

MIL-A-47040(MI)  
26 April 1974

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## MILITARY SPECIFICATION

### ADHESIVE-SEALANT, SILICONE, RTV, HIGH TEMPERATURE

This specification is approved for use by all activities of the Department of the Army.

#### 1. SCOPE

1.1 Scope. This specification covers one type of single package, high strength, thixotropic, vulcanizing silicone rubber for use in the -85°F to +600°F range.

#### 2. APPLICABLE DOCUMENTS

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

#### SPECIFICATIONS

##### FEDERAL

QQ-A-250/4	Aluminum Alloy 2024, Plate and Sheet
QQ-S-698	Steel, Sheet and Strip, Low Carbon
PPP-B-566	Boxes, Folding, Paperboard
PPP-B-601	Box, Wood, Cleated-Plywood
PPP-B-636	Box, Fiberboard
PPP-B-676	Box, Set-up
PPP-C-96	Can, Metal, 28 Gage and Lighter
PPP-C-300	Chemicals Liquid; Packaging and Packing of
PPP-D-705	Drum, Metal Shipping, Steel (Over 12 and under 55 Gallon)
PPP-D-729	Drum, Metal 55-Gallon (For Shipment of Noncorrosive Material)

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PPP-D-732	Drum, Metal, Reconditioned, 55 Gallon (For Shipment of Noncorrosive Materials)
PPP-P-704	Pails: Shipping, Steel (1 through 12 Gallon)

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MIL-T-3689	Tubes, Collapsible
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## STANDARDS

## MILITARY

MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-147	Palletized and Containerized Unit Load 40" X 48" Pallets Skids, Runners or Pallet-Type Base

(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 form 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) STANDARDS:

D 149	Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies
D 150	A-C Loss Characteristics and Dielectric Constant (Permittivity) of Solid Electrical Insulating Materials (Tentative).
D 257	D-C Resistance or Conductance of Insulating Materials
D 412	Tension Testing of Vulcanized Rubber
D 573	Accelerated Aging of Vulcanized Rubber by the Oven Method

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D 624	Test for Tear Resistance of Vulcanized Rubber
D 746	Brittleness Temperature of Plastics and Elastomers by Impact
D 792	Specific Gravity and Density of Plastics by Displacement, Tests for Method A
D 903	Peel or Stripping Strength of Adhesive Bonds
D 1084	Consistency of Adhesives
D 2240	Indentation Hardness of Rubber and Plastics by Means of a Durometer

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

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

OFFICIAL CLASSIFICATION COMMITTEE

Uniform Freight Classification Rules.

(Application for copies should be addressed to the Uniform Classification Committee, 202 Union Station, 516 West Jackson Boulevard, Chicago, Illinois 60606).

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC.

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Association, Inc., 1616 P Street, N.W., Washington, DC 20036).

3. REQUIREMENTS

3.1 First article. The sealing compound furnished under this specification shall be a product which has been inspected and has passed the first article examination as specified in 4.4.1 and 4.6.1.3 (as applicable) and all tests of this specification as specified in 4.5.3.1. Two representative containers of the silicone compound shall be selected for the tests. Approval of the first article samples by the procuring activity shall not relieve the contractor of his obligation to supply silicone compound that shall conform to all the requirements of this specification. The responsibility for the performance of the first article inspection shall be as specified by the procuring activity (see 6.2).

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### 3.2 Material.

3.2.1 Silicone compound. The silicone compound shall be supplied in the color as specified (see 6.2) and shall vulcanize at room temperature to produce a rubber compound to meet the physical and electrical properties of this specification.

### 3.3 Product characteristics.

3.3.1 Uncured silicone compound. The uncured silicone compound shall be in accordance with the requirements of Table I.

Table I. Physical properties of uncured silicone compound

Property	Requirements	Test Paragraph
Total solids content, (percent)	92 Min.	4.5.3.2.1
Extrusion rate (grams per minute)	75 Min.	4.5.3.2.2
Flow (inches)	0.2 Max.	4.5.3.2.3
Specific Gravity	1.11 $\pm$ 0.02	4.5.3.2.4
Tack Free time (hours)	5.0 max.	4.5.3.2.5
Storage life (minimum)	4 months (see 3.3.1.1)	4.5.3.2.8

3.3.1.1 Storage life. The uncured silicone compound shall meet all the requirements of this specification after 4 months of storage from date of delivery. Silicone compound that meets the requirements of extrusion rate or viscosity (as applicable) (3.3.1) Tensile strength (3.3.2.1) Elongation (3.3.2.1) and Peel Strength (3.3.2.1) may be considered to meet the storage life requirements when tested after storage as specified in 4.5.3.2.8.

