



AEROSPACE MATERIAL SPECIFICATION

AMS3052™**REV. B**

Issued 2007-10
Reaffirmed 2013-03
Revised 2025-06

Superseding AMS3052A

Grease, Aircraft, General Purpose,
Low Temperature Range, Lithium Thickened

RATIONALE

AMS3052 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 within an aircraft. 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 as a lubricant in contact with antifriction bearings, plain bearings, and other mechanisms, but usage is not limited to such applications. Each application should be considered separately. This material has a service temperature range of -100 to +250 °F (-73 to +121 °C) where 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.

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Documents

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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)

AS7766 Terms Used in Aerospace Metals Specifications

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

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 Corrosiveness to Copper from Petroleum Products by Copper Strip Test

ASTM D217 Cone Penetration of Lubricating Grease

ASTM D566 Dropping Point of Lubricating Grease

ASTM D942 Oxidation Stability of Lubricating Greases by the Oxygen Bomb Method

ASTM D972 Evaporation Loss of Lubricating Greases and Oils

ASTM D1264 Determining the Water Washout Characteristics of Lubricating Greases

ASTM D1478 Low-Temperature Torque of Ball Bearing 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 D3336 Life of Lubricating Greases in Ball Bearings at Elevated Temperatures

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 D6138	Determination of Corrosion-Preventive Properties of Lubricating Greases Under Dynamic Wet Conditions (Emcor Test)
ASTM D6184	Oil Separation from Lubricating Grease (Conical Sieve Method)
ASTM D6185	Evaluating Compatibility of Binary Mixtures of Lubricating Greases
ASTM D7342	Prolonged Worked Stability of Lubricating Grease in Presence of Water (Water 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 conditions
ISO 11009	Determination of water washout characteristics of lubricating greases
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

2.6 IP Publications

Available from Energy Institute, 61 New Cavendish Street, London, W1G 7AR, UK, Tel: +44 (0) 20 7467 7100, www.energyinst.org.

BS 2000-132	Petroleum Products - Lubricating grease - Determination of dropping point
IP 50	Full Scale Cone Penetration of Lubricating Grease
IP 112	Corrosion Substances in Grease Copper Strip Test
IP 142	Determination of oxidation stability of lubricating grease - Oxygen bomb method
IP 154	Petroleum products - Corrosiveness to copper - Copper strip test
IP 215	Determination of water washout characteristics of lubricating grease
IP 220	Petroleum products and lubricants - Determination of rust-prevention characteristics of lubricating greases