

MIL-C-15074D  
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 SUPERSEDING  
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MILITARY SPECIFICATION

CORROSION PREVENTIVE, FINGERPRINT REMOVER

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 This specification covers one type of corrosion preventive intended for use as a fingerprint remover and as a temporary preservative for metallic items.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

O-M-232	- Methanol (Methyl Alcohol)
P-D-680	- Dry Cleaning Solvent
QQ-A-250/4	- Aluminum Alloy 2024, Plate and Sheet
QQ-B-613	- Brass, Leaded and Non-Leaded: Flat Products (Plate, Bar, Sheet, and Strip)
QQ-L-201	- Lead Sheet
TT-N-95	- Naphtha; Aliphatic

MILITARY

MIL-A-18001 - Anodes, Corrosion Preventive, Zinc, Slab, Disc and Rod Shaped

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Director, US Army Materials and Mechanics Research Center, ATTN: DRXMR-LS, Watertown, MA 02172 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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## STANDARDS

## MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes  
 MIL-STD-290 - Packaging of Petroleum and Related Products

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

2.1.2 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.

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DoD adopted shall be the issue listed in the current DoDISS and the supplement thereto, if applicable.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS

- A109 - Steel, Carbon, Cold-Rolled Strip  
 D56 - Flash Point by Tag Closed Tester, Test for  
 D270 - Sampling Petroleum and Petroleum Products  
 D445 - Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity), Test for  
 D1748 - Rust Protection by Metal Preservatives in the Humidity Cabinet, Test for

(Applications 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 Qualification. Corrosion preventive 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 4.5.1 and 6.3).

3.1.1 Any change in the formulation of a qualified product will necessitate its requalification. The material supplied under contract shall be identical, within manufacturing tolerances, to the product receiving qualification.

3.2 Material. The corrosion preventive shall be made of such materials as shall meet all requirements of this specification. The corrosion preventive shall contain no ingredients which may be injurious to personnel using it under reasonable safety precautions (see 5.1.1). The corrosion preventive shall be free from disagreeable and offensive odors (see 6.4).

3.3 Physical and chemical requirements. The corrosion preventive shall conform to the physical and chemical requirements specified in table I and paragraphs 3.4 through 3.12 (see 4.6.1).

TABLE I. Requirements

Characteristic	Value
Flash point, min	100°F (37.8°C)
Viscosity, centistokes, max, at 100°F (37.8°C)	30

3.4 Stability. The corrosion preventive shall not separate into layers or show any evidence of phase difference when tested as specified in 4.6.2.

3.5 Performance. The corrosion preventive shall remove all traces of fingerprint contamination when tested as specified in 4.6.3.

3.6 Suppression. The corrosion preventive shall prevent corrosion by fingerprint contamination when tested as specified in 4.6.4.

3.7 Protection. The corrosion preventive shall protect steel surfaces for 7 days when tested as specified in 4.6.5.

3.8 Removability. The corrosion preventive shall be completely removed from the test panel when tested as specified in 4.6.6.

3.9 Corrosiveness. The corrosion preventive shall not produce corrosive effects as shown by weight loss or gain in excess of that specified in table II when tested as specified in 4.6.7.

TABLE II. Corrosiveness of Compound

Metal	Maximum gain or loss, mg/sq cm
Aluminum	0.2
Brass	2.0
Lead	22.3
Steel	0.2
Zinc	8.5

3.10 Film stability. The corrosion preventive shall prevent corrosion of test panels when tested as specified in 4.6.8.

3.11 Handling. The corrosion preventive shall protect against fingerprint corrosion when tested as specified in 4.6.9.

3.12 Storage stability. The corrosion preventive shall meet the requirements of 3.5, 3.6, and 3.7 after six months storage at  $77 \pm 5^\circ\text{F}$  ( $25 \pm 3^\circ\text{C}$ ) (see 4.6.10).

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#### 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 utilize his own facilities 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.

