



AEROSPACE MATERIAL SPECIFICATION

AMS3058™**REV. B**

Issued 2008-08
Reaffirmed 2013-03
Revised 2025-06

Superseding AMS3058A

Grease: Wide Temperature Range
Lithium or Lithium Complex Thickened for Aircraft Wheel Bearings

RATIONALE

AMS3058 is being revised to update some of the testing procedures and add requirements that are in common use.

1. SCOPE

1.1 Form

This specification covers grease for use on aircraft wheel bearings. It also defines the quality control requirements to assure batch conformance and materials traceability and the procedures to manage and communicate changes in the grease formulation and brand. This specification invokes the Performance Review Institute (PRI) product qualification process. Requests for submittal information may be made to the PRI at the address in 2.2, referencing this specification. Products qualified to this specification are listed on a qualified products list (QPL) managed by the PRI. Additional tests and evaluations may be required by individual equipment builders before a grease is approved for use in their equipment. Approval and/or certification for use of a specific grease in aero and aero-derived marine and industrial applications is the responsibility of the individual equipment builder and/or governmental authorities and is not implied by compliance with or qualification to this specification.

1.2 Application

This product is used typically for lubrication of antifriction tapered roller wheel bearings, but usage is not limited to such applications. Each application should be considered separately.

This material has a service temperature range of -65 to +347 °F (-54 to +175 °C) where good performance in the presence of water is also required.

1.3 Precautions

1.3.1 Safety - Hazardous Materials

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 that 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.

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2025 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or used for text and data mining, AI training, or similar technologies, without the prior written permission of SAE.

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
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE AMS3058B

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS3058B/>

Documents

Standard, visit Sharing Hub

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.

AMS3217/2 Test Slabs, Acrylonitrile Butadiene (NBR-L), Low Acrylonitrile, 65 - 75

AMS4640 Aluminum Bronze, Bars, Rods, Shapes, Tubes, and Forgings, 81.5Cu - 10.0Al - 4.8Ni - 3.0Fe, Drawn and Stress Relieved (HR50) or Temper Annealed (TQ50)

2.2 PRI Publications

Available from Performance Review Institute, 161 Thorn Hill Road, Warrendale, PA 15086-7527, Tel: 724-772-1616, www.p-r-i.org.

PD2000A PRI-QPL Program Requirement

PD2106 Aerospace Quality Assurance, Product Standards, Qualification Procedure, Greases

OP2007 Appendix AMS M: Additional Requirements for AMS M Aerospace Greases (AMS M) QPG

2.3 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 D130 Copper Strip Corrosion Test

ASTM D217 Cone Penetration of Lubricating Grease

ASTM D445 Kinematic Viscosity of Transparent and Opaque Liquids

ASTM D566 Dropping Point of Lubricating Grease

ASTM D942 Oxidation stability of Lubricating Greases by the Oxygen Pressure Vessel Test Method

ASTM D1264 Determining the Water Washout Characteristics of Lubricating Greases

ASTM D1403 Cone Penetration of Lubricating Grease Using One Quarter and One Half Scale Cone Equipment

ASTM D1478 Low-Temperature Torque of Ball Bearing Grease

ASTM D1831 Roll Stability of Lubricating Grease

ASTM D2265 Dropping Point of Lubricating Grease Over Wide Temperature Range

ASTM D2266 Wear Preventative Characteristics of Lubricating Grease (Four-Ball Method)

ASTM D2595 Evaporation Loss of Lubricating Greases, Over Wide-Temperature Range

ASTM D2596	Measurement of Extreme-Pressure Properties of Lubricating Grease (Four-Ball Method)
ASTM D3527	Life Performance of Automotive Wheel Bearing Grease
ASTM D4048	Detection of Copper Corrosion from Lubricating Grease
ASTM D4170	Fretting Wear Protection by Lubricating Greases
ASTM D4289	Elastomer Compatibility of Lubricating Greases and Fluids
ASTM D5706	Extreme Pressure Properties of Lubricating Greases Using a High Frequency, Linear Oscillation (SRV) Test Machine
ASTM D5707	Friction and Wear Properties of Lubricating Greases Using a High Frequency, Linear Oscillation (SRV) Test Machine
ASTM D6138	Determination of Corrosion-Preventative Properties of Lubricating Greases Under Dynamic Wet Conditions (Emcor Test)
ASTM D6184	Oil Separation from Lubricating Grease (Concial Sieve Method)
ASTM D6185	Evaluating Compatibility of Binary Mixtures of Lubricating Greases
ASTM D8022	Test Method for Roll Stability of Lubricating Grease in Presence of Water (Wet Roll Stability Test)

2.4 U.S. Government Publications

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

FED-STD-791 Testing Method of Lubricants, Liquid Fuels, and Related Products

2.5 ISO Publications

Copies of these documents are available online at <https://webstore.ansi.org/>.

ISO 2137	Petroleum products and lubricants - Determination of cone penetration of lubricating greases and petrolatum
ISO 2160	Petroleum Products - Corrosiveness to Copper - Copper Strip Test
ISO 2176	Petroleum Products - Lubricating Grease - Determination of Dropping Point
ISO 11007-1	Determination of rust-prevention characteristics of lubricating greases - Part 1: Dynamic wet
ISO 20623	Determination of the extreme-pressure and anti-wear properties of lubricants - Four-ball method (European conditions)
ISO 22286	Determination of the dropping point of grease with an automatic apparatus