Society of Automotive Engineers, Inc.
TWO PENNSYLVANIA PLAZA, NEW YORK, N.Y. 10001

AEROSPACE MATERIAL SPECIFICATION

AMS 3260

Issued 5-15-73
Revised

SYNTHETIC RUBBER
Ethylene Propylene Terpolymer, General Purpose
45 - 55

1. SCOPE:

1.1 Form: This specification covers an ethylene propylene type rubber in the form of sheet, strip, tubing, molded shapes, and extrusions.

1.2 Application: Primarily for door seals, low pressure gaskets, dust covers, and shock absorption devices where resistance to weathering, phosphate ester base hydraulic fluids, and polar solvents such as steam, water, and ketones is required. This material has fair resistance to all materials listed. Where better resistance to a particular fluid is required, use an AMS for the material compounded specifically for good resistance to that fluid.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from Society of Automotive Engineers, Inc., Two Pennsylvania Plaza, New York, New York 10001.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods
AMS 2810 - Identification, Natural and Synthetic Rubber Materials

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

ASTM D395 - Compression Set of Vulcanized Rubber
ASTM D412 - Tension Testing of Vulcanized Rubber
ASTM D573 - Accelerated Aging of Vulcanized Rubber by the Oven Method
ASTM D624 - Tear Resistance of Vulcanized Rubber
ASTM D746 - Brittleness Temperature of Plastics and Elastomers by Impact
ASTM D2240 - Indentation Hardness of Rubber and Plastics by Means of a Durometer

3. TECHNICAL REQUIREMENTS:

3.1 Material: Shall be a compound based on an ethylene propylene terpolymer elastomer, suitably cured to produce a product meeting all technical requirements of this specification.

3.2 Properties: The product shall conform to the following requirements. Tests shall be performed on the product supplied and in accordance with specified ASTM methods, insofar as practicable. When the product supplied is an extrusion or is of such shape that suitable test specimens cannot be cut from it, a separate flat strip test sample shall be supplied. This strip shall be prepared from 1 in. ± 0.063 (25 mm ± 1.60) OD by 0.75 in. ± 0.018 (19.0 mm ± 0.46) 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.

3.2.1 As Received:

3.2.1.1	Hardness, Durometer "A" or equiv.	50 ± 5	ASTM D2240
3.2.1.2	Tensile Strength, min	1800 psi (12,410 kPa)	ASTM D412
3.2.1.3	Elongation, min	400%	ASTM D412
3.2.1.4	Tear Resistance, min	100 lb per in. (17.5 kN/m) of width	ASTM D624, Die C
3.2.2	Dry Heat Resistance:		ASTM D573 Temperature: 100 C ± 1 (212 F ± 1.8) Time: 70 hr
3.2.2.1	Hardness Change, Durometer "A" or equiv.	0 to + 10	
3.2.2.2	Tensile Strength Change	0 to + 25%	
3.2.2.3	Elongation Change	0 to -50%	
3.2.3	Compression Set:		ASTM D395, Method B Temperature: 70 C ± 1 (158 F ± 1.8) Time: 22 hr
3.2.3.1	Percent of Original Deflection, max	30	
3.2.3.2	Percent of Original Thickness, max	8	
3.2.4	Low Temperature Resistance:		ASTM D746, Procedure B Temperature: -55 C ± 1 (-67 F ± 1.8) Time: 10 min.
3.2.4.1	Brittleness	Pass	

3.3 Quality: The product shall be uniform in quality and condition, clean, smooth, as free from foreign material as commercially practicable, and free from imperfections, detrimental to fabrication, appearance, or performance of parts.

3.4 Tolerances: Unless otherwise specified, the following tolerances shall apply:

3.4.1 Sheet and Strip:

TABLE I

Nominal Thickness Inches	Tolerance, Inch plus and minus
Up to 0.125, incl	0.016
Over 0.125 to 0.500, incl	0.031
Over 0.500	0.047

3.4.1 Sheet and Strip: (cont'd.)

TABLE I (SI)

Nominal Thickness Millimeters	Tolerance, Millimeters plus and minus
Up to 3.18, incl	0.41
Over 3.18 to 12.70, incl	0.79
Over 12.70	1.19

3.4.2 Tubing:

3.4.2.1 Diameter:

TABLE II

Nominal OD or ID (not both), Inches	Tolerance, Inch plus and minus	Ovality, % (See 3.4.2.1.1)
Up to 0.500, incl	0.020	10
Over 0.500 to 1.000, incl	0.030	15
Over 1.000	4%	15

TABLE II (SI)

Nominal OD or ID (not both), Millimeters	Tolerance, Millimeter plus and minus	Ovality, % (See 3.4.2.1.1)
Up to 12.70, incl	0.51	10
Over 12.70 to 25.40, incl	0.76	15
Over 25.40	4%	15

3.4.2.1.1 Ovality applies to tubing ordered in straight lengths with wall thickness of 0.063 in. (1.60 mm) and over, and shall be computed from the difference between the minor and major axis diameter measurements, taken at the same transverse plane on the tube, expressed as a percentage of the nominal diameter.

3.4.2.2 Wall Thickness:

TABLE III

Nominal Wall Thickness Inches	Tolerance, Inch plus and minus
Up to 0.063, excl	0.005
0.063, and over	10%

TABLE III (SI)

Nominal Wall Thickness Millimeters	Tolerance, Millimeter plus and minus
Up to 1.60, excl	0.13
1.60 and over	10%

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection: The vendor of the product shall supply all samples and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to perform such confirmatory testing as he deems necessary to assure that the product conforms to the requirements of this specification.

4.2 Classification of Tests:

4.2.1 Acceptance Tests: Tests to determine conformance to the following requirements are classified as acceptance or routine control tests and shall be performed on each lot of product.

Property	Paragraph
Hardness, as received	3.2.1.1
Tensile Strength, as received	3.2.1.2
Elongation, as received	3.2.1.3
Quality	3.3
Tolerances	3.4

4.2.2 Qualification Tests: Tests to determine conformance to all technical requirements of this specification are classified as qualification tests and shall be the basis for approval (See 4.4) of the compound.

4.3 Sampling: Sufficient material shall be taken at random from each lot or batch to perform all required tests in triplicate.

4.3.1 A lot is defined as all product from the same batch of compound processed in one continuous run and submitted for the vendor's inspection at one time.

4.3.2 A batch shall be the quantity of compound run through a mill or mixer at one time.

4.4 Approval:

4.4.1 Sample material shall be approved by purchaser before material for production use is supplied. Results of tests on production material shall be essentially equivalent to those on the approved samples.

4.4.2 Vendor shall establish the control factors of processing which will produce material meeting all requirements of this specification. These shall constitute the approved procedures and shall be used for manufacturing production material. If necessary to make any change in control factors of processing which could affect quality or properties of the material, vendor shall submit for reapproval a statement of the revised procedures and, when requested, sample material. No production material incorporating the revised procedures shall be shipped prior to receipt of reapproval.

4.4.2.1 Control factors for producing material include, but are not limited to, the following:

Compound ingredients and proportions thereof beyond established limits
Sequence of mixing compound ingredients
Type of mixing equipment
Method and equipment for preparing preforms
Basic molding procedure (compression, transfer, injection)
Curing time, temperature, and pressure (variations of ± 10% from established limits are permissible)
Finishing methods
Methods of routine inspection

4.4.2.1.1 Any of the above control factors of processing considered proprietary by the vendor may be assigned a code designation. Each variation in such factors shall be assigned a modified code designation.