4.2.1 Bulk lot. An indefinite quantity of a homogeneous mixture of material offered for acceptance in a single isolated container; or manufactured by a single plant run (not exceeding 24 hours) through the same processing equipment, with no change in ingredient material.

4.2.2 Packaged lot. An indefinite number of 55 gallon drums or smaller unit package of identical size and type, offered for acceptance, and filled with a homogeneous mixture of material from one isolated container; or filled with a homogeneous mixture of material manufactured by a single plant run (not exceeding 24 hours) through the same processing equipment, with no change in ingredient material.

#### 4.3 Sampling.

4.3.1 For inspection of material. Unless otherwise specified in the contract or order, a composite sample consisting of not less than two one gallon (3.8 liter) containers of the corrosion preventive shall be taken from each bulk or packaged lot in accordance with ASTM D270.

4.3.2 For examination of the preparation for delivery. A random sample of filled containers shall be selected from each packaged lot in accordance with MIL-STD-105 inspection level II, with an acceptable quality level (AQL) of 2.5 percent defective, and shall be subjected to the examination of 4.4.2.

#### 4.4 Inspection.

4.4.1 Inspection of material. Each composite sample taken in accordance with 4.3.1 shall be examined for material (3.2), and tested for qualification requirements in accordance with 4.5.1, or for acceptance requirements in accordance with 4.5.2, as appropriate. The lot shall be rejected if the sample representing the lot fails to meet any of the test requirements specified.

4.4.2 Examination of the preparation for delivery. Each container selected in accordance with 4.3.2 shall be examined in accordance with MIL-STD-290 for fill, closure, sealing, leakage, packaging, packing, and marking of the shipping container. Each filled container in the sample shall also be weighed to determine the amount of contents. Any container in the sample having one or more defects or under the required fill shall be rejected and if the number of containers exceeds the acceptance number for the appropriate sampling plan of MIL-STD-105, the lot represented by the sample shall be rejected.

#### 4.5 Classification of tests.

4.5.1 Qualification tests. Qualification tests shall consist of all the tests of this specification.

4.5.2 Acceptance tests. Acceptance tests shall consist of all the tests of this specification, except the handling test (see 4.6.9) and the storage stability test (see 4.6.10).

#### 4.6 Tests.

4.6.1 Physical and chemical tests. Physical and chemical tests shall be conducted in accordance with the following ASTM methods. A separate specimen shall be taken for each test from the composite sample.

- |                                 |           |
|---------------------------------|-----------|
| (a) Flash point                 | ASTM D56  |
| (b) Viscosity at 100°F (37.8°C) | ASTM D445 |

4.6.2 Stability. One loosely stoppered pour point tube filled to the mark with the corrosion preventive being tested shall be held at a temperature of  $-40 \pm 4^\circ\text{F}$  ( $-40 \pm 2^\circ\text{C}$ ) for 16 hours, and then at  $130 \pm 4^\circ\text{F}$  ( $54 \pm 2^\circ\text{C}$ ) for 8 hours. This temperature cycle shall be repeated a total of three times. A second pour point tube, unstoppered and filled to the mark with the corrosion preventive shall be held at a temperature of  $130 \pm 4^\circ\text{F}$  ( $54 \pm 2^\circ\text{C}$ ) for 3 days. Upon completion of the above respective procedures, both tubes shall be stoppered and slowly inverted and returned to their original position six times. After this treatment there shall be no evidence of separation or phase difference in the samples after the stoppered pour point tubes are permitted to stand at room temperature for 1 hour.

#### 4.6.3 Performance.

4.6.3.1 Test panels. The test panels shall be made of low carbon, cold-rolled steel conforming to ASTM A109. Panel dimensions shall be approximately 2 by 4 by 0.125 in (50 by 100 by 3 mm). Badly rusted stock shall not be used for making test panels. The edges of the panels shall be rounded and suspension holes reamed in accordance with ASTM D1748 prior to cleaning.

