AERONAUTICAL MATERIAL SPECIFICATION

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SYNTHETIC RUBBER
Hot Oil and Coolant Resistant (65-75)

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, tubing, molded shapes, extrusions, or as ordered.

3. APPLICATION: Primarily for packings, bushings, and grommets requiring resistance to hot (300 F) oil and coolant.

4. TECHNICAL REQUIREMENTS:

4.1 General:

4.1.1 Weathering: When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.

4.1.2 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.	70 ± 5		
	Tensile Strength, psi, min	1000	ASTM D412-49T	
	Elongation, %, min	250	ASTM D412-49T	
4.2.2	Processing Oil Resistance:		ASTM D471-49T	
	(Immediate Deteriorated Properties)			
	Hardness Change, Durometer "A" or equiv.	-20 to +5	Medium:	ASTM Oil No. 3
			Temperature:	300 F ± 2
	Elongation Reduction, %, max	70	Time:	70 hr
	Volume Change (Method A), %	0 to +45		
	Decomposition	None		
	Surface Tackiness	None		

	Property	Value	Test Method
4.2.3	Lubricating Oil Resistance: (Immediate Deteriorated Properties)		ASTM D471-49T
	Hardness Change, Durometer "A" or equiv.	-10 to +10	Medium: ASTM Oil No. 1
	Tensile Strength Reduction, %, max (based on area before immersion)	50	Temperature: 300 F ± 2
	Elongation Reduction, %, max	50	Time: 70 hr
	Volume Change (Method A), %	0 to +10	
	Decomposition	None	
	Surface Tackiness	None	
ø 4.2.4	Coolant Resistance: (Immediate Deteriorated Properties)		ASTM D471-49T
	Hardness Change, Durometer "A" or equiv.	-15 to +15	Medium: Ethylene Glycol 97% Water 3%
	Tensile Strength Reduction, %, max	25	Temperature: 300 F ± 2
	Elongation Reduction, %, max	50	Time: 70 hr
	Volume Change (Method A), %	0 to +20	
	Decomposition	None	
	Surface Tackiness	None	
4.2.5	Dry Heat Resistance:		ASTM D573-48
	Hardness Change, Durometer "A" or equiv.	0 to +10	
	Tensile Strength Reduction, %, max	25	Temperature: 212 F ± 2
	Elongation Reduction, %, max	40	Time: 70 hr
	Bend (flat)	No cracks	
ø 4.2.6	Compression Set:		ASTM D395-49T, Method B
			Temperature: 250 F ± 2
	Per cent of Original Deflection, max	50	Time: 70 hr
	Per cent of Original Thickness, max	13	Compressed to 75 % of original thickness
4.2.7	Low Temperature Brittleness:		ASTM D736-46T
	As Received	Pass	Temperature: -40 F ± 2
	After immersion in ASTM Oil No. 1, as in 4.2.3	Pass	Time: 5 hr

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