

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS 3270B

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### SYNTHETIC RUBBER SHEET, COTTON FABRIC REINFORCED Weather Resistant - Chloroprene Type

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for parts, such as gaskets, seals and chafing strips, requiring resistance to weather, moderate heat, water, and lubricating oil.
3. **MATERIAL AND FABRICATION:** Material shall consist of a single ply of woven cotton fabric impregnated and coated on both sides with a chloroprene type synthetic rubber compound. Thickness of coating shall be substantially uniform on both sides of the sheet.
4. **TECHNICAL REQUIREMENTS:**
  - 4.1 **General:**
    - 4.1.1 **Color:** Shall be black.
    - 4.1.2 **Surface Cleanliness:** Material having evenly dusted surfaces will be acceptable. When specified, surfaces shall be capable of being cleaned without damage to the material and shall be cementable.
    - 4.1.3 **Weathering:** When specified, material shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.
    - 4.1.4 **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.

4.2 **Construction:**

	Nominal Thickness, Inch				
	0.008	0.010	0.025	0.035	0.050
	Grade A Airplane				
Fabric Type	Balloon Cloth 6.25		Sheeting	Cloth #10 Duck	#10 Duck
Thread Count, per in., min					
∅ Warp	120	60	80	45	45
∅ Filling	120	18	80	27	27
Finished Weight, oz per sq yd	8.0±1.5	10.0±2.0	27.0±2.5	35.0±6.0	54.0±5.0

- 4.3 **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.

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Property	Value	Test Method
4.3.1 <u>As Received:</u>		
4.3.1.1 Breaking Strength		ASTM D751-46T
Nominal Thickness, Inch	Breaking Strength, Grab Method, lb, min	
	Warp      Filling	
0.008	40      40	
0.010	37      19	
0.025	90      90	
0.035	250      170	
0.050	250      170	
4.3.1.2 Bursting Strength		ASTM D751-46T
∅	Bursting Strength, lb, min	
0.008	70	
0.010	50	
0.025	125	
0.035	350	
0.050	350	
4.3.1.3 Hydrostatic Pressure Resistance at 20 psi	No leaks in 1 hr	Vanderbilt Rubber Handbook, 1948 Edition, pages 433-435
Scrub Resistance without separation of coating and base fabric, strokes, min		
Nominal Thickness, Inch		
0.008, 0.010	500	
0.025, 0.035, 0.050	1000	
4.3.2 <u>Non-Aromatic Fuel Resistance:</u> (Immediate Deteriorated Properties)		ASTM D471-51T
4.3.2.1 Volume Change, %	0 to +35	Medium: ASTM Fuel #1 Temperature: 70-85 F Time: 70 hr
4.3.2.2 Surface Tackiness	None	
4.3.2.3 Scrub Resistance without separation of coating and base fabric strokes, min		Vanderbilt Rubber Handbook, 1948 Edition, Pages 433-435
Nominal Thickness, Inch		
0.008, 0.010	500	
0.025, 0.035, 0.050	1000	

Property	Value	Test Method
<b>4.3.3 Processing Oil Resistance:</b> (Immediate Deteriorated Properties)		ASTM D471-51T
<b>4.3.3.1 Volume Change, %</b> Nominal Thickness, Inch		Medium: ASTM Oil #3 Temperature: 212 F ± 2 Time: 70 hr
∅	0.008	+25 to +45
	0.010	+25 to +45
	0.025	+30 to +50
	0.035	+20 to +40
	0.050	+45 to +65
<b>4.3.3.2 Surface Tackiness</b>	None	
<b>4.3.3.3 Scrub Resistance</b> without separation of coating and base fabric, strokes, min		Vanderbilt Rubber Handbook, 1948 Edition, Pages 433-435
	Nominal Thickness, Inch	
	0.008, 0.010	500
	0.025, 0.035, 0.050	1000
<b>4.3.4 Dry Heat Resistance:</b>		ASTM D573-48 Temperature: 212 F ± 2
<b>4.3.4.1 Surface hardening</b>	None	
<b>4.3.4.2 Bend (flat)</b>	No cracking or checking	
<b>4.3.5 Low Temperature Brittleness:</b>	Pass	ASTM D736-46T (See Note) Temperature: -40 F ± 2 Time: 5 hr

Note. To be used only until satisfactory replacement test and values are established.

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:

6.1 **Thickness:**

Nominal Thickness, Inch	Tolerance, Inch	
	plus	minus
0.008	0.002	0.001
0.010	0.002	0.002
0.025	0.002	0.002
0.035	0.002	0.003
0.050	0.002	0.004