AERONAUTICAL MATERIAL SPECIFICATION

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GASKETS, TYPE XX ENGINE ACCESSORY DRIVE

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

2. FORM: Finished parts.

3. APPLICATION: Gaskets between propeller governors and aircraft power plant governor mounting pads.

4. MATERIAL AND FABRICATION: Gasket shall consist of screen made from AMS 4712 brass wire firmly bonded between two thicknesses of gasket material.

5. TECHNICAL REQUIREMENTS:

5.1 General:

5.1.1 Corrosion: Gaskets 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.

5.1.2 Removability: Gaskets shall be removable from an assembly without delamination due to excessive sticking.

5.2 Properties: Unless otherwise specified, gaskets shall conform to the following requirements; tests shall be performed on the gaskets in accordance with listed ASTM methods, insofar as practicable;

Property	Value	Test Method
5.2.1 As Received:		
Compressibility, %, max	35	Note 1
Compression Set, %, max	15	Note 1
Leakage	No visible flow of oil from periphery and not more than 1 drop per minute leakage from any internal opening	Note 2
5.2.2 Lubricating Oil Resistance:		ASTM D471-46T
(Immediate Deteriorated Properties)		Medium: ASTM Oil No.1
Thickness Change (Method A), %	0 to +10	Temperature: 212 F ± 2
		Time: 70 hr
Compressibility, %, max	35	Note 1
Compression Set, %, max	25	Note 1
Decomposition	None	
Surface Tackiness	None	
Leakage	No visible flow of oil from periphery and not more than 1 drop per minute leakage from any internal opening	Note 2

Property	Value	Test Method
5.2.3 Non-Aromatic Fuel Resistance: (Immediate Deteriorated Properties)		ASTM D471-46T Medium: ASTM Fuel No. 1 Temperature: 70-85 F Time: 5 hr
Thickness Change (Method A), %	0 to +15	
Compressibility, %, max	45	Note 1
Compression Set, %, max	25	Note 1
Leakage	No visible flow of oil from periphery and not more than 1 drop per minute leakage from any internal opening	Note 2
5.2.4 Dry Heat Resistance: (Properties 10-15 min after removal)		ASTM D573-45 Temperature: 212 F ± 2 Time: 70 hr
Compressibility, %, max	25	Note 1
Compression Set, %, max	15	Note 1
Leakage	No visible flow of oil from periphery and not more than 1 drop per minute leakage from any internal opening	Note 2

Note 1 Compressibility and Compression Set:
Cut specimens 1/2 in. in diameter, or other shape of equivalent area provided width is not less than 1/4 in. at any point, from flat gasket areas containing no beads, ridges or holes. Measure thickness of specimens accurately. Subject each specimen to load of 500 kg for 2 min in a standard compression testing machine using a 1.00-in. diameter flat steel disk or plate for compressing specimen, and measure thickness while still under load. Remove load, allow specimen to stand for 10 minutes and again measure thickness. Compressibility shall be calculated as the difference, in percentage, between the original thickness and the thickness measured under load. Compression set shall be calculated as the difference, in percentage, between the original thickness and the thickness 10 minutes after removal of the 500 kg load.

Note 2 Leakage:
Use full size gaskets as specimens. Before installing in test fixture, flex gasket by wrapping around a 1.00-in. diameter rod, first with longitudinal axis of gasket parallel to axis of rod and then with transverse axis of gasket parallel to axis of rod. Repeat flexing, using opposite face of gasket in contact with rod. Clamp gasket in a fixture consisting of two flat, rigid plates, conforming to the shape of the gasket and provided with the necessary fittings and a source of aircraft engine lubricating oil at room temperature, so that a load of 15,000 lb ± 2000 is uniformly distributed over the entire gasket area. Subject gaskets to the following conditions for 15 minutes:

(a) 800 psi oil pressure from the two oil delivery holes to adjacent openings or free edges.

(b) 300 psi oil pressure from screened opening and pressure outlet hole to adjacent openings or free edges.