

AEROSPACE MATERIAL SPECIFICATION

SAE AMS-C-22587

REV. A

Issued 1999-06
Cancelled 2012-02

Superseding AMS-C-22587

Cartridges, Grease, 14 Ounce
(for Cartridge-Type Grease Gun)

FSC 4930

RATIONALE

This document is cancelled without replacement.

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This document has been taken directly from U.S. Military Specification MIL-C-22587B and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. The initial release of this document is intended to replace MIL-C-22587B. Any part numbers established by the original specification remain unchanged.

The original Military Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, and (b) the use of the existing government specification or standard format.

Under Department of Defense policies and procedures, any qualification requirements and associated qualified products lists are mandatory for DOD contracts. Any requirement relating to qualified products lists (QPL's) has not been adopted by SAE and is not part of this SAE technical document.

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1. SCOPE:

1.1 Scope:

This specification covers 14 ounce capacity grease cartridges. They are designed for use with cartridge-type grease guns conforming to MIL-G-3859.

1.2 Classification:

1.2.1 Types: The 14 ounce capacity grease cartridges shall be of the following types:

Type I - Petroleum and synthetic type grease cartridge.

Type II - Petroleum type grease cartridge.

2. APPLICABLE DOCUMENTS:

The following publications, of the issue in effect on date of invitation for bids or request for proposals, form a part of this specification to the extent specified herein.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-G-3859	Grease Guns, Hand-Operated, Lever, Push and Screw Type
MIL-G-10924	Grease, Automotive and Artillery
MIL-G-23827	Grease, Aircraft and Instrument, Gear and Actuator Screw
MIL-G-25013	Grease, Aircraft, Ball and Roller Bearing

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-290	Packaging of Petroleum and Related Products
MIL-STD-889	Dissimilar Metals
MIL-STD-1188	Commercial Packaging of Supplies and Equipment

2.2 ANSI Publications:

Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ANSI MH3.3 201.5 x 904.5 Grease Cartridge

2.3 ASTM Publications:

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

ASTM D 128 Analysis of Lubricating Grease

ASTM E 168 General Techniques of Infrared Quantitative Analysis

ASTM E 311 Sampling and Sample Preparation Technique in Spectrochemical Analysis

ASTM E 334 General Techniques of Infrared Microanalysis

2.4 Order of precedence:

In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENT:

3.1 Qualification:

Grease cartridges furnished under this specification shall be products which are qualified for listing on the applicable qualified products list at the time set for opening of bids (see 4.3 and 6.5).

3.2 Materials:

Materials used shall conform to the applicable specifications and as specified herein. Materials which are not covered by applicable specifications or which are not specifically described herein, shall be of the best quality, of the lightest practicable weight, and suitable for the purpose intended. Materials shall be free from defects and imperfections that will affect the serviceability of the grease cartridges. Metals when used shall be coated, plated or corrosion-resistant type and shall resist corrosion for normal service life. Unless suitably protected against electrolytic corrosion, dissimilar metals as defined and classified in MIL-STD-889, shall not be used in intimate contact.

3.3 Design and construction:

The grease cartridges shall have a nominal capacity of 14 ounces by weight and shall be designed for use with a grease gun conforming to MIL-G-3859. Suitable end closures which are removable without the use of hand tools shall be provided and shall be removable without damage to the cartridge that would inhibit usage. If gaskets are used, they must be attached positively to the removable caps.

3.4 Physical measurement:

The dimensions and tolerances of the grease cartridges are given in ANSI MH3.3.

3.5 Performance:

The cartridges shall conform to the requirements of Table I (see 4.6).

TABLE I. Performance requirements.

Property	Requirement	Test Paragraph
Operation	No evidence of binding of the grease gun or follower, or separation of the interior plies or inner liner of the cartridge.	4.6.2
Grease retention after operation	Retention of not more than 5.0 percent of original weight of grease contained in full cartridge.	4.6.2
Storage	No evidence of dislocation or corrosion of end closures, swelling or separation of plies, or any other evidence of cartridge deformation or deterioration.	4.6.3
Leakage	Leakage from the cartridge shall not be more than 5.0 percent by weight of the grease contained in the completely filled cartridge.	4.6.3
Compatibility:		
Cartridge absorption of grease constituents	Not more than 2.5 percent by weight of the grease contained in the completely filled cartridge shall be absorbed by the cartridge material.	4.6.4.1
Grease contamination by cartridge constituents.	There shall be no evidence of grease contamination by cartridge constituents.	4.6.4.2

- 3.5.1 Type I cartridge: Type I cartridges shall perform satisfactorily when filled with either petroleum or synthetic type grease. The inner liner shall resist the affects of both petroleum and synthetic type greases.
- 3.5.2 Type II cartridge: Type II cartridges shall perform satisfactorily when filled with petroleum type grease. The inner liner shall resist the affects of petroleum type greases.

