SAE INTERNATIONAL

AEROSPACE STANDARD

AS81934™ REV. C

Issued 1998-04
Revised 2019-09

Superseding AS81934B

(R) Bearings, Sleeve, Plain and Flanged, Self-Lubricating

RATIONALE

This document includes limited scope changes to the following sections in response to comments from the approved Rev. C ballot (April 2019): 3.6.2, 4.3.1, 4.3.3, 4.6.6.2, and Figure 1. Previously approved changes from Rev. B to Rev. C: Updating the high/sub-zero temperature test methods, room temperature break-in cycles, qualification requirements by similarity to AS81820 for CRES substrates, and test pin and housing tolerances. Adding/updating fluid contaminants and specifying type and concentration of anti-icing fluid to be used for testing. Adding retention of qualification requirements for aluminum substrate. Clarifying tables and text to address conflicting requirements for number of qualification test samples required. Clarifying when LN_2 exposure is required.

NOTICE

The initial SAE publication of this document was taken directly from U.S. Military Standard MIL-B-81934B. This SAE Standard may retain the same part numbers established by the original military document.

1. SCOPE

1.1 Scope

This standard covers plain and flanged sleeve bearings which are self-lubricating by incorporating polytetrafluoroethylene (PTFE) in a liner in the bore for use in the temperature range of -65 to +325 °F.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: http://www.sae.org

2.1.1 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.

AMS1424	Fluid, Aircraft Deicing/Anti-Icing, SAE Type 1
AMS2417	Plating, Zinc-Nickel Alloy
AMS2700	Passivation of Corrosion Resistant Steels
AMS-QQ-P-416	Plating, Cadmium (Electrodeposited)
ARP5448/9	Plain Bearing Lined Inside Diameter Plug Gaging
AS1241	Fire Resistant Phosphate Ester Hydraulic Fluid for Aircraft
AS14101	Bearing, Plain, Self-Lubricating, Self-Aligning, Low Speed, Narrow, Grooved Race, -65 to +325 °F
AS81820	Bearings, Plain, Self-Aligning, Self-Lubricating, Low Speed Oscillation
AS81934/1	Bearing, Sleeve, Plain, Self-Lubricating, -65 to +325 °F
AS81934/2	Bearing, Sleeve, Flanged, Self-Lubricating, -65 to +325 °F

2.1.2 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 A967	Standard Specification for Chemical Passivation Treatments for Stainless Steel Parts
ASTM C794	Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
ASTM D1655	Standard Specification for Aviation Turbine Fuels
ASTM D3951	Standard Practice for Commercial Packaging
ASTM F25	Standard Test Method for Sizing and Counting Airborne Particulate Contamination in Clean Rooms and Other Dust-Controlled Areas
ASTM F50	Standard Practice for Continuous Sizing and Counting of Airborne Particles in Dust-Controlled Areas and Clean Rooms Using Instruments Capable of Detecting Single Sub-Micrometre and Larger Particles

2.1.3 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), www.asme.org.

ASME B46.1	Surface Texture (Surface Roughness, Waviness and Lay)
ASME Y14.100	Engineering Drawing Practices

2.1.4 U.S. Government Publications

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

MIL-A-8625	Anodic Coatings, For Aluminum and Aluminum Alloys
MIL-DTL-197	Packaging of Bearings, Associated Parts and SubAssemblies
MIL-DTL-5541	Chemical Conversion Coatings on Aluminum and Aluminum Alloys
MIL-DTL-5624	Turbine Fuel, Aviation, Grades JP-4 and JP-5
MIL-DTL-83133	Turbine Fuel, Aviation, Kerosene Type, JP-8 (NATO F-34), NATO F-35, and JP-8+100 (NATO F-37)
MIL-HDBK-1599	Bearings, Control System Components and Associated Hardware Used in the Design and Construction of Aerospace Mechanical Systems and Subsystems.
MIL-PRF-5606	Hydraulic Fluid, Petroleum Base; Aircraft; Missile and Ordnance
MIL-PRF-7808	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537
MIL-STD-2073-1	Standard Practice for Military Packaging

2.2 Definitions

2.2.1 PROCESSING PROCEDURES

All bonding, curing, and postcuring procedures.

2.2.2 VOID

A void is an area where the metal substrate is directly visible with no visible adhesive after peeling the liner.

2.2.3 UNBONDED AREA

An unbonded area is where the adhesive remaining on the metal substrate is smooth and shiny indicating a lack of bonding pressure.

3. REQUIREMENTS

3.1 Aerospace Standard (AS) Sheets

The individual item requirements shall be as specified herein and in accordance with the applicable AS sheets. In the event of any conflict between the requirements of this standard and the AS sheet, the latter shall govern.

3.2 Qualification

Products furnished under this standard shall be products which are authorized by the qualifying activity for listing on the applicable Qualified Products List (QPL-AS81934) at the time of award of contract (see 4.3, 6.3, and 6.3.1). See Qualified Products Database (QPD) at https://assist.dla.mil/, https://qpldocs.dla.mil/, or https://quicksearch.dla.mil/.

3.2.1 Product Change

Any change in product design, description, materials, processing procedures, or plant location shall be reported to the qualifying activity and may require requalification of the product to an extent determined by the qualifying activity. Any other specific changes, which must be brought to the qualifying activity’s attention, shall be identified in the qualification notification letter.