### 3.3.2 Cured silicone compound.

3.3.2.1 Physical properties. The physical properties of the cured silicone compound shall be as specified in table II.

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Table II. Physical properties of cured silicone compound

Property	Requirements	Test Paragraph
Brittle Point	-80°F	4.5.3.1.1
Hardness, Shore A Durometer	25 - 40	4.5.3.2
Tensile strength, psi	600 min.	4.5.3.2
Elongation, percent	450 min.	4.5.3.2
Peel strength, 180°, from Unprimed Al Panel, ppi*	70 min.	4.5.3.2.6
Tear Strength, Die B LB/in.	100 min.	4.5.3.2.7
* NOTE: Pounds per inch of width		

3.3.2.1.1 Resistance to heat. The cured silicone compound after exposure for  $168 \pm 4$  hours (7 days  $\pm$  4 hours) at  $392^\circ \pm 3.6^\circ\text{F}$  ( $200^\circ \pm 2^\circ\text{C}$ ) shall meet the requirements for hardness, tensile strength and elongation as specified in table II when tested as specified in 4.5.3.1.2.

3.3.2.2 Electrical properties. The dielectric strength of the cured silicone compound shall be 400 volts/mil at  $77^\circ \pm 2^\circ\text{F}$  at 75 mil thickness.

3.4 Marking. A label or tag shall be attached to each container of silicone compound with data as follows:

- a. Color of silicone compound.
- b. Brief instructions for the storage and care of silicone compound prior to use.
- c. If required, a warning relative to toxicity (see 3.5).
- d. A caution note as to corrosion and fluid resistance (see 6.1.1).
- e. Instructions for use.
- f. Each label or tag attached to the containers of silicone compound shall contain application instructions as follows:

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3.4.1 Application. This one-component adhesive-sealant requires moisture from the air to cure. When it is used the following is required:

- a. Good ventilation during cure.
- b. Full cure before enclosure (7 days minimum for thicknesses over 1/8 inch, and 14 days minimum for thicknesses over 1/4 inch).
- c. Sufficient moisture to complete cure.
- d. Maximum thickness of 1/2 inch.
- e. Maximum glueline of 1 inch when used between non-porous substrates.

3.5 Toxicity. The silicone compound shall have no adverse effect on the health of personnel when used for its intended purpose (see 4.5.3.2.9).

3.6 Workmanship. The uncured silicone compound furnished under this specification shall be uniform in quality and consistency and shall be free of agglomerates or foreign particles. The cured compound shall present an appearance of smooth homogeneity. There shall be no other defect present which might render the end product unsuitable for its intended purpose.

#### 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 Lot. A lot of silicone compound shall consist of that quantity of material produced in one continuous operation from one batch of raw materials at one place of manufacture and offered for delivery at one time.

#### 4.3 Sampling.

4.3.1 For examination. Unless otherwise specified a random sample of filled containers shall be selected for examination in accordance with level 1 of MIL-STD-105.

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4.3.2 Sampling for tests. Two representative containers of silicone compound shall be selected from each lot for all required tests (see 4.5.3).

#### 4.4 Examination.

4.4.1 Silicone compound. Sample units selected in accordance with 4.3.1 shall be examined for defects and at the acceptable quality levels shown in table III.

Table III - Classification of defects

Item	AQL Percent	Classification of defect	Defect	Method of Inspection
Silicone compound (see 4.3.1, 3.2.1, and 3.6)	1.0	Critical	None defined	
		Major 101	Wrong type	Visual
		Major 102	Wrong color	Visual
		Major 103	Not uniform	Visual
		Major 104	Not free from agglomerates or foreign particles	Visual
		Major 105	Not homogeneous	Visual

#### 4.5 Tests.

4.5.1 Preparation of specimens. Samples of uncured silicone compound selected as specified in 4.3.2 and conditioned as specified in 4.5.2.1 shall be used for the test. The equipment shall consist of a hydraulic or mechanical press and an open-face mold with a cavity  $0.075 \pm 0.010$  Inch deep. The mold cavity shall be not less than 6 inches long by 4 inches wide. Specimens may be prepared by the procedure specified in 4.5.1.1.

