

AERONAUTICAL MATERIAL SPECIFICATION

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Revised

SILICONE RUBBER SHEET - GLASS FABRIC (TYPES 162 AND 164) REINFORCED Heat and Weather Resistant (60-80)

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **FORM:** Molded sheet, or as ordered.
3. **APPLICATION:** Primarily intended for gasketing or sealing purposes requiring a resilient, non-porous sheet material suitable for operating at temperatures from -65 to +400 F. The material is resistant to deterioration by weathering and engine oil and remains flexible over the temperature range noted. This material is not normally suitable for use in contact with fuels due to excessive swelling.
4. **MATERIAL AND FABRICATION:** Sheet shall consist of a single ply of woven glass fabric (Types 162 or 164) impregnated and bonded between two layers of silicone rubber of essentially equal thickness, molded to an overall thickness of 0.062 to 0.125 in. as ordered.
5. **TECHNICAL REQUIREMENTS:**
 - 5.1 **General:**
 - 5.1.1 **Condition:** Unless otherwise specified, a suitably cured product shall be furnished.
 - 5.1.2 **Weathering:** When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.
 - 5.1.3 **Corrosion:** The product 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.
 - 5.2 **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:

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
5.2.1 As Received:		
Hardness, Durometer "A" or equiv.	70 $\pm$ 10	Note 1
Breaking Strength, lb per in., min	400	ASTM D39-39, Cut Strip Method
Edge Leakage at 10 psi	None	Note 2

<u>Property</u>	<u>Value</u>	<u>Test Method</u>
5.2.2 <u>Lubricating Oil Resistance:</u> (Immediate Deteriorated Properties) Hardness Change, Durometer "A" or equiv. Volume Change (Method A), % Decomposition Surface Tackiness	-15 to +5 0 to -10 None None	ASTM D471-46T Medium: ASTM Oil No. 1 Temperature: 350 F $\pm$ 2 Time: 70 hr
5.2.3 <u>Dry Heat Resistance:</u> Hardness Change, Durometer "A" or equiv. Bend	-5 to +10 No cracking or checking	ASTM D865-48T Temperature: 450 F $\pm$ 5 Time: 24 hr Bend 180 deg over rod whose diameter is equal to thickness of material
5.2.4 <u>Compression Set:</u> Per cent of Original Deflection, max Per cent of Original Thickness, max	72 18	ASTM D395-47T Method B Temperature: 350 F $\pm$ 5 Time: 22 hr Compressed to 75% of original thickness
5.2.5 <u>Low Temperature Brittleness:</u> Flex Delamination	Pass None	ASTM D736-46T Temperature: -70 $\pm$ 2 Time: 5 hr

Note 1: Hardness requirement applies to sheet specimens stacked to 1/4 inch thick.

Note 2: A circular gasket specimen shall be prepared, having ID not less than 2 in. and 1-in. wide faces. The gasket shall be clamped between suitable flanges, using #10-32 bolts (0.189 in. dia) spaced approximately 1 inch on centers for clamping; nuts shall be tightened to 40 in.-lb torque. Air at an edge pressure of 10 psi shall be applied to the ID of the gasket with the assembly immersed in, or coated with, soap solution, for not less than 1 minute at room temperature. There shall be no leakage through the fabric layer.

6. QUALITY: The product shall be uniform in quality and condition, clean, smooth, and free from chalky spots, delamination, foreign materials and defects detrimental to fabrication, appearance, or performance of parts.

7. TOLERANCES: Unless otherwise specified, the following tolerances apply to molded sheet:

Nominal Thickness
Inch

0.062 to 0.125, incl

Tolerance, Inch
Plus and Minus

0.015