AERONAUTICAL MATERIAL SPECIFICATION

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SILICONE RUBBER
Heat and Weather Resistant
(55-65)

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

2. FORM: Molded or extruded shapes, sheet, tubing, or as ordered.

3. APPLICATION: Primarily for soft rubber-like parts required to operate or seal at temperatures from -65 to +400 F. Silicone rubber is resistant to deterioration by weathering and engine oil, and remains flexible over the temperature range noted; however, the fuel resistance and tear resistance are low.

4. TECHNICAL REQUIREMENTS:

4.1 General:

4.1.1 Condition: Unless otherwise specified, a fully 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 the purchaser and vendor.

4.1.3 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.

4.2 Properties: Unless otherwise specified, 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:

Property	Value	Test Method
4.2.1 As Received:		
Hardness, Durometer "A" or equiv.	60 ± 5	
Tensile Strength, psi, min	350	ASTM D412-41 Die B
Elongation, %, Min	150	

4.2.2 Lubricating Oil Resistance: ASTM D471-46T
(Immediate Deteriorated Properties)

Hardness Change, Durometer "A" or equiv.	-15 to +5		
Tensile Strength Reduction, %, max (based on area before immersion)	20	Medium:	ASTM Oil No.1
		Temperature:	350 F ± 2
Elongation Reduction, %, max	20	Time:	70 hr
Volume Change (Method A), %	0 to +10		
Decomposition	None		
Surface Tackiness	None		
Low Temperature Brittleness	Pass	same as 4.2.6 below	

4.2.3 Water Resistance: ASTM D471-46T
(Immediate Deteriorated Properties)

Weight Increase, %, max	1.4	Medium:	Distilled Water
		Temperature:	77 F ± 2
		Time:	168 hr

4.2.4 Dry Heat Resistance: ASTM D865-47T

Hardness Change, Durometer "A" or equiv.	0 to +10		
Tensile Strength Reduction, %, max	15	Temperature:	450 F ± 5
Elongation Reduction, %, max	50	Time:	4 hr
Surface Harding	None		
Bend (flat)	No cracks		

4.2.5 Compression Set: ASTM D395-46T Method B

Per cent of Original Deflection, max	80	Temperature:	350 F ± 5
		Time:	24 hr
Per cent of Original Thickness, max	20	Compressed to 75% of original thickness, test specimens stacked to ½ in. thick	

4.2.6 Low Temperature Brittleness: Pass ASTM D736-46T

Temperature:	-70 F ± 2
Time:	5 hr

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

6. TOLERANCES: Unless otherwise specified, the following tolerances apply:

6.1 Molded Sheet:

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