4.6.3.2 Cleaning test panels. The test surfaces of the panels shall be cleaned with solvent conforming to P-D-680, type I, and methanol conforming to O-M-232, grade A, as follows:

(a) While cleaning the test panels they shall be handled with hooks or forceps at all times. All precautions shall be taken to guard against impurities on the test panels by avoiding contact with any type of contaminated surfaces. The utensils and solvents used must be clean and free from contamination.

(b) The solvents shall be maintained at a temperature high enough to keep the temperature of the panels above the dew point during handling operations when they are not submerged in solvent or stored in a desiccator.

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(c) Wipe the surfaces clean with solvent soaked rags and scrub with surgical gauze swabs in a beaker of hot P-D-680 solvent.

(d) Rinse in a beaker of hot methanol. Air dry the panels and store in a desiccator until further processing.

**4.6.3.3 Polishing test panels.** Test panels shall be polished to 15 (+5)  $\mu$ m ( $0.38 + 0.13 \mu$ m), rms, ending with 240 grit aluminum oxide or silicon carbide abrasive, having cloth or paper backing. (The use of wet or dry, water-proof paper backed abrasives or iron oxide abrasives are prohibited.) Wipe off superficial dust and rub the abraded surface with 3 inch surgical gauze held in a blotter holder until there is no dark stain on a clean section of cloth. Remaining residue and contamination shall be removed by holding the panels in a rack at 25 degrees from the vertical and spraying downward with P-D-680 solvent. Flush the test surface progressively downward, spraying first the test surface, then the back of the panel and the test surface again. The panels shall then be rinsed in hot P-D-680 solvent and hot methanol. After the panels are dry they shall be stored in a desiccator and used the same day as prepared.

The following procedure shall be used in spot checking and controlling the desired standard of panel cleanliness:

Place the panel directly under a burette on a table free of vibrations or drafts. A drop of distilled water 0.05 mL in volume is allowed to drop vertically and perpendicular to the panel from a distance of 30 cm above the panel. If the surface is absolutely clean, successive droplets on various parts of the surface will spread out completely in spots of closely reproducible dimensions. A clean panel should give a spread of 21 to 23 mm for each 0.05 mL of distilled water.

**4.6.3.4 Application of synthetic fingerprints to panels.** Five finished and cleaned panels shall be printed using a synthetic solution and rubber stopper for its application. The synthetic solution shall be made up with the following ACS grade reagents dissolved in equal parts of anhydrous methanol and distilled water to make 1 liter:

Sodium chloride	7 grams
Urea	1 gram
Lactic acid (85%)	4 grams

The above solution in the amount of 1.5 milliliters shall be dropped in the center of a 1.5 inch square (38 millimeter square) pad made of clean surgical gauze U.S.P. type VII exactly 32-ply in thickness held on a clean glass plate approximately 6 inch square (150 millimeter square). The printing of the test panels shall be accomplished by use of a No. 6 rubber stopper weighted with a one kilogram weight and the small end of the stopper roughened with 240 grit aluminum oxide or silicon carbide abrasive paper, scrubbed with soap and water, and rinsed in distilled water. The roughened end of the stopper shall be first brought to rest on the gauze pad containing the fingerprint solution; transferred and momentarily brought to rest on the center of the test panel; and then placed back on the gauze pad. Immediately after being printed, the test panel is placed with printed surface facing air stream in a forced draft

oven at 250°F (121°C). The entire operation including the time of application of stopper moistened with fingerprinting solution to the test panel and the placing of the test panel in the oven shall not require more than five seconds. Not over five panels shall be printed using one gauze pad, and the rubber stopper shall be thoroughly cleaned after printing five panels. The printed test samples shall be removed after 5 minutes in the forced draft oven and allowed to cool to 77 ± 5°F (25 ± 3°C).

