AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York, N.Y. 10017

AMS 3320C

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SILICONE RUBBER SHEET, GLASS FABRIC REINFORCED
Heat and Weather Resistant
60 - 80

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. FORM: Molded sheet or as ordered.

3. APPLICATION: Primarily for gaskets or seals requiring a resilient, nonporous sheet material suitable for operating at temperatures from -55 to +205 C (-67 to +401 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 gasoline or aromatic fuels and low aniline point petroleum base fluids due to excessive swelling of the elastomer.

4. MATERIAL AND FABRICATION: Sheet shall consist of a single ply of woven glass fabric (Types 162, 164, or 184) 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 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 ø product supplied and in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable.

5.2.1 As Received:

ø 5.2.1.1	Hardness, Durometer "A" or equiv.	70 ± 10	ASTM D676 See Note 1
5.2.1.2	Breaking Strength, lb per in., min	300	ASTM D751, Cut Strip Method
5.2.1.3	Edge Leakage at 10 psi	None	See Note 2
5.2.2	Lubricating Oil Resistance: ø (Immediate Deteriorated Properties)		ASTM D471 Medium: ASTM Oil No. 1 Temperature: 175 C ± 3 (347 F ± 5.4) Time: 70 hr
5.2.2.1	Hardness Change, Durometer "A" or equiv.	-15 to +5	
5.2.2.2	Volume Change, %	0 to +10	

5.2.2.3	Decomposition	None	
5.2.2.4	Surface Tackiness	None	
Ø 5.2.3	Dry Heat Resistance:		
5.2.3.1	Gasket Test		See Note 3 Temperature: 225 C ± 3 (437 F ± 5.4) Time: 2 hr
5.2.3.1.1	Decomposition or Softening	None	
5.2.3.1.2	Surface Tackiness	None	
5.2.3.2 Ø	Hardness Change, Durometer "A" or equiv.	-5 to +10	ASTM D573 Temperature: 225 C ± 3 (437 F ± 5.4) Time: 24 hr
5.2.3.3	Bend	No cracking	Bend 180 deg over rod whose diameter is equal to thickness of material.
Ø 5.2.4	Compression Set:		ASTM D395, Method B Temperature: 175 C ± 3 (347 F ± 5.4) Time: 22 hr
5.2.4.1	Per cent of original deflection, max	72	
5.2.4.2	Per cent of original thickness, max	18	
Ø 5.2.5	Low Temperature Brittleness:		ASTM D736 (See Note 4) Temperature: -55 C ± 1 (-67 F ± 1.8) Time: 5 hr
5.2.5.1	Flex	Pass	
5.2.5.2	Delamination	None	

Note 1. Hardness requirement applies to sheet specimens stacked to 1/4 in. 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(0.190)-32UNF bolts spaced approximately 1 in. on centers for clamping; nuts shall be tightened to 40 lb-in. 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 min. at room temperature. There shall be no leakage through the fabric layer.

Note 3. A gasket specimen at least 1 sq in. in surface area shall be clamped finger tight between aluminum plates and conditioned at the temperature and time specified. Examination shall be immediately upon removal from the oven and cooling to room temperature.

Note 4. To be used only until satisfactory replacement test and values are established.

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