##### 4.5.1.1 Procedure.

- a. Spray mold with Poly Lease 77 or an equivalent release agent.
- b. Prepare release paper by soaking a sheet of Ozalid reproduction paper (APECO Positive Paper No. 2, or equivalent) in distilled water for 1 to 5 minutes.
- c. Place wet release paper on upper face of mold with gelatin surface facing the silicone compound. Wipe excess water from the release paper.

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d. Fill the mold cavity with the silicone compound. Close the mold and press with approximately 50 psi pressure.

e. After 1 hour lift the upper face of the mold and carefully remove the paper from the sheet. Leave the sheet in the mold with upper face exposed until the sheet is well cured. This usually requires 6 to 18 hours. Leave the sheet in the mold no longer than 24 hours.

#### 4.5.2 Conditioning of specimens.

4.5.2.1 Uncured silicone compound. The uncured silicone compound before being tested shall be conditioned at  $77^{\circ} \pm 2^{\circ}\text{F}$  ( $25^{\circ} \pm 1.1^{\circ}\text{C}$ ) and  $50 \pm 5$  percent relative humidity for not less than 48 hours.

4.5.2.2 Cured silicone compound. Before being tested the silicone compound prepared as specified in 4.5.1 shall be cured at  $77^{\circ} \pm 2^{\circ}\text{F}$  ( $25 \pm 1.1^{\circ}\text{C}$ ) and  $50 \pm 5$  percent relative humidity. The cure time shall be  $72 \pm 4$  hours (3 days  $\pm$  4 hours).

4.5.3 Classification of tests. Tests for the silicone compound shall be classified as follows:

a. First article tests (see 4.5.3.1)

b. Lot acceptance tests (4.5.3.2)

4.5.3.1 First article tests. First article tests shall be conducted on the first article sample (see 3.1) and also at the discretion of the procuring activity (see 6.2). If a lot should fail a first article tests no further lot will be accepted until the supplier has presented sufficient evidence to show that the condition which caused the failure has been corrected. The first article tests shall consist of all tests of this specification. (Namely, the lot acceptance tests (see 4.5.3.2) and the additional tests as indicated in table IV).

Table IV - Additional tests for complete inspection

Characteristic	Requirement	Test Method
Brittle point	3.3.2.1	4.5.3.1.1
Resistance to heat	3.3.2.1.1	4.5.3.1.2
Storage life (uncured compound)	3.3.1.1	4.5.3.2.8



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4.5.3.1.1 Brittle point. Samples of uncured silicone compound shall be prepared as specified in 4.5.1. The silicone compound shall be allowed to cure for  $168 \pm 4$  hours (7 days  $\pm$  4 hours) at  $77^\circ \pm 5^\circ\text{F}$  ( $25^\circ \pm 2.8^\circ\text{C}$ ) and  $50 \pm 5$  percent relative humidity. Modified T-50 specimens shall be die punched from the pads. Tests shall be in accordance with procedure B of ASTM Method D 746.

4.5.3.1.2 Resistance to heat. Specimens of the silicone compound prepared as specified in 4.5.1 and cured as specified in 4.5.2.2 shall be oven aged as specified in ASTM D 573 for the duration and temperature as specified in 3.3.2.1.1. At the end of the exposure time the test specimens shall be brought to and tested at room temperature for compliance with the requirements of 3.3.2.1.1.

4.5.3.2 Lot acceptance tests. Lot acceptance tests shall be made on each lot of silicone compound and together with the examinations (see 4.4.1 and 4.6.1.3) shall be the basis for acceptance or rejection of the lot. Lot acceptance tests shall consist of the tests indicated in Table V.

Table V. Lot acceptance tests

Characteristics	Requirements	Test paragraph
<u>Uncured compound</u>		
Total solids content	3.3.1	4.5.3.2.1
Extrusion rate	3.3.1	4.5.3.2.2
Flow	3.3.1	4.5.3.2.3
Specific Gravity	3.3.1	4.5.3.2.4
Tack free time	3.3.1	4.5.3.2.5
<u>Cured compound</u>		
Hardness	3.3.2.1	ASTM D 2240
Tensile strength	3.3.2.1	ASTM D 412 (Die C)
Elongation	3.3.2.1	ASTM D 412 (Die C)
Peel Strength	3.3.2.1	4.5.3.2.6
Dielectric strength	3.3.2.2	ASTM D 149

