



AEROSPACE MATERIAL SPECIFICATION

AMS3050™**REV. A**Issued 2017-12
Revised 2024-11

Superseding AMS3050

Performance Specification
Anti-Seize Thread Compound, High Temperature

RATIONALE

This revision will serve two purposes. (1) The QPG for AMS-M has agreed that we do want to continue with the addition of a QPL to AMS3050 and subsequent slash sheet specifications (types of anti-seize). (2) The Five-Year Review is due at the end of 2022. This is a good opportunity to review and update so that only one revision is entered for AMS3050.

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1. SCOPE

1.1 Form

This foundation specification (AMS3050) and its associated category specifications (AMS3050/1 through AMS3050/9) cover anti-seize compounds for use on threads of nuts, studs, bolts, and other mating surfaces, including those of superheated steam installations, at temperatures up to 1050 °F (566 °C). Compounds containing PTFE are limited to 600 °F (315 °C) maximum. Materials for nuts, studs, bolts, and other mating surfaces include, but are not limited to: steel, nickel alloys, stainless steel, and silver-coated materials. 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 2.3.3, 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 government authorities and is not implied by compliance with or qualification to this specification.

1.1.1 Foundation and Category Specifications

This foundation specification establishes the requirements for all anti-seize compounds conforming to this specification.

The individual category specifications establish the requirements by separate anti-seize additives. Synthetic fluids and lithium complex soap thickeners are typically part of greases of this type, but other base fluids and thickeners may be acceptable.

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 General

The documents listed in this section are specified in Sections 3, 4, or 5 of this specification.

This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in Sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government Publications

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

2.2.1 Department of Defense Specifications

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

MIL-DTL-1222 Studs, Bolts, Hex Cap Screws and Nuts

MIL-PRF-680 Degreasing Solvent

MIL-STD-1916 DOD Preferred Methods for Acceptance of Product

2.2.2 Federal Standards

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

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

2.3 Non-Government Publications

The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

2.3.1 ASTM International

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 A109	Standard Specification for Steel, Strip, Carbon (0.25 Maximum Percent), Cold-Rolled
ASTM A193	Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service
ASTM A194	Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both
ASTM A515	Standard Specification for Pressure Vessel Plates, Carbon Steel, for Intermediate and Higher-Temperature Service
ASTM D6184	Standard Test Method for Oil Separation from Lubricating Grease (Conical Sieve Method)

2.3.2 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.

AMS3050/1	Performance Specification, Anti-Seize Thread Compound, High Temperature - Copper Only
AMS3050/2	Performance Specification, Anti-Seize Thread Compound, High Temperature - Aluminum Only
AMS3050/3	Performance Specification, Anti-Seize Thread Compound, High Temperature - Nickel Only
AMS3050/4	Performance Specification, Anti-Seize Thread Compound, High Temperature - Molybdenum Disulphide; Graphite Only
AMS3050/5	Performance Specification, Anti-Seize Thread Compound, High Temperature - PTFE Only
AMS3050/6	Performance Specification, Anti-Seize Thread Compound, High Temperature - "Nickel+Graphite" Only
AMS3050/7	Performance Specification, Anti-Seize Thread Compound, High Temperature - "Copper+Graphite+Aluminum" Only
AMS3050/8	Performance Specification, Anti-Seize Thread Compound, High Temperature - "Graphite+Aluminum" Only
AMS3050/9	Performance Specification, Anti-Seize Thread Compound, High Temperature - "Graphite+Calcium+Fluoride" Only
AS7766	Terms Used in Aerospace Metals Specifications