



AEROSPACE MATERIAL SPECIFICATION

AMS3382™**REV. D**Issued 1974-06
Revised 2017-11

Superseding AMS3382C

(R) Elastomer: Tetrafluoroethylene/Propylene (FEPM)
Hydraulic Fluid and Synthetic Oil Resistant
75 to 90 Hardness

RATIONALE

This revision eliminates corrosion and weathering requirements, modifies periodic testing duration and removes "or equivalent" from hardness requirement. It also incorporates the format of the most current AMS3XXX template.

1. SCOPE

1.1 Form

This specification covers two classes (durometers) of tetrafluoroethylene/propylene rubber (FEPM) in the form of sheet, strip, tubing, extrusions, and molded shapes. For molded rings, compression seals, O-ring cord, and molded-in-place gaskets for aeronautical and aerospace applications, use the AMS7255 or AMS7256 specification, as appropriate.

1.2 Application

These products have been used typically for components requiring continuous operation in dry air, hydraulic fluids, and synthetic engine oils at temperatures from -5 to +232 °C (+23 to 450 °F) or in high pH chemical decontamination solutions, but usage is not limited to such applications.

1.3 Classes:

Product is classified as follows:

Class 1 – 70 to 80 Durometer "A" hardness

Class 2 – 85 to 95 Durometer "A" hardness

1.3.1 The class supplied shall be the class ordered

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1.4 Order of Precedence

This specification is in addition to and in no way limiting, superseding, or abrogating any contractual obligation as required by the applicable procurement document. In the event of conflict in requirements, the order of precedence shall be:

1. Procurement Document or Contractual Agreement and all statutory and regulatory requirements (excluding this document)
2. Applicable purchaser's drawing and/or design data
3. Specifications referenced on the drawing
4. This document
5. All specifications referenced in this document

1.5 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2279	Tolerances, Rubber Products
AMS2810	Identification and Packaging, Elastomeric Products
AMS3023	Reference Fluid for Testing Polyol Ester (and Diester) Resistant Material
AMS7255	Rings, Sealing, Tetrafluoroethylene/Propylene Rubber (FEPM) Hydraulic Fluid and Synthetic Oil Resistance 70 to 80
AMS7256	Rings, Sealing, Tetrafluoroethylene/Propylene Rubber (FEPM) Hydraulic Fluid and Synthetic Oil Resistance 85 to 95
AS1241	Fire Resistant Phosphate Ester Hydraulic Fluid for Aircraft

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D297 Rubber Products - Chemical Analysis

ASTM D395 Test Methods for Rubber Property—Compression Set

ASTM D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

ASTM D471 Test Method for Rubber Property—Effect of Liquids

ASTM D573 Test Method for Rubber—Deterioration in an Air Oven

ASTM D1329 Test Method for Evaluating Rubber Property—Retraction at Lower Temperatures (TR Test)

ASTM D2240 Test Method for Rubber Property—Durometer Hardness

ASTM D5964 Standard Practice for Rubber IRM 901, IRM 902 and IRM 903 Replacement Oils for ASTM No.1, ASTM No. 2, ASTM No. 3 Oils and IRM 905 formerly ASTM No. 5 Oil

2.3 ASQ Publications

Available from American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203 or <http://www.asq.org>

ANSI/ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

2.4 U.S. Military Specifications and Standards

Copies of these documents are available at <http://quicksearch.dla.mil>.

MIL-STD-289 Visual Inspection Guide for Rubber Sheet Material

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall be prepared from ingredients as shall be necessary to achieve the requirements detailed in this standard and shall be a compound, based on the polymer specified in section 1.1, suitably cured to produce product meeting the requirements of 3.2, either specified and tested as Class 1 or Class 2. Reprocessed vulcanized material is not acceptable.

3.1.1 Color

Shall be black. No other color is acceptable.

3.2 Properties

The product shall conform to the requirements shown in Table 1.