

# AERONAUTICAL MATERIAL SPECIFICATION

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**AMS 3270 A**

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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:** Sheet 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:** Sheet 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, sheet shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.
    - 4.1.4 **Corrosion:** Sheet 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 **Construction:**

	Nominal Thickness, Inch				
	0.008	0.010	0.025	0.035	0.050
Fabric Type	Balloon Cloth	6.25 Sheeting	Grade A Airplane Cloth	#10 Duck	#10 Duck
Thread Count, per in., min					
Warp	136	60	80	48	48
Filling	136	48	80	32	32
Finished Weight, oz per sq yd	8.0 $\pm$ 1.5	10.0 $\pm$ 2.0	27.0 $\pm$ 2.5	35.0 $\pm$ 6.0	54.0 $\pm$ 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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<u>Property</u>	<u>Value</u>		<u>Test Method</u>
<b>4.3.1 As Received:</b>			ASTM D751-46T
Breaking Strength, Grab Method, lb, min Nominal Thickness, in.	<u>Warp</u>	<u>Filling</u>	
0.008	40	40	
0.010	37	19	
0.025	90	90	
0.035	250	170	
0.050	250	170	
Hydrostatic Pressure Resistance at 20 psi			No leaks in 1 hr
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		
<b>4.3.2 Non-Aromatic Fuel Resistance:</b> (Immediate Deteriorated Properties)			ASTM D471-49T
Thickness Change, %	0 to +35		Medium: ASTM Fuel No.1
Surface Tackiness	None		Temperature: 70 - 85 F
			Time: 70 hr
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		
<b>4.3.3 Processing Oil Resistance:</b> (Immediate Deteriorated Properties)			ASTM D471-49T
Thickness Change, %	+25 to +60		Medium: ASTM Oil No. 3
Surface Tackiness	None		Temperature: 212 F + 2
			Time: 70 hr
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		

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- 4.3.4 Dry Heat Resistance: ASTM D573-48  
Surface Hardening None  
Bend (flat) No Cracks Temperature: 212 F + 2
- 4.3.5 Low Temperature Brittleness: Pass ASTM D736-46T  
 Temperature: -40 F + 2  
 Time: 5 hr

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

6.2 Width: Plus and minus 1.0 in.

7. REPORTS:

7.1 Unless otherwise specified, the vendor of sheet shall furnish with each shipment three copies of a report stating that the sheet 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.

7.2 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 sheet, part number, and quantity. When sheet for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of sheet to determine conformance to the requirements of this specification, and shall include in the report a statement that the sheet conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.

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

9. PACKAGING:

9.1 Packaging shall be accomplished in such a manner as to ensure that the sheet, during shipment and storage, will not be permanently distorted, and will be protected against damage from exposure to weathering or any normal hazard.