



AEROSPACE STANDARD	AS5272™	REV. F
	Issued 1997-03 Reaffirmed 2016-04 Revised 2021-04 Superseding AS5272E	
Lubricant, Solid Film, Heat Cured, Corrosion Inhibiting, Procurement Specification		

RATIONALE

Editorial clarifications added for product source availability (1.2 and 3.1), update reference for FED-STD-595, general editorial updates.

1. SCOPE

This SAE Aerospace Standard (AS) establishes the requirements for heat cured solid film lubricants. For other general or high temperature applications, refer to AS1701. This document requires qualified products.

1.1 Application

For applications where temperatures may range from -90 to 400 °F (-68 to 204 °C).

1.2 Type

This specification establishes the following types:

Type I: A lubricant capable of being cured within 60 minutes at 302 °F ± 27 °F (150 °C ± 15 °C) with an endurance life of 250 minutes minimum. See 6.4 for related product information.

Type II: A lubricant capable of being cured within 60 minutes at 400 °F ± 27 °F (204 °C ± 15 °C) with an endurance life of 450 minutes minimum. See 6.4 for related product information.

Type III: A low volatile organic compound (VOC) content lubricant capable of being cured within 120 minutes at 302 °F ± 27 °F (150 °C ± 15 °C) or within 60 minutes at 400 °F ± 27 °F (204 °C ± 15 °C) with an endurance life of 450 minutes minimum. Type III shall be used when performance is satisfactory for the desired application to meet VOC emission regulations.

Color 1 - Natural product color.

Color 2 - Black color. See 3.7.

See 6.4 for related product information.

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<https://www.sae.org/standards/content/AS5272F/>

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SAE WEB ADDRESS:

1.3 Safety - Hazardous Materials

While the materials, methods, applications, and processes described or referenced in this specification may involve use of hazardous materials, this specification does not address the hazards which may be involved in such use. The product manufacturer shall prepare Materials Safety Data Sheets (MSDS) in accordance with AMS2825 and abide by MSDS requirements to ensure familiarity with the safe and proper handling of hazardous materials used and take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. 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.

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.

AMS1424	Fluid, Aircraft Deicing/Anti-Icing, SAE Type I
AMS2825	Material Safety Data Sheets
AMS-QQ-A-250/5	Aluminum Alloy Alclad 2024, Plate and Sheet
AMS-STD-595	Colors Used in Government Procurement
AS1701	Lubricant, Solid Film
AS5528	Lubricant Application, Solid Film, Heat Cured, Corrosion Inhibiting
AS9100	Quality Management Systems - Requirements for Aviation, Space, and Defense Organizations

2.2 AIA Publications

Available from Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209-3928, Tel: 703-358-1000, www.aia-aerospace.org.

NAS850	General Packaging Standard
NAS854	Hazardous Material Packaging and Safety Data Sheet Preparation

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 A108	Standard Specification for Steel Bars, Carbon, Cold-Finish, Standard Quality
ASTM A167	Standard Specification for Stainless and Heat-Resisting Chromium-Nickel-Steel Plate, Sheet and Strip
ASTM B117	Standard Practice for Operating Salt Spray (Fog) Test Apparatus
ASTM B244	Standard Test Method for Measurement of Thickness of Anodic Coatings on Aluminum and Other Nonconductive Coatings on Nonmagnetic Basis Metals with Eddy Current Instruments

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ASTM B499	Standard Test Method for Measurements of Coating Thicknesses by the Magnetic Method: Nonmagnetic Coatings on Magnetic Basis Metals
ASTM D56	Standard Test Method for Flash Point by Tag Closed Tester
ASTM D1141	Standard Practice for Preparation of Substitute Ocean Water
ASTM D1186	Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to a Ferrous Base
ASTM D1193	Standard Specification for Reagent Water
ASTM D1400	Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base
ASTM D2510	Standard Test Method for Adhesion of Solid Film Lubricants
ASTM D2511	Standard Test Method for Thermal Shock Sensitivity of Solid Film Lubricants
ASTM D2625	Standard Test Method for Endurance (Wear) Life and Load-Carrying Capacity of Solid Film Lubricants (Falex Pin on Vee Method)
ASTM D2649	Standard Test Method for Corrosion Characteristics of Solid Film Lubricants
ASTM D2832	Standard Guide for Determining Volatile and Nonvolatile Content of Paint and related Coatings
ASTM D3735	Standard Specification for VM&P Naphthas
ASTM D3960	Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
ASTM D4017	Standard Test Method for Water in Paints and Paint Materials by Karl Fischer Method
ASTM D4457	Standard Test Methods for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph
ASTM E1252	Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis
ASTM F22	Standard Test Method for Hydrophobic Surface Films by the Water-Break Test

2.4 ISO Publications

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

ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories

2.5 OSHA Publications

Available from U.S. Department of Labor/OSHA, 200 Constitution Avenue, Washington, DC 20210, Tel: 800-321-6742, www.osha.gov/pls/publications/pubindex.list.

HSC 29 CFR 1910.1200 Hazard Communication, Toxic and Hazardous Substances

2.6 PRI Publications

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

PD2001	Qualified Product Management Council Procedures for Qualified Products Group
PRI-QPL-AS5272	Qualified Products List (QPL) of Products Qualified Under SAE Aerospace Specification AS5272 - Lubricant, Solid Film, Heat Cured, Corrosion Inhibiting

2.7 U.S. Government Publications

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

FED-STD-791	Lubricants, Liquid Fuels, and Related Products, Testing Methods of
MIL-A-8625	Anodic Coatings, for Aluminum and Aluminum Alloys
MIL-C-81302	Cleaning, Compound, Solvent, Trichlorotrifluoroethane
MIL-DTL-16232	Phosphate Coatings, Heavy, Manganese or Zinc Base (for Ferrous Metals)
MIL-DTL-83133	Turbine Fuel, Aviation, Kerosene Types
MIL-L-46000	Lubricant, Semi-Fluid, (Automatic Weapon)
MIL-PRF-14107	Lubricating Oil, Weapons, Low Temperature
MIL-PRF-23699	Lubricating Oil, Aircraft Turbine Engine, Synthetic Base, NATO Code Number 0-156
MIL-PRF-372	Cleaning Compound, Solvent for Bore of Small Arms and Automatic Aircraft Weapons
MIL-PRF-46010F	Lubricant, Solid Film, Heat Cured, Corrosion Inhibiting
MIL-PRF-63460	Lubricant, Cleaner and Preservative for Weapons and Weapon Systems
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537
MIL-T-81533	Trichloroethane 1,1,1, (Methyl Chloroform) Inhibited, Vapor Degreasing
VV-D-1078	Damping Fluid, Silicone Base (Dimethyl Polysiloxane)

3. REQUIREMENTS

3.1 Qualification

The lubricants furnished under this specification shall be products, which are listed or approved on the applicable qualified product list, PRI-QPL-AS5272. This QPL requirement shall be in effect on June 30, 2008. No change in product formulation, raw material, basic methods of manufacturing, or plant site shall be made without notification and prior approval from the Performance Review Institute (PRI). Requalification or testing and revised supplier designation may be required. For all specified types (as defined in 1.2), users should verify product source availability in PRI-QPL-AS5272. Users and suppliers seeking new approved product sources should contact PRI.

3.1.1 Manufacturer Qualification

A manufacturer producing a product in conformance to this procurement specification shall be accredited in accordance with AS9100.

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