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SUPERSEDING
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MILITARY SPECIFICATION

COMPOUND, SEALANT ANTI-SIEZE

This specification is approved for use by all departments and agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for one type of non-hardening sealing and anti-sieze compound capable of distortion without fracture when applied to threaded couplings.

2. APPLICABLE DOCUMENTS

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

STANDARDS

Military

MIL-STD-290	Packaging, Packing and Marking of Petroleum and Related Products

FSC 8030

MIL-STD-810 Environmental Test Methods

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents for a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials

ASTM D 92	Flash and Fire Points by Cleveland Open Cup, Method of Test for
ASTM D 95	Water in Petroleum and Other Bituminous Materials, Method of Test for
ASTM D 128	Analysis of Lubricating Grease, Method of Test for
ASTM D 217	Cone Penetration of Lubricating Grease, Method of Test for
ASTM D 566	Dropping Point of Lubricating Grease, Method of Test for
ASTM D 664	Neutralization Number by Potentiometric Titration, Method of Test for
ASTM D 721	Oil Content of Petroleum Waxes, Method of Test for

ASTM D 1480 Density and Specific Gravity of Viscous Materials by Bingham Pycnometer, Method of Test for

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.

3. REQUIREMENTS

3.1 Preproduction sample. Unless otherwise specified (see 6.2), a preproduction sample of the compound shall meet the requirements of this specification.

3.2 Materials. The compound shall consist of materials to yield a product having the properties specified herein. The materials shall be of high quality and when finally blended shall form a smooth homogeneous mixture, free from lumps, cakes, abrasive and foreign materials. The use of any ingredient material that will cause deterioration of the brass or cadmium plated steel material with which it comes in contact is prohibited.

3.2.1 Workability. The compound shall be of such a consistency that it may be applied with a brush or spatula. After being applied the compound shall remain workable for a period of 5 years.

3.2.2 Toxicity. The compound shall not present a health hazard to individuals under normal conditions of usage.

3.2.3 Properties. The chemical and physical properties of the compound shall conform to Table I.

Table I

Chemical and physical properties	
Property	Value
Temperature range (working)	-56.67°C (-70°F) to +71.11°C (+160°F)
Flash point	+176.67°C (+350°F) minimum
Density	0.94 to 1.0
Dropping point	+85.00°C (+185°F) to +107.22°C (+225°F)
Oil content	85 percent, minimum
Metallic soap content	13 to 16 percent, maximum
Ash content	2.7 percent, maximum
Penetration	160 to 240
Neutral number	19 maximum
Water content	1 percent, maximum

3.2.4 Sealing. When the compound is placed on a threaded male coupling and coupled and torqued to a value specified on the engineering drawing with the female coupling it shall be capable of withstanding a hydrostatic water pressure of 500 plus or minus 10 pounds per square inch gage for 5 hours, minimum.

3.3 Shelf life. The compound shall be capable of being stored in sealed containers for a period of 24 months at 21.11 plus or minus 11.11 degrees Celsius (C) (70 plus or minus 20 degrees Fahrenheit (F)) temperature without separating into phases which will not yield a homogeneous mixture.

3.4 Workmanship. The compound shall be free from dirt, undissolved matter, or any other defects which could be detrimental to its intended use.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier 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 Preproduction sample. The preproduction sample shall be prepared using the same methods for the preparation of subsequent lots of the compound. Preproduction samples which do not meet all the requirements of this specification shall be subject to rejection.

4.3 Classification of inspection. The examination and testing of the compound shall be classified as follows:

a. Preproduction inspection.

b. Quality conformance inspection.

4.3.1 Preproduction inspection. Preproduction inspection shall be conducted only on the preproduction sample and shall consist of all the examinations and tests specified herein.

4.3.2 Quality conformance inspection. Quality conformance inspection for acceptance of the compound shall consist of the following examinations and tests:

a. Visual.

b. Penetration consistency.

c. Density.

d. Temperature range.

e. Flash point.

4.3.2.1 Lot size. Lot size shall consist of all the compound manufactured at one time, from one process, forming part of one contract or order, and submitted for acceptance at one time and place.