4.6.3.5 Test procedure. One of each set of five printed panels, designated as 100 percent removal control panel, shall be slushed in boiling synthetic methanol for 2 minutes. The methanol shall be heated to boiling on a hot plate immediately prior to the slushing operation. This panel is then combined with a second panel designated as zero percent removal control panel and both are slushed in two successive portions of solvent conforming to P-D-680 for 1 minute each. The three remaining panels shall be slushed in the compound under test for 2 minutes after which they are slushed in the two successive portions of solvent conforming to P-D-680. The slushing of the 100 percent removal control panel in methanol, the slushing of the three panels in the test compound, and the final slushing of all panels in the two successive portions of P-D-680 solvent, shall be accomplished mechanically by use of a reciprocal stroking machine such as shown in figure 1. The panels shall be mounted in the test holder in a vertical position, with one on each side of the holder, so that the printed side of the panel is in a plane perpendicular to the path of the slushing motion. The length of the stroke shall be 2 ± 0.25 inch (51 ± 6 millimeter) and the slushing shall be conducted at 30 ± 1 cycles per minute. The two control panels should be slushed first, followed by two of the test panels and ending with the third test panel being slushed by itself. Approximately 800 milliliters of solution shall be used in the slushing of panels with the alcohol, each P-D-680 solvent rinse, and test solution using a rectangular tank measuring approximately 3.5 by 4.5 by 5.25 inches in depth (90 by 115 by 135 millimeter). The solution shall cover the panels to a depth of at least one-fourth inch. After slushing, the five panels shall be air dried in a dust free atmosphere then placed in a 100 percent static humidity chamber (that is a desiccator body partially filled with water) for 24 ± 1 hours at 77 ± 5°F (25 ± 3°C). After exposure of the panels in the static humidity chamber for 24 hours, the entire surface of the panels shall be examined visually for the presence of rust. The examination shall be made by holding the panel at all angles, approximately 3 inches (75 millimeter) from a 15-watt fluorescent balance illuminator. The test panels treated in the corrosion preventive and the 100 percent removal control panel shall exhibit no rust after the 24 hour exposure period. If any rust appears on the 100 percent removal control panel after the 24 hour exposure period, the test shall be repeated. The zero percent removal control panel should show a complete coverage of corrosion over the printed area.

#### 4.6.4 Suppression.

4.6.4.1 Test panels. Three test panels for the suppression test shall be of the same size and material as specified in 4.6.3.1, and cleaned and polished as specified in 4.6.3.2 and 4.6.3.3.

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4.6.4.2 Test procedure. The test panels shall be printed in the same manner as specified in 4.6.3.4 using a solution of one part by volume of the synthetic fingerprint fluid and two parts methanol. When cool, the panels shall be placed on a level surface and 0.05 mL of the compound under test shall be dropped from a pipette held directly above the printed area. If the material does not spread by itself, the panel shall be carefully tilted by hand to insure that the print is completely covered. Allow the panels to dry for 16 hours at  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ) and then expose in a 100 percent static humidity environment at  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ) for  $24 \pm 1$  hours. The panels shall then be removed from test, deoiled with naphtha conforming to TT-N-5 and inspected for rust in the printed area only.

#### 4.6.5 Protection.

4.6.5.1 Test panels. Three test panels for the protection test shall be of the same size and material as specified in 4.6.3.1, and cleaned and polished as specified in 4.6.3.2 and 4.6.3.3.

4.6.5.2 Test procedure. The test panels shall be dipped in the corrosion preventive, maintained at  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ), for one minute with agitation, and allowed to drain at the same temperature for 16 hours. The panels shall be suspended by stainless steel or monel hooks and subjected to 7 days of the humidity cabinet test specified in ASTM D1748. At the end of the 7 day test the panels shall be removed, deoiled with naphtha, and examined in the significant area of the panels as defined in ASTM D1748. A combined total of not more than three corrosion dots, none of which exceed one millimeter in diameter, shall be evident on the test panels. Corrosion in excess of this amount shall be cause for rejection.

