

**AEROSPACE
MATERIAL
SPECIFICATION**

SAE AMS3274

REV. H

Issued 1951-12
Revised 1991-04
Reaffirmed 2005-05
Stabilized 2011-08

Superseding AMS3274G

Acrylonitrile Butadiene (NBR) Rubber Sheet and Molded Shapes
Nylon Cloth Reinforced
Fuel Resistant

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE:

- 1.1 Form: This specification covers nylon-cloth-reinforced acrylonitrile-butadiene (NBR) rubber in the form of sheet and of shapes molded and cured from partly cured sheet.
- 1.2 Application: Primarily for diaphragms in power plant fuel supply and control systems.
- 1.3 Safety - Hazardous Materials: While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.
2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.
- 2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.
- 2.1.1 Aerospace Material Specifications:
AMS 2810 - Identification and Packaging, Elastomeric Products

2.2 ASTM Publications: Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM D 471 Rubber Property-Effect of Liquids
 ASTM D 573 Rubber-Deterioration in an Air Oven
 ASTM D 751 Testing Coated Fabrics
 ASTM D 2137 Rubber Property-Brittleness Point of Flexible Polymers and Coated Fabrics

3. TECHNICAL REQUIREMENTS:

3.1 Material and Fabrication: Shall consist of a single ply of a nylon cloth, having either a plain weave or a 2-up and 1-down twill weave, coated on both faces with an acrylonitrile-butadiene (NBR) rubber compound, the rubber being cured to produce a product meeting the requirements of 3.2. Thickness of coating shall be uniform and shall be equal in thickness on both faces of sheet coated on both faces.

3.1.1 Color: Shall be black.

3.1.2 Surface Cleanliness: Product having evenly dusted surfaces will be acceptable. Surfaces shall be cleanable without damage to the sheet and shall be cementable.

3.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with specified ASTM methods, insofar as practicable:

3.2.1 As Received: Shall be as specified in Table I, determined in accordance with ASTM D 751.

3.2.2 Aliphatic Fuel Resistance:
 (After 24 hours \pm 0.5 drying at 70°C \pm 1 (158°F \pm 2))

ASTM D 471
 Medium: ASTM Ref. Fuel A
 Temperature: 20°- 30°C
 (68° - 86°F)
 Time: 24 hours \pm 0.25

3.2.2.1 Volume Change

<u>Nominal Thickness</u>		
Inch	Millimeters	
0.008	0.20	-20 to +10%
0.010	0.25	-25 to 0%
0.013	0.33	-25 to 0%
0.017	0.43	-25 to 0%
0.020	0.51	-25 to 0%
0.025	0.64	-25 to 0%
0.030	0.76	-25 to 0%
0.050	1.27	-25 to 0%