AEROSPACE MATERIAL SPECIFICATION

AMS7379™ REV. A

Issued 2008-07
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Superseding AMS7379

(R) Rubber: Fluorocarbon Elastomer (FKM) Low Temperature Sealing Tg -40 °F (-40 °C) 70 to 80 Type 'A' Hardness For Elastomeric Seals in Aircraft Engine Oil, Fuel and Hydraulics Systems

RATIONALE

Specification has been revised to change the glass transition testing method from ASTM D3418 to ASTM D7426, as well as a general update of the specification to the latest format.

1. SCOPE

1.1 Form

This specification covers a fluorocarbon (FKM) rubber in the form of O-rings, compression seals, O-ring cord, and molded-in-place gaskets for aeronautical and aerospace applications. For sheet, strip, tubing, extrusions, and molded shapes use the AMS3353 specification which is intended for that use.

1.2 Application

This material has exhibited excellent low temperature functionality along with resistance to a variety of gas turbine engine oils, including high thermal stability (HTS) oils, fuels, and hydraulic fluids, but usage is not limited to such applications. This material has a typical service temperature range of -50 to +400 °F (-45 to +204 °C). The service temperature range of the material is a general temperature range, but the presence of particular fluids and design parameters may modify this range. Each application should be considered separately. It is the responsibility of the user to determine that this specification is appropriate for the environments (temperature range, fluids exposure, etc.) in which it is sought to be used.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
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Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/AMS7379A/

1.3 Order of Precedence

Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained. 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 or AS5729 Parts Standard.

3. Specification referenced on the drawing.

4. This document.

5. All specifications referenced in this document.

1.4 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.

AMS2817	Packaging and Identification, Preformed Packings
AMS3085	Fluid, Reference for Testing AS5780C HPC Class (Polyol) Resistant Material
AMS3353	Fluorocarbon Elastomer (FKM) 70 to 80 Hardness, Low Temperature Sealing Tg -40°F (-40°C) For Elastomeric Parts in Aircraft Engine Oil, Fuel and Hydraulics Systems
AIR851	O-Ring Tension Testing Calculations
ARP3050	Suitable Test Sizes for O-ring Specifications
AS568	Aerospace Size Standard for O-Rings
AS5729	O-ring Molded from AMS7379 (Fluorocarbon) Material
AS5752	Visual Inspection Standard for Elastomeric Sealing Elements Other than O-rings
AS6414	Manufacturing Processing Requirements for Molded Elastomer Components Used in Aerospace Applications
AS9100	Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations

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 Standard Test Methods for Rubber Products- Chemical Analysis

ASTM D395 Standard Test Methods for Rubber Property – Compression Set

ASTM D471 Standard Test Method for Rubber – Effect of Liquids

ASTM D573 Standard Test Method for Rubber Property – Deterioration in an Air Oven

ASTM D1414 Standard Test Methods for Rubber O-Rings

ASTM D2240 Rubber Property - Durometer Hardness

ASTM D7426 DSC Procedure for Determining Tg of a Polymer or an Elastomeric Compound

2.3 ISO Publications

Copies of these documents are available online at http://webstore.ansi.org/.

ISO 3601-1 Fluid Power Systems - O-rings - Part 1: Inside diameters, cross-sections, tolerances and size identification code

ISO 3601-3 Fluid Power Systems - O-rings - Part 3: Quality acceptance criteria

2.4 PRI Publications

Available from Performance Research Institute, 161 Thorn Hill Road, Warrendale, PA 15086-7257, Tel: 724-772-1616, www.pri-network.org.

PD2000 Procedures for an Industry Qualified Product Management Process

PD2102 Aerospace Quality Assurance, Product Standards, Qualification Procedure, Elastomeric Seal

2.5 U.S. Government Publications

Copies of these documents are available online at https://quicksearch.dla.mil.

MIL-PRF-83282 Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537

2.6 ASQ Publications

Available from American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203, Tel: 800-248-1946 (United States or Canada)), 001-800-514-1564 (Mexico) or +1-414-272-8575 (all other locations), www.asq.org.

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