#### 4.6.6 Removability.

4.6.6.1 Test panels. Three test panels for the removability test shall be of the same size and material as specified in 4.6.3.1, and cleaned and polished as specified in 4.6.3.2 and 4.6.3.3.

4.6.6.2 Test procedure. Two of the panels shall be immersed in the fingerprint remover for one minute with agitation and allowed to hang for 24 hours at  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ). The third panel, designated as a control panel, shall be suspended in a desiccator immediately after preparation and cleaning and allowed to remain for 24 hours. At the end of the 24 hour period, the three panels shall be slushed on the slushing apparatus containing approximately 800 milliliters of P-D-680 solvent as specified in 4.6.3.5 for 2 minutes. Failure of the corrosion preventive to meet this test is indicated by a visible film remaining on the test panels over that shown by the control panel after the solvent has evaporated or has been blown off by an air jet.

#### 4.6.7 Corrosiveness.

4.6.7.1 Test specimens. The corrosiveness test shall be conducted with 1 by 2 by 0.25 in (25 by 50 by 6 mm) specimens of metal conforming to the following:

- (a) Aluminum alloy, Temper T-4, QQ-A-250/4.
- (b) Brass, Composition 11, QQ-B-613.



- (c) Lead, Grade B, QQ-L-2012.
- (d) Steel, ASTM A109
- (e) Zinc, MIL-A-18001.

**4.6.7.2 Preparation of test specimens.** The specimens shall be cleaned as specified in 4.6.3.2 and polished to remove pits from all faces and edges, finishing with a 240 grit polishing medium. The specimens shall then be cleaned by swabbing in hot naphtha and a final rinse in hot methanol. Avoid touching specimens with the hands.

**4.6.7.3 Test procedure.** Weigh each specimen and place in a wide-mouth jar approximately 3 inches in diameter (75 millimeters) and fitted with a screw cap employing aluminum foil as a gasket. A suitable means should be used to ensure that the specimens do not touch each other. Cover the specimens with 300 milliliter of the test compound. The sealed jar shall then be placed in an oven maintained at 130°F (54°C) for 7 days. Upon completion of the test, remove the corrosion preventive from the specimens by swabbing with naphtha, followed by methanol, employing surgical gauze pads. Follow each swabbing operation by a rinse in clean solvent. Reweigh the specimens and calculate the change in weight in milligrams per square centimeter.

#### **4.6.8 Film stability.**

**4.6.8.1 Test panels.** Four test panels for the film stability test shall be of the same size and material as specified in 4.6.3.1, and cleaned and polished as specified in 4.6.3.2 and 4.6.3.3.

**4.6.8.2 Test procedure.** Three of the clean panels shall be dipped in the fingerprint remover for one minute with agitation and then allowed to hang for 48 hours at  $77 \pm 5^\circ\text{F}$  ( $25 \pm 3^\circ\text{C}$ ). The fourth panel, designated as a control panel, shall be suspended in a desiccator immediately after preparation and cleaning and allowed to remain for 48 hours. The panel may be placed in either vertical or horizontal position. At the end of the 48-hour period, the four panels shall be washed in approximately 800 milliliter of P-D-680 solvent for two minutes using the slushing machine shown in figure 1. The panels shall then be exposed for 24 hours in 100 percent static humidity at  $77 \pm 5^\circ\text{F}$  ( $25 \pm 3^\circ\text{C}$ ). At the completion of this exposure, the panels shall be carefully examined against a black background under a 15-watt fluorescent balance illuminator. The test panels shall not show visible corrosion to an extent greater than that on the control panel.

#### **4.6.9 Handling.**

**4.6.9.1 Test panels.** Two test panels for the handling test shall be of the same size and material as specified in 4.6.3.1, and cleaned and polished as specified in 4.6.3.2 and 4.6.3.3.