4.3.2.2 Sampling. Unless otherwise specified (see 6.2) one pint of the compound from 1 unit representative of each lot shall be selected at random for quality conformance inspection. Each container of the compound shall be considered as a unit of product. Failure of the sample to meet the quality conformance requirements shall be cause for lot rejection.

4.4 Test methods.

4.4.1 Flash point. Flash point shall be determined in accordance with ASTM D 92 and shall conform to Table I.

4.4.2 Density. Density shall be determined in accordance with ASTM D 1480 and shall conform to Table I.

4.4.3 Dropping point. Dropping point shall be determined in accordance with ASTM D 566 and shall conform to Table I.

4.4.4 Oil content. Oil content shall be determined in accordance with ASTM D 721 and shall conform to Table I.

4.4.5 Soap content. Soap content shall be determined in accordance with ASTM D 128 and shall conform to Table I.

4.4.6 Ash content. Ash content shall be determined in accordance with ASTM D 128 and shall conform to Table I.

4.4.7 Penetration consistency. Penetration consistency shall be determined in accordance with ASTM D 217 and shall conform to Table I.

4.4.8 Neutral number. Neutral number shall be determined in accordance with ASTM D 664 and shall conform to Table I.

4.4.9 Water content. Water content shall be determined in accordance with ASTM D 95 and shall conform to Table I.

4.4.10 Temperature range. Temperature range shall be determined in accordance with ASTM D 566 and shall conform to Table I.

4.4.11 Sealing. Using a steel male national pipe thread and an aluminum female national pipe thread of the same size, with compound applied, join the two and torque to the value specified on the engineering drawing. Place the joined couplings in a test fixture and apply a hydrostatic water pressure of 500 plus or minus 10 pounds per square inch gage for a period of 5 hours without leakage.

4.4.12 Transfer property. Transfer property shall be determined by visual inspection and shall conform to 3.2.4.

4.5 Preservation, packaging, packing and marking. The preservation, packaging, packing and marking shall be examined to determine compliance with Section 5.

4.6 Workmanship. The compound shall be visually examined for evidence of dirt and contamination and shall conform to 3.4.

5. PREPARATION FOR DELIVERY

5.1 Preservation, packaging, packing and marking. Unless otherwise specified (see 6.2), preservation, packaging, packing and marking shall be as specified herein.

5.2 Marking. Preservation, packaging, packing and marking shall be in accordance with MIL-STD-290.

6. NOTES

6.1 Intended use. The sealing and anti-sieze compound is intended to be used on hydraulic brake line fittings as a sealant.

6.2 Ordering data. Procurement documents should specify the following:

a. Title, number, and date of this specification.

b. Whether a preproduction sample is required, and if so, pertinent details (see 3.1).

c. Sampling plan, if other than specified (see 4.3.2.2).

d. Requirements for preservation, packaging, packing, and marking if different (see 5.1).

e. Applicable level(s) of preservation, packaging and packing (see 5.2).

f. Quantity and size of containers required.

6.3 Supersession data. This specification includes the requirements of Missile Interim Specification, MIS-13362, dated 26 October 1970.

Custodian:
Army-MI

Preparing Activity:
Army-MI
Project No. 8030-A063

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

OMB Approval No. 22-R255

INSTRUCTIONS: The purpose of this form is to solicit beneficial comments which will help achieve procurement of suitable products at reasonable cost and minimum delay, or will otherwise enhance use of the document. DoD contractors, government activities, or manufacturers/vendors who are prospective suppliers of the product are invited to submit comments to the government. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements. Attach any pertinent data which may be of use in improving this document. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity.

DOCUMENT IDENTIFIER AND TITLE

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1. HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY DOCUMENT REQUIREMENT CONSIDERED TOO RIGID

3. IS THE DOCUMENT RESTRICTIVE?

☐ YES ☐ NO *(If "Yes", in what way?)*

4. REMARKS

SUBMITTED BY *(Printed or typed name and address - Optional)*

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DATE

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