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4.5.3.2.1 Total solids. Three specimens shall be tested and results averaged. Each specimen shall be tested as follows: Transfer 5 to 10 grams of the uncured silicone compound as rapidly as possible to a cup approximately 3 inches in diameter and 3/4 inch in depth. Place a fitted cover immediately over the cup and determine the weight accurately. The weight of the cup and the cover shall be determined accurately prior to using, and subtracted from the initial and final weights in order to calculate the net sample weight. Then remove the cover and heat the sealing compound for  $24 \pm 1$  hour at  $158^\circ \pm 2^\circ\text{F}$  ( $70 \pm 1.1^\circ\text{C}$ ). Cool the sealing compound and cup in a desiccator, replace the cover and weight accurately. Calculate the percent of total solids as follows:

$$\text{Percent of solids} = \frac{\text{Final weight} \times 100}{\text{Initial weight}}$$

4.5.3.2.2 Extrusion rate. The uncured silicone compound and application gun shall be stabilized at  $77^\circ \pm 2^\circ\text{F}$  and  $50 \pm 5$  percent relative humidity for at least 8 hours. A minimum of 250 grams of the compound shall be promptly used to fill a standard Semco or equal sealing-compound-gun cartridge having a Semco 440 nozzle (or equivalent), with an orifice diameter of  $0.125 \pm 0.005$  inch. The gun and sealing compound shall be maintained at standard conditions throughout the test. The gun shall be attached to a constant air supply of  $90 \pm 5$  psi for line variation or gage error. From 2 to 3 inches of sealing compound shall be extruded initially to clear trapped air. The sealing compound shall be extruded onto a suitable receptacle for 1 minute and the amount of extruded sealing compound determined.

4.5.3.2.3 Flow. The flow test shall be conducted with a flow test jig as shown in Figure 1. Depth of plunger tolerance is critical and shall be controlled within the tolerance during all tests. The flow test jig shall be placed on a table with the front face upward and with the plunger depressed to the limit of its travel. Enough of the silicone compound to fill the recessed cavity of the jig shall be rapidly transferred from a representative sample container. The compound should not be worked with a spatula but shall be leveled off even with block by scraping with a spatula in two passes, each starting in the center and moving toward the sides of the jig. Within 10 seconds after the leveling operation, the jig shall be placed on its base and the plunger immediately advanced to the limit of its forward travel. The cylindrical section formed in the flow-test jig shall be allowed to flow under its own weight on a vertical surface. The flow test shall begin when the plunger is advanced to the limit of its forward travel, and the flow measurement shall be taken immediately after the expiration of 30 minutes. The flow shall be measured from tangent to the lower edge of the plunger to the farthest point to which flow has occurred. The measurement after the indicated interval shall be considered the initial flow of the silicone compound.

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4.5.3.2.4 Specific gravity. The specific gravity of the sealing compound shall be determined in accordance with ASTM D 792, Method A.

4.5.3.2.5 Tack-free time. At the end of the rated tack-free time of the uncured silicone compound a 1-inch by 6-inch polyethylene film measuring  $0.004 \pm 0.002$  inch thick shall be applied and held in place at a pressure of 1/2 ounce per square inch for 2 minutes on each of several silicone compound specimens. The film shall then be slowly withdrawn at right angles to the surface of the sealing compound. The polyethylene shall come away clean and free of sealing compound.

4.5.3.2.6 Peel strength. Tests for peel strength shall be as specified in ASTM method D 903 except for the following: Panels shall be of aluminum alloy conforming to QQ-A-250/4; and of cold rolled No. 1 finish (dull) sheet steel conforming to QQ-S-698. Clean and air-dry the panels in accordance with directions from the manufacturer. Coat each panel with approximately 1/16 inch of silicone compound. Place 30-mesh, 10-mil wire aluminum screens on the silicone compound immediately. Apply a second coat 1/16 inch thick and cure as specified in 4.5.2.2. Test the peel strength in accordance with ASTM D 903, except that the rate of separation shall be 2 inches per minute.

4.5.3.2.7 Tear strength. Tests for tear strength shall be as specified in ASTM D 624, Die B.

4.5.3.2.8 Storage life. Unless otherwise specified (see 4.5.3.2.8.1) 2 samples of the uncured silicone compound shall be stored in their original containers for 4 months at a temperature of  $77^{\circ} \pm 2^{\circ}\text{F}$  and a relative humidity of  $50 \pm 5$  percent and then tested for compliance with 3.3.1.1.