**4.6.9.2 Test procedure.** The test panels shall be dipped in the corrosion preventive, maintained at  $77 \pm 5^\circ\text{F}$  ( $25 \pm 3^\circ\text{C}$ ), for one minute with agitation. Allow each panel to drain by suspension from hooks through the holes in the panel. After one panel has drained for 30 minutes it shall be

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printed and placed on a horizontal surface. The printing of the test panel shall be accomplished by the use of a No. 6 rubber stopper weighted with a one kilogram weight. The small end of the stopper shall be roughened with 240 grit aluminum oxide or silicon carbide abrasive paper, scrubbed with soap and water and finally rinsed with distilled water. The roughened end of the stopper shall be first brought to rest on a 32-ply clean gauze pad, 1.5 inch square (38 millimeter square) moistened with 1.5 milliliter of a solution consisting of one part by volume of the fingerprint solution described in 4.6.3.4 and two parts of anhydrous methanol, transferred, and momentarily brought to rest on the center of the test panel. The other panel will be printed in an identical manner after hanging at a temperature of  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ) for 16 hours. After the second panel has been printed, the two panels shall be exposed in a static humidity chamber of 100 percent relative humidity (that is, a desiccator body partially filled with water) at  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ) for 24 hours. There shall be no evidence of corrosion in the printed area of the panel at the end of the storage period.

**4.6.10 Storage stability.** One gallon (3.8 liter) of the corrosion preventive in a metal container shall be stored for six months at  $77 \pm 5^{\circ}\text{F}$  ( $25 \pm 3^{\circ}\text{C}$ ). At the end of the storage period the corrosion preventive shall satisfactorily pass the performance test (see 4.6.3), the suppression test (see 4.6.4), and the protection test (see 4.6.5).

**4.7 Rejection and retest.** Compounds which have been rejected may be reworked or replaced to correct the defects and resubmitted for acceptance. Before resubmitting, full particulars concerning previous rejection and action taken to correct the defects found in the original shall be furnished the inspector. Units rejected after retest shall not be resubmitted without approval of the procuring activity.

## 5. PREPARATION FOR DELIVERY

**5.1 Packaging, packing and marking.** Packaging, packing and marking shall be in accordance with the requirements for corrosion preventive compounds in MIL-STD-290. Unless otherwise specified, the compound shall be furnished in one gallon cans, 5 gallon steel pails, or 55 gallon steel drums. Unless otherwise specified in the contract or order, level C packaging and packing shall be applicable.

**5.1.1 Precautionary marking.** All individual containers shall be marked with the following precautionary marking:

"WARNING: This material may produce harmful effects. It should be used only in well ventilated areas and contact with the skin should be avoided."

## 6. NOTES

**6.1 Intended use.** The compound covered by this specification is intended for use in removal of fresh fingerprint residues, suppression of corrosion that has developed as a result of fingerprint residues, and to provide an easily removable temporary corrosion preventive.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number and date of this specification.
- (b) Level of protection required (see 5.1).
- (c) Size of container (see 5.1).

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time set for opening of bids, qualified for inclusion in the applicable Qualified Products List whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification. The activity responsible for the Qualified Products List is the Commanding Officer, ARRADCOM, ATTN: DRDAR-SCM-O, Dover, New Jersey, and information pertaining to qualification of products may be obtained from that activity.

6.4 The procuring activity will determine that the item when used for its intended purpose is not likely to result in adverse effects on the health of personnel. Any questions raised regarding toxicity should be referred by the procuring activity to the appropriate departmental medical authority who will act as advisor to the procuring activity (see 3.2).

