AEROSPACE
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 3273A

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SYNTHETIC RUBBER SHEET, NYLON 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 seals, gaskets, diaphragms, and chafing strips requiring resistance to weather, ozone, moderate heat, low temperature, water, and high aniline point petroleum oils.

3. MATERIAL AND FABRICATION: Basis material shall be either a plain weave, or 2-up and 1-down twill weave, nylon fabric coated, on both sides unless otherwise specified, with a chloroprene type of synthetic rubber compound. Thickness of coating shall be substantially uniform on both sides of the sheet. Maximum thickness of base fabric shall be 0.006 in. for finished fabric thicknesses 0.025 in. and under, and 0.016 in. for finished thicknesses over 0.025 inch.

4. TECHNICAL REQUIREMENTS:

4.1 General:

4.1.1 Color: Shall be black, unless otherwise specified.

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 Corrosion: The product 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 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable.

4.2.1 As Received:

4.2.1.1 Breaking Strength, Grab Method, lb, min — ASTM D751

Nominal Thickness, in.	Warp	Filling
0.008	35	35
0.010, 0.013) 0.017, 0.020, 0.025)	65	60
0.030, 0.050	300	300

4.2.1.2 Tear Resistance, Trapezoid Method, lb, min — ASTM D751

Nominal Thickness, in.	Warp	Filling
0.008, 0.010, 0.013) 0.017, 0.020)	2.0	2.0
0.025	5.0	5.0
0.030, 0.050	25.0	25.0

4.2.1.3 Bursting Strength, Diaphragm Bursting Tester, psi, min — ASTM D751

Nominal Thickness, in	
0.008	75
0.010, 0.013) 0.017, 0.020, 0.025)	125
0.030, 0.050	500

4.2.1.4 Adhesion, lb per in. width, min: 5 — ASTM D751

4.2.2 Non-aromatic Fuel Resistance: (Immediate Deteriorated Properties) — ASTM D471

Medium	ASTM Ref. Fuel A
Temperature:	70 - 85 F (21.1 - 29.4 C)
Time:	70 hr

4.2.2.1 Volume Change, %: -5 to +20

4.2.3 Oil Resistance: (Immediate Deteriorated Properties) — ASTM D471

Medium:	ASTM Oil No. 3
Temperature:	212 F ± 2 (100 C ± 1.1)
Time:	70 hr

4.2.3.1 Volume Change, %: +20 to +65

4.2.3.2 Surface Tackiness: None

4.2.4 Dry Heat Resistance: — ASTM D573

Temperature:	212 F ± 2 (100 C ± 1.1)
Time:	70 hr

4.2.4.1 Breaking Strength, Grab Method, lb. min

Nominal Thickness, in.	Warp	Filling
0.008	35	35
0.010, 0.013) 0.017, 0.020, 0.025)	65	60
0.030, 0.050	300	300

4.2.4.2	Bursting Strength, Diaphragm Bursting Tester, psi, min Nominal Thickness, in.		ASTM D751
	0.008	75	
	0.010, 0.013 0.017, 0.020, 0.025)	125	
	0.030, 0.050	500	
4.2.4.3	Surface Hardening	None	
4.2.4.4	Bend (Flat)	No cracking or checking	
4.2.5 Ø	Low Temperature Brittleness:	Pass	ASTM D2137 Temperature: -67 F ± 2 (-55 C ± 1.1)

4.2.6 Weathering Resistance: The material shall be capable of passing the following test:

4.2.6.1	Bend over 1/8 in. diameter rod, both warp and fill directions, between 24 and 36hr after removal from test chamber.	No cracking or checking	Federal CCC-T-191b, Method 5804 Time: 150 hr ± 0.5 Specimen Size: 4 x 6 in. Specimen Thickness: As received

4.2.7 Fungus Resistance: Material shall be capable of passing the following test with no evidence of fungus growth.

4.2.7.1 A mixed suspension prepared from viable cultures and containing a suitable wetting agent shall be sprayed over the test specimens supported on a non-nutrient agar medium. The test organisms shall be Aspergillis niger, Aspergillis flavus, Penicillium luteum, and Trichoderma T-1. A suitable control such as cotton twine shall also be included. At the end of 2 weeks incubation at 82 - 86 F (27.8 - 30 C), no visible traces of growth are permissible. The controls shall show abundant growth.

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

6. THICKNESSES AND TOLERANCES: Unless otherwise specified, finished sheet shall be supplied in nominal thicknesses of 0.008, 0.010, 0.013, 0.017, 0.020, 0.025, 0.030, and 0.050 in., as ordered; tolerances shall be as specified below.

6.1 Thickness:

Nominal Thickness, Inch	Tolerance, Inch Plus	Minus
0.008	0.002	0.001
0.010, 0.013, 0.017) 0.020, 0.025, 0.030)	0.002	0.002
0.050	0.003	0.003

6.2 Width: ± 1.0 inch.

7. REPORTS:

7.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product conforms to the requirements of this specification. This report shall include the purchase order number, material specification number, vendor's material designation, 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 material, supplier's material designation, 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.

8. IDENTIFICATION: Unless otherwise specified, all material shall be identified 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 product, during shipment and storage, will not be permanently distorted, and will be protected against damage from exposure to weather or any normal hazard.

9.2 Each package shall be permanently and legibly marked in accordance with the latest issue of AMS 2810.

10. APPROVAL:

10.1 To assure adequate performance characteristics, material shall be approved by purchaser before material for production use is supplied, unless such approval be waived. Results of tests on production material shall be essentially equivalent to those on the approved sample.