4.5.3.2.8.1 Certification. When specified (see 4.5.3.2.8) the supplier shall submit to the procuring activity a letter certifying that the silicone compound shall meet the storage life requirements specified in 3.3.1.1. The letter shall be signed by a responsible agent of the certifying organization and shall be accompanied by evidence of this agent's authority to bind his principle. The Government reserves the right to check test material submitted by the supplier under certification.

4.5.3.2.9 Toxicity. The supplier shall either (1) furnish the toxicological data and formulations required to evaluate the safety of the silicone compound for the proposed use or (2) the supplier shall provide assurance that the silicone compound comply with the following:

- a. An acceptable toxicologic study has been made (see 6.4).
- b. The product is not toxic to personnel when used as specified (see 3.5).

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4.5.4 Rejection criteria. Failure of any test specimen or sample to meet the test requirements specified herein shall be cause for rejection of the lot represented.

4.6 Inspection of preparation for delivery.

4.6.1 Quality conformance inspection of pack.

4.6.1.1 Unit of product. For the purpose of inspection, a completely processed pack prepared for shipment shall be considered a unit of product.

4.6.1.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.6.1.3 Examination. Samples selected in accordance with 4.6.1.2 shall be examined for the defects and at the acceptance quality level indicated in table VI.

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Table VI - Classification of defects, preparation for delivery requirements

Item	AQL Percent	Classification of defect	Defect	Method of Inspection
Unit containers of silicone compound (see 5.1)	2.5	CRITICAL	NONE DEFINED	
		Major 110	Improper type	Visual
		Major 111	Improper size <sup>1/</sup>	Visual
		Major 112	Improper fill <sup>1/</sup>	Approved scale <sup>2/</sup>
		Major 113	Leakage	Visual
Intermediate packaging <sup>3/</sup> (see 5.1.1.1.1)	2.5	Major 114	Improper closure	Visual
		Major 115	Wrong type	Visual
		Major 116	Wrong size	Visual
		Major 117	Improperly closed	Visual
Box open (see 4.3.1 and 5.2)	2.5	Major 118	Wrong type	Visual
		Major 119	Improper size	Visual
		Major 120	Wrong quantity	Visual
		Major 121	Pads or separators missing <sup>3/</sup>	Visual
Box closed (see 4.3.1, 5.2 and 5.3)		Major 122	Lack of or improper strapping	Visual
		Major 123	Improperly closed	Visual
		Major 124	Gross weight, max.	Approved scale <sup>2/</sup>
		Major 125	Pallets missing or improper <sup>3/</sup>	Visual
		Major 126	Improper marking	Visual

<sup>1/</sup> The actual weight of a container filled with the minimum required quantity of silicone compound shall be the basis for determining the acceptable weight of subsequent containers.

<sup>2/</sup> Approved by Procuring activity.

<sup>3/</sup> When applicable.

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## 5. PREPARATION FOR DELIVERY

(The preparation for delivery requirements specified herein apply only to direct purchase by or direct shipments to the Government)

### 5.1 Packaging. Packaging shall be level A or C as specified (see 6.2).

5.1.1 Level A. The silicone compound shall be packaged in tubes, cartridges, pails or drums as specified (see 6.2). The tube shall conform to requirements of MIL-T-3689, type and class as specified (see 6.2), and the filled tubes shall be packaged in accordance with the Level A requirements of MIL-T-3689. The dispensing gun cartridge shall be aluminum foil wrapped. Pails shall be 5-gallon capacity and shall conform to PPP-P-704, type 1, class 2. The drums shall be 30-gallon capacity conforming to PPP-D-705 or 55-gallon capacity conforming to either PPP-D-729 or PPP-D-732. Pails and drums shall have sufficient outage to prevent leakage of contents or distortion of containers as a result of expansion of contents during transit or storage.

5.1.1.1 Intermediate packaging. Tubes and dispensing gun cartridges of the same size shall be packaged in snug-fitting boxes conforming to the water resistant variety of either PPP-B-566 or PPP-B-676 at the option of the contractor. Quantities and arrangement shall be in accordance with commercial practice. Box closure shall be as specified in the box specification.

5.1.2 Level C. Silicone compound in the size contains and quantities specified (see 6.2) shall be packaged to provide adequate protection against deterioration and damage from the supplier to the initial destination. The suppliers commercial practice may be used when it meets these requirements.