**Custodians:**

Army - MR  
Navy - SH  
Air Force - 99

**Preparing activity:**

Army - MR

**Project No. 8030-0318**

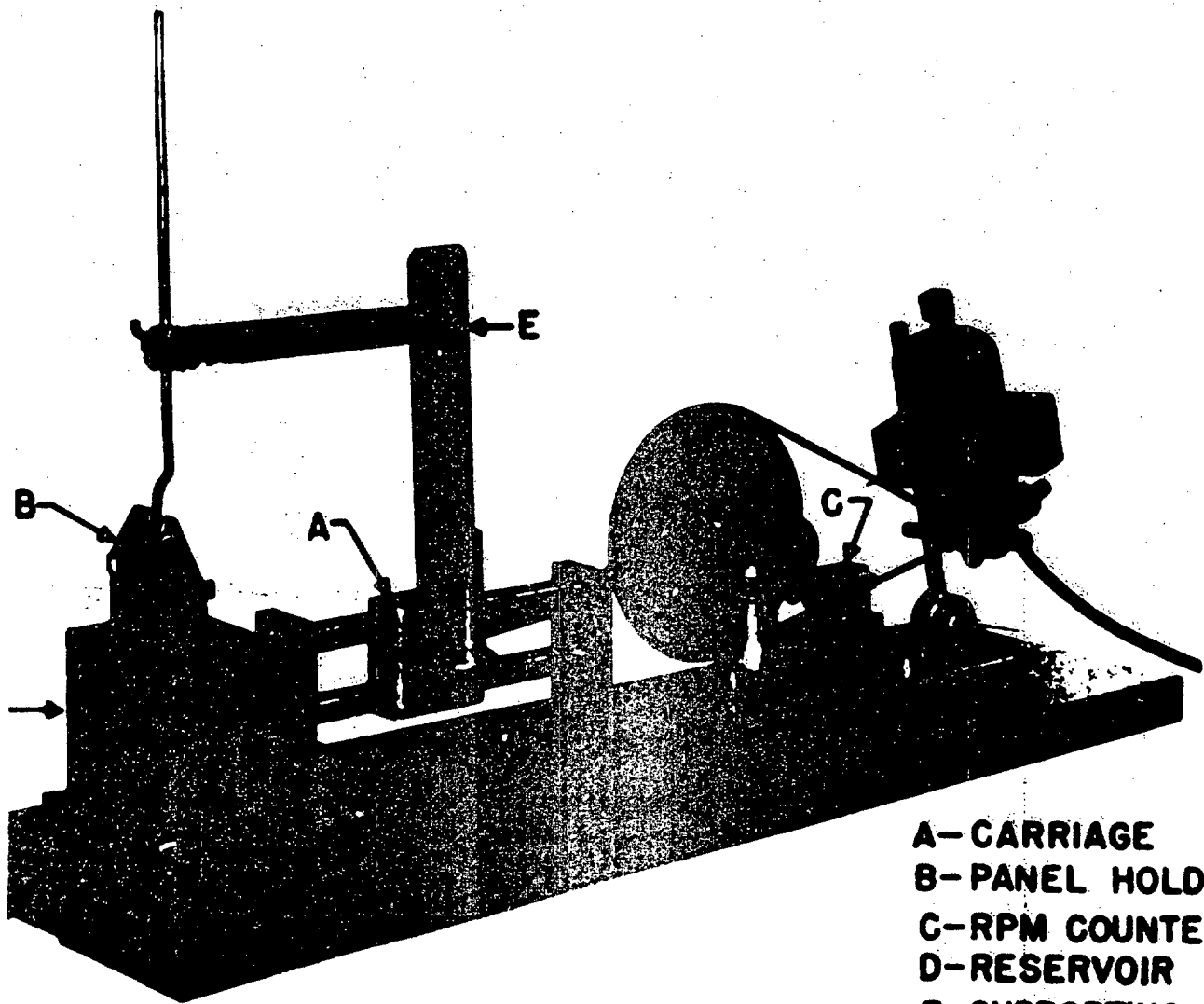
**Review activities:**

Army - GL, MD, AR, SM, EA  
Navy - OS, AS  
DS

**User activities:**

Army - ME, CE, MI  
Navy - MC, SA

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- A-CARRIAGE
- B-PANEL HOLDER
- C-RPM COUNTER
- D-RESERVOIR
- E-SUPPORTING ARM

FIGURE 1