

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS 3242A

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### SYNTHETIC RUBBER

Weather Resistant - Chloroprene Type (75-85)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Sheet, strip, molded shapes, extrusions, or as ordered.
3. APPLICATION: Primarily for parts, such as window channels, bumper pads, chafing strips, and weather seals, requiring resistance to weathering.
4. TECHNICAL REQUIREMENTS:
  - 4.1 General:
    - 4.1.1 Condition: Unless otherwise specified, a suitably cured product shall be furnished.
    - 4.1.2 Weathering: When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.
    - 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 listed ASTM Methods, insofar as practicable.
    - 4.2.1 As Received:

4.2.1.1 Hardness, Durometer "A" or equiv.	80 ± 5	
4.2.1.2 Tensile Strength, psi, min	1900	ASTM D412-49T, Die B or C
4.2.1.3 Elongation, %, min	150	ASTM D412-49T, Die B or C
    - 4.2.2 Processing Oil Resistance:  
(Immediate Deteriorated Properties) ASTM D471-52T

4.2.2.1 Tensile Strength Reduction, %, max (based on area before immersion)	40	Medium: ASTM Oil No. 3
		Temperature: 212 F ± 2
		Time: 70 hr
    - 4.2.2.2 Elongation Reduction, %, max 35
    - 4.2.2.3 Volume Change (Method A), % +30 to +90
    - 4.2.2.4 Decomposition None

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4.2.2.5	Surface Tackiness	None	
4.2.3	<u>Dry Heat Resistance:</u>		ASTM D573-48
4.2.3.1	Hardness Change, Durometer "A" or equiv.	0 to +10	Temperature: 212 F $\pm$ 2 Time: 70 hr
4.2.3.2	Tensile Strength Reduction, %, max	20	
4.2.3.3	Elongation Reduction, %, max	50	
4.2.3.4	Surface Hardening	None	
4.2.3.5	Bend (flat)	No cracking or checking	
4.2.4	<u>Compression Set:</u>		ASTM D395-52T, Method B
4.2.4.1	Per cent of original deflection, max	72	Temperature: 212 F $\pm$ 2 Time: 70 hr
4.2.4.2	Per cent of original thickness, max	18	Compressed to 0.375 in. thick
4.2.5	<u>Low Temperature Brittleness:</u>	Pass	ASTM D736-46T (See note) Temperature: -40 F $\pm$ 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 Sheet and Strip:

Nominal Thickness Inch	Tolerance, Inch Plus and Minus
1/8 and under	1/64
Over 1/8 to 1/2, incl	1/32
Over 1/2	3/64

6.2 Tubing:

6.2.1	Nominal OD or ID (not both), Inch	Tolerance, Inch Plus and Minus	Ovality, % (Note 1)
Ø	1/2 and under	0.020	10
	Over 1/2 to 1, incl	0.030	15
	Over 1	4%	15

Note 1. Ovality applies to tubing ordered in straight lengths with wall thickness of 1/16 in. and over, and shall be computed from the difference of the minor and major axis diameter measurements, taken at the same location on the tube, expressed as a percentage of the nominal diameter.

6.2.2	Nominal Wall thickness Inch	Tolerance Plus and Minus
	Under 1/16	0.005 in.
	1/16 and over	10%

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 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 material, 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, compounds 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.