### 5.2 Packing. Packing shall be level A, B, or C as specified (see 6.2).

5.2.1 Level A. Silicone compound tubes or cartridges packaged as specified (see 5.1) shall be packed in boxes conforming to PPP-B-601, overseas type, style I in quantities as specified (see 6.2). Pails and drums will not require any additional packing.

5.2.1.1 Palletization. When specified (see 6.2) 5-gallon pails of the silicone compound shall be palletized in accordance with requirements of MIL-STD-147, load type IV.

5.2.2.1 Level B. Silicone compound in tubes or cartridges and packaged as specified (see 5.1) shall be packed in fiberboard boxes conforming to PPP-B-636 style W5c. Fiberboard boxes shall not exceed the weight limitation of the box specification. Pails and drums will require no over-packing.

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5.2.2.2 Palletization. When specified (see 6.2) 5-gallon pails of the silicone compound shall be palletized as specified in 5.2.1.1.

5.2.3 Level C. Silicone compound shall be packed to assure carrier acceptance and safe delivery to destination at lowest rates in compliance with Uniform Freight Classification Rules and National Motor Freight Classification.

5.3 Marking. In addition to any special marking required by the contract or order or herein, interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129. A label or tag shall be attached to each exterior container of silicone compound with additional data as follows:

- a. Number and title of this specification.
- b. Compound nomenclature
- c. Expiration date of shelf life.
- d. Brief instructions for the storage and care of the silicone compound prior to use.
- e. Cure time if other than that specified (see 4.5.2.2)
- f. If required, a warning relative to toxicity.
- g. Color of silicone compound.

"CAUTION: This compound may cause slight corrosion to various metals. (See label or tag attached to each container.)"

## 6. NOTES

6.1 Intended use. The silicone compound is available as thixotropic paste and is used as a sealant and adhesive in the aerospace industry.

6.1.1 Precaution. "This compound is not resistant to many types of fluid such as fuel and hydraulic fluid. When cured in contact with certain metals such as copper and other sensitive metals, a slight corrosion may occur. This condition should be thoroughly investigated for electrical performance. Material meeting this specification utilizes atmospheric moisture and liberate acetic acid during cure. This condition has been known to cause slight corrosion of various metals. It has also been shown that this type material can cause fracture of stressed high strength steel when applied under high relative humidity conditions. These factors should be thoroughly investigated prior to the use of this material. Particular care should be taken if this material is proposed for use in electrical equipment, especially when in close proximity to small gauge wire and electrical contacts."



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6.1.2 Thickness and glue lines. With this one-component silicone compound, which require moisture from the air to cure, the thicknesses should be limited to 1/2 inch, and the glue lines limited to 1 inch between non-porous substrates.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. Color (see 3.2.1) of silicone compound required.
- c. Quantity of silicone compound required.
- d. Whether the silicone compound is to be packaged in tubes, cartridges, pails or drums (see 5.1.1).
- e. If the silicone compound is packaged in tubes the type and class required (see 5.1.1).
- f. Size of containers required for silicone compound (5.1).
- g. Level of packaging and level of packing required (see 5.1 and 5.2)
- h. If level A, quantity of silicone compound (see 5.2.1) to be packed in a container.
- i. Whether 5-gallon pails shall be palletized (see 5.2.1.1 or 5.2.2.2 as applicable).
- j. Responsibility for the performance of first article inspection (see 3.1, 6.2.1 and 6.3).

6.2.1 Contracts or orders shall specify the following provisions for First Article inspection.

6.2.1.1 Whether first article inspection is required. When a contractor is in continuous production of the silicone compound from contract to contract, consideration should be given to waive the First Article inspections. If inspection is required, indicate:

- a. Where the first article inspection is to be conducted (at the contractor's plant or Government or commercial laboratory).
- b. That the approval of First Article samples or the waiving of the First Article inspection shall not relieve the contractor of his obligation to fulfill all other requirements of the specification and contract.

6.3 Data. For the information of contractors and contracting officers, any of the data specified in (a) subparagraphs below, (b) applicable documents listed in Section 2 of this specification, or (c) referenced lower-tier documents need not be prepared for the Government and shall not be furnished to the Government unless specified in the contract or order. The data to be furnished shall be listed on DD Form 1423 (Contractor Data Requirements Lists), which shall be attached to and made a part of the contract or order.



