

AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 3270c

Issued 6-15-50

Revised 11-1-54

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
Fabric Type	Balloon Cloth	6.25 Sheeting	Grade A Airplane Cloth	#10 Duck	#10 Duck
Thread Count, per in., min					
Warp	120	60	80	45	45
Filling	120	48	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

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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.

4.3.1 As Received:

4.3.1.1 Breaking Strength, Warp Filling ASTM D751-52T
 Grab Method, lb, min
 Nominal Thickness, in.

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, Diaphragm ASTM D751-52T
 Bursting Tester, psi, min
 Nominal Thickness, in.

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 ASTM D751-52T
 No leaks in 1 hr

4.3.1.4 Scrub Resistance Vanderbilt Rubber Handbook, 1948 Edition, Pages 433-435
 without separation of coating and base fabric, strokes, min
 Nominal Thickness, in.

0.008, 0.010	500
0.025, 0.035, 0.050	1000

4.3.2 Non-Aromatic Fuel Resistance: ASTM D471-52T
 (Immediate Deteriorated Properties) Medium: ASTM Ref. Fuel A
 Temperature: 70-85 F

∅ 4.3.2.1 Volume Change, % 0 to +20 Time: 70 hr

4.3.2.2 Surface Tackiness None

4.3.2.3 Scrub Resistance Vanderbilt Rubber Handbook, 1948 Edition, Pages 433-435
 without separation of coating and base fabric, strokes, min
 Nominal Thickness, in.

0.008, 0.010	500
0.025, 0.035, 0.050	1000

4.3.3 Processing Oil Resistance:
(Immediate Deteriorated Properties)

ASTM D471-52T
Medium: ASTM Oil #3
Temperature: 212 F ± 2
Time: 70 hr

∅ 4.3.3.1 Volume Change, % +20 to +65

4.3.3.2 Surface Tackiness None

4.3.3.3 Scrub Resistance
without separation of
coating and base fabric,
strokes, min
Nominal Thickness, in.

Vanderbilt Rubber
Handbook, 1948 Edition,
Pages 433-435

0.008, 0.010 500
0.025, 0.035, 0.050 1000

4.3.4 Dry Heat Resistance:

ASTM D573-52
Temperature: 212 F ± 2
Time: 70 hr

4.3.4.1 Surface Hardening None

4.3.4.2 Bend (flat) No cracking
or checking

4.3.5 Low Temperature Brittleness: 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	0.003	0.003
	0.035	0.004	0.004
	0.050	0.005	0.005

6.2 Width: Plus and minus 1.0 inch.