3.6 Workmanship:

The grease cartridges shall be uniform in quality and shall be free from irregularities or defects which would adversely affect serviceability.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for inspection:

Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of inspections:

The inspections specified herein are classified as follows:

- a. Qualification inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 Qualification inspection:

The qualification inspection tests of the grease cartridges shall consist of all the examinations and tests of this specification.

- 4.3.1 Qualification sample: Qualification test samples shall consist of eighteen grease cartridges which have been produced by the contractor using the same production process, procedures, and equipment as will be used in fulfilling the contract. Samples shall be forwarded to the Commander, Naval Air Development Center, Warminster, PA 18974, marked Attention: Aircraft and Crew Systems Technology Directorate (Code 60612). Samples shall be identified by securely attached durable tags marked with the following information:

Grease Cartridge
TYPE

Qualification samples

Name of manufacturer (plant in which manufactured)

Manufacturer's designation

Date of manufacture

4.3.2 Retention of qualification: The retention of qualification of products approved for listing on the Qualified Products List (QPL) shall be maintained by periodic verification to determine compliance of the qualified product with the requirements of this specification. Unless otherwise specified by the activity responsible for the Qualified Products List, periodic verification shall be by certification and such certification shall be at intervals of not more than two years.

4.4 Quality conformance inspection:

Quality conformance inspection shall consist of a visual examination to determine compliance with the materials, design and construction, and workmanship requirements of the specification. Quality conformance inspection shall also include the operation and grease retention after operation tests of Table I and the physical measurement test of 4.6.1.

4.4.1 Certification: The manufacturer shall certify that there has been no manufacturing or process change from that which resulted in the production of the qualification samples (see 6.4).

4.4.2 Inspection lot size: Unless otherwise specified, a lot shall consist of all the grease cartridges of one type fabricated from the same materials by the same manufacturing process and submitted for inspection at one time as part of one contract or order.

4.4.2.1 Sampling and inspection procedures: A random sample of cartridges shall be selected from each inspection lot in accordance with MIL-STD-105. The sample size shall be based on the applicable sample size code letter using Table IIIA, Inspection level II.

4.4.2.1.1 Classification of defects: Defects found during inspection shall be classified as follows:

Major Defects

(AQL shall be 4.0 percent defective)

101. Overall dimensions not within specified tolerances.
102. Defective component parts which affect operation.
103. Omission of a component part.
104. Defective cartridge inner liner.
105. Binding of the grease gun or separation of the interior plies.
106. Grease retention of more than 5.0 percent of original weight after operation.

4.4.2.1.1 (Continued):

Minor Defects

(AQL shall be 10.0 percent defective)

- 201. Improper fit of end closures.
- 202. Identification markings not as specified.
- 203. Packaging not as specified.
- 204. Packing not as specified.
- 205. Marking illegible or not as specified.

4.5 Test conditions and equipment:

- 4.5.1 Standard atmospheric conditions: Unless otherwise specified tests shall be conducted at standard atmospheric pressure and an ambient temperature between 60° and 90°F.
- 4.5.2 Equipment: The equipment used for the tests shall be a 14 ounce capacity grease gun conforming to the requirements of MIL-G-3859.

4.6 Test methods:

- 4.6.1 Physical measurement: Measure and record the height, diameter over the seam end, body outside diameter, and overall height (see 3.4).
- 4.6.2 Operation and grease retention: Weigh and record the weight of two empty cartridges. Fill the two cartridges with 14 ounces of grease. A synthetic type grease shall be used for Type I cartridges and a petroleum type grease shall be used for Type II cartridges. Weigh the filled cartridge. Load one filled grease cartridge into a grease gun conforming to the requirements of specification MIL-G-3859. The gun shall be operated to remove air and to fill the head, extension and hydraulic coupler with grease. The cartridge shall be removed, and the exterior surface of the coupler shall be wiped clean. Reload the gun with the second full cartridge. Operate the gun in a normal manner to dispense a full charge of grease into a tared container. While operating the gun observe evidence of binding or difficulty of operation. When the gun will no longer dispense grease, the weight of the grease shall be determined and the percent of grease retention after operation shall be calculated. The cartridge shall be removed from the gun and shall be examined for damage to the inner liner or separation of the plies or other visible damage (see 3.5).