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6.3.1 First article data. When First Article samples are submitted (see 6.2), they should be accompanied by a complete inspection report showing the results of the contractor's inspections. The inspection report shall include the following:

- a. Report of inspections graphically presented, when possible, together with a detailed statement indicating compliance or extent of noncompliance with all requirements of this specification, referring specifically to paragraph numbers. Wherever a requirement is considered to be not applicable, the report shall so state.
- b. Diagrams of inspection set-ups. A complete description of inspection equipment and inspection procedures.
- c. Reproducible outline and description conditions. Where inspections specified in this specification are not considered applicable, the reason, and the substituted inspection should be clearly described.
- d. Copies of inspection log sheets.
- e. Photographs when available.

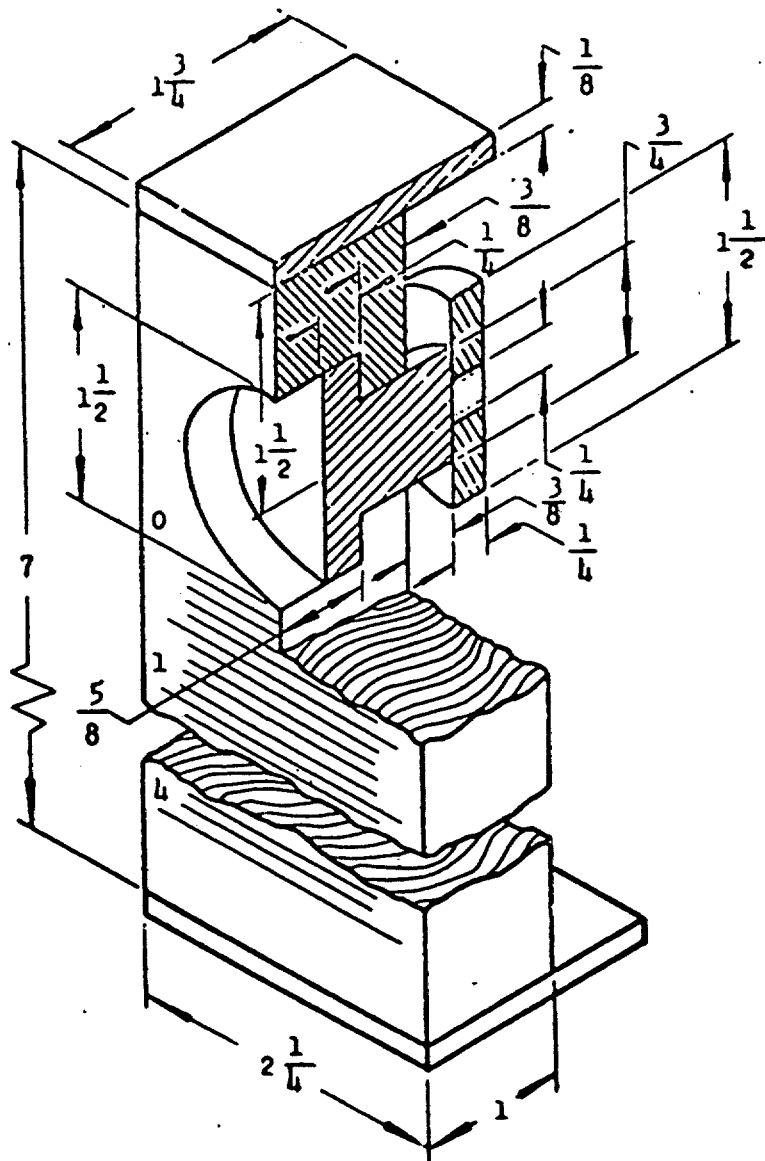
6.4 Toxicity. Questions pertinent to the effect of the material on the health of personnel will be referred by the procuring activity to the appropriate department medical service which will act as an advisor to the procuring activity.

Custodian:  
Army - MI

Preparing Activity:  
Army - MI

Project No. 8040-A069

MIL-A-47040 (MI)



MATERIAL: ALUMINUM ALLOY  
 DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES:  
 $\pm 0.003$  INCH.

FIGURE 1. Flow test jig

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 22-R255
<p><b>INSTRUCTIONS:</b> This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.</p>		
SPECIFICATION		
ORGANIZATION		
CITY AND STATE	CONTRACT NUMBER	
MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?  A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE?  <input type="checkbox"/> YES <input type="checkbox"/> NO (If "yes", in what way?)		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity - Optional)		DATE

DD FORM 1426  
1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED