AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 3220C

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SYNTHETIC RUBBER
55 - 65

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 packing and sealing joints which come in contact with aircraft fuels, hot lubricating oils, and ethylene glycol. This material has fair resistance to all fluids listed. Where better resistance to a particular fluid is required, use the AMS for material compounded specifically for good resistance to that fluid.

4. TECHNICAL REQUIREMENTS:

4.1 General:

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

4.1.3 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.

4.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable. When the product supplied is an extrusion of such shape that Ø suitable test specimens cannot be cut from the product, a separate flat strip test sample shall be supplied upon request. This strip shall be prepared from 1 in. ± 1/16 OD by 0.075 in. ± 0.008 thick wall tubing which shall be mechanically split and flattened into a strip while being extruded and then cured in the same manner as production material.

4.2.1 As Received:

Ø 4.2.1.1	Hardness, Durometer "A" or equiv.	60 ± 5	ASTM D676
4.2.1.2	Elongation, %, min	200	ASTM D412, Die B or C
4.2.2	Lubricating Oil Resistance:		ASTM D471
Ø	(Immediate Deteriorated Properties)		Medium: ASTM Oil No. 1 Temperature: 150 C ± 3 (302 F ± 5.4) Time: 5 hr
4.2.2.1	Hardness, Durometer "A", or equiv, max	70	
4.2.2.2	Elongation, %, min	150	
4.2.2.3	Decomposition	None	
4.2.2.4	Surface Tackiness	None	

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4.2.3	Fuel Resistance: Ø (Immediate Deteriorated Properties)		ASTM D471 Medium: ASTM Ref. Fuel A Temperature: 20 - 30 C (68 - 86 F) Time: 5 hr
4.2.3.1	Elongation, %, min	200	
4.2.3.2	Volume Change, %	0 to +30	
4.2.3.3	Decomposition	None	
4.2.3.4	Surface Tackiness	None	
4.2.4	Dry Heat Resistance:		ASTM D573 Temperature: 100 C ± 1 (212 F ± 1.8) Time: 15 hr
4.2.4.1	Hardness, Durometer "A" or equiv., max	70	
4.2.4.2	Elongation, %, min	150	
4.2.4.3	Bend (flat)	No cracking or checking	

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

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

6.1 Sheet and Strip:

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

6.2 Tubing:

6.2.1

Nominal OD or ID (not both), Inches	Tolerance Plus and Minus	Ovality, % (See Note 1)
Up to 1/2, incl	0.020 in.	10
Over 1/2 to 1, incl	0.030 in.	15
Over 1	4%	15

Note 1. Ovality applies to tubing ordered in straight lengths with wall thickness of 1/16 in. and over, and shall be computed from the difference of the minor and major axis diameter measurements, taken at the same transverse plane on the tube, expressed as a percentage of the nominal diameter.

6.2.2

Nominal Wall Thickness Inches	Tolerance Plus and Minus
Up to 1/16, excl	0.005 in.
1/16 and over	10%