



AEROSPACE MATERIAL SPECIFICATION

AMS3084™**REV. C**

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Superseding AMS3084B

Lubricant, Solid Film
Minimal Outgassing

RATIONALE

AMS3084C stabilizes this document because committee B can find no users of this specification or producers who certify to its requirements.

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1. SCOPE:

1.1 Form:

This specification covers a solid film lubricant in the form of a ready-to-use, sprayable suspension.

1.2 Application:

This lubricant has been used typically in temperature environments ranging from -300 to +750 °F (-184 to +399 °C) and in applications requiring minimal outgassing characteristics, but usage is not limited to such applications.

1.3 Safety - Hazardous Materials:

While 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 which 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.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification 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.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 4029 Aluminum Alloy, Sheet and Plate, 4.5Cu - 0.85Si - 0.80Mn - 0.50Mg, (2014 -T6 Sheet, 2014 -T651 Plate), Solution and Precipitation Heat Treated

AMS 5515 Steel, Corrosion Resistant, Sheet, Strip, and Plate, 18Cr - 8.5Ni (SAE 30302), Solution Heat Treated, High Ductility

AMS 6440 Steel Bars, Forgings, and Tubing, 1.45Cr (0.98 - 1.10C) (SAE 52100), for Bearing Applications

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 2510 Adhesion of Solid Film Lubricants

ASTM D 2512 Compatibility of Materials with Liquid Oxygen (Impact Sensitivity Threshold and Pass-Fail Techniques)

ASTM D 2625 Endurance (Wear) Life and Load-Carrying Capacity of Solid Film Lubricants (Falex Pin and Vee Method)

ASTM E 595 Total Mass Loss and Collected Volatile Condensable Materials from Outgassing in a Vacuum Environment

3. TECHNICAL REQUIREMENTS:

3.1 Material:

Shall consist of molybdenum disulfide in a sodium silicate binder at spraying consistency.

3.2 Properties:

The lubricant shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with specified test methods:

3.2.1 Curing: The lubricant shall cure to a solid lubricant film by air-drying at 77 °F ± 5 (25 °C ± 3) for 30 to 40 minutes, heating in an oven at 180 °F ± 5 (82 °C ± 3) for 2 hours ± 0.2, further heating in an oven at 275 °F ± 5 (135 °C ± 3) for 6 hours ± 0.25, and cooling in air.

3.2.2 Film Adhesion: The lubricant film, cured as in 3.2.1, shall not be lifted from the test panel during testing in accordance with ASTM D 2510, Procedure B.

3.2.3 Thermal Stability: The lubricant film shall not flake, crack, or soften, and shall meet the requirements of 3.2.2, determined in accordance with 4.4.1.

3.2.4 Endurance Life: The lubricant film, cured as in 3.2.1 and tested in accordance with ASTM D 2625, Procedure A, shall have an average endurance life of at least 100 minutes at 1000 pounds (4448 N). The endurance life of any single run shall be not less than 80 minutes.