion: The product shall not have a corrosive or other deleterious effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.

4.2 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:

Property	Value	Test Method
4.2.1 As Received:		
Hardness, Durometer "A" or equiv.	70 ± 5	
Tensile Strength, psi, min	1,000	ASTM D412-49T
Elongation, %, min	400	
Power Factor (60 cycles per sec), %, max	10	ASTM D150-47T
Dielectric Strength (short time test - 0.075 in. thick specimen), v per mil, min	300	ASTM D149-44
Flammability	Shall not support combustion	
4.2.2 Lubricating Oil Resistance: (Immediate Deteriorated Properties)		ASTM D471-49T
Hardness Change, Durometer "A" or equiv.	0 to -10	
Tensile Strength Reduction, %, max	20	Medium: ASTM Oil No. 1
Elongation Reduction, %, max	40	Temperature: 212 F ± 2
Volume Change (Method A), %	0 to +15	Time: 70 hr
Decomposition	None	
Surface Tackiness	None	

	Property	Value	Test Method
4.2.3	Water Resistance: (Immediate Deteriorated Properties)		ASTM D471-49T
	Weight Increase, %, max	5	Medium: Distilled Water
	Dielectric Strength (short time test - 0.075 in. thick specimen), v per mil, min	200	Temperature: 77 F ± 2 Time: 48 hr
4.2.4	Dry Heat Resistance:		ASTM D573-48
	Hardness Change, Durometer "A" or equiv.	0 to +10	
	Tensile Strength Reduction, %, max	35	Temperature: 212 F ± 2
	Elongation Reduction, %, max	50	Time: 70 hr
	Surface Hardening	None	
	Bend (Flat)	No Cracking	
4.2.5	Compression Set:		ASTM D395-49T, Method B
	Per cent of Original Deflection, max	85	Temperature: 212 F ± 2 Time: 70 hr
	Per cent of Original Thickness, max	21	Compressed to 75% of original thickness
4.2.6	Low Temperature Brittleness:	Pass	ASTM D736-46T Temperature: -40 F ± 2 Time: 5 hr

4.2.7 Ozone Resistance: Material shall show no cracking after 30 minutes exposure, at room temperature, to ozone when tested as follows:

4.2.7.1 Place sufficient mercury in a 500-ml Erlenmeyer flask to form a pool covering the bottom. Place a 1 x 1/2 x 0.075-in. specimen of the rubber in a wooden specimen holder, 1 x 1/2 x 5/16 in. with two grooves each 3/16 in. deep x 3/32 in. wide x 1/2 in. long spaced 1/4 in. between sides of grooves, so that specimen forms a half loop. Place specimens in holders in the flask so that the holders float on the surface of the mercury near side of flask. Stopper the flask with a rubber stopper through which is inserted a brass electrode, approximately 1/4 in. in diameter, cross filed at the lower end to produce 4 points, extending to within 1 in. of the surface of the mercury. Place the flask on a metal plate and connect the plate and the electrode to a source of 15,000 volt, 60 cycle alternating current. Pass this current through the flask.

5. 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.

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