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MIL-P-62669(AT)
15 May 1991

MILITARY SPECIFICATION

PRIMER COATING, SYNTHETIC, VOC COMPLIANT
(FOR BRAKE DRUMS)

This specification is approved for use by the U.S. Army Tank-Automotive Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for a quick drying, corrosion-inhibiting primer for coating exposed metal surfaces (see 6.1) and is intended for brush or spray applications. The primer is lead and chromate free and contains no more than 420 grams per liter (3.5 pounds per gallon) of volatile organic compounds (VOC) as applied.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards and handbooks. The following specifications, standards and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

Federal

NN-P-71	- Pallet, Material Handling, Wood, Stringer Construction, 2-Way and 4-Way (partial).
TT-S-735	- Standard Test Fluids, Hydrocarbon.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Tank-Automotive Command, ATTN: AMSTA-GDS, Warren, MI 48397-5000, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document, or by letter.

AMSC N/A FSC 8010

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PPP-T-60	- Tape: Packaging, Waterproof.
PPP-B-636	- Boxes, Shipping, Fiberboard.
PPP-F-320	- Fiberboard, Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.

MILITARY

MIL-P-116	-. Preservation, Methods of.

STANDARDS

Federal

FED TEST METHOD STD No. 141	- Paint, Varnish, Lacquer, and Related materials: Methods of Inspection, Sampling, and Testing.

MILITARY

MIL-STD-129	- Marking for Shipment and Storage.
MIL-STD-147	- Palletized Unit Loads.
MIL-STD-1190	- Minimum Guidelines for Level C Preservation, Packing and Marking.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publications and Printing Services Office, Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following Government documents, drawings and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

AIR POLLUTION CONTROL DISTRICT

Rule 66

(Application for copies should be addressed to the Air Pollution Control District, County of Los Angeles, CA 90001.)

2.2 Non-Government publications. The following document(s) form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

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AMERICAN SOCIETY FOR TESTING MATERIALS

B 117	- Salt Spray (Fog) Testing.
D 610	- Method of Evaluating Degree of Resistance to Rusting Obtained with Paint on Iron or Steel Surfaces.
D 1200	- Viscosity of Paints and Lacquers by Ford Viscosity Cup.
D 1210	- Fineness of Dispersion of Pigment - Vehicle Systems.
D 1308	- Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
D 1364	- Water in Volatile Solvents (Fisher Reagent Titration Method).
D 2369	- Volatile Content of Paints.
D 2698	- Determination of Pigment Content of Solvent Type Paints by High Speed Centrifuging.
D 3951	- Standard practice for commercial packaging.

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

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for related associated detail specifications, specification sheets, or MS sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. Sample quantities of paint shall be furnished for first article inspection and approval in accordance with table prior to the production of primer in quantity. The samples shall be representative of primer paint proposed to be furnished to the Government and shall be produced with the use of equipment and procedures that are normally used in production. All sample primer shall be marked properly with identifying information, including such data as deemed necessary by the contract (see 6.2).

3.2 Materials. The materials shall be as specified herein and in referenced documents. The materials shall be uniform in quality and free from defects and imperfections that might affect the serviceability and reliability of the furnished product. All materials which are not specifically described herein shall be of the highest quality and suitable for the purpose intended (see 4.4).

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3.2.1 Recycled, virgin and reclaimed materials. There are no requirements for the exclusive use of virgin materials. The use of recycled or reclaimed (recovered) materials is acceptable provided that all other requirements of this specification are met (see 6.5.2).

3.3 Composition.

3.3.1 Pigment. The pigment portion of the primer shall conform to the requirements of table I when tested as in 4.4.

TABLE I. Quantitative Requirements of Pigment.

Pigment	Percent by Weight	
	Minimum	Maximum
Zinc phosphate (ZN_2 BO_4 x 3.0)	7.0	
Iron oxide (Fe_2 O_3) by analysis	39.0	
Extender pigments	-	45.0
Anti-corrosive pigment	.7	
Sum of percentages of iron Oxide (Fe_2 O_3), zinc phosphate (ZN_2 BO_4 x 3.0), anti-corrosive Material and acid insoluble		
Siliceous material	67.0	

3.3.2 Vehicle. The resin shall be a blend of an oil modified alkyd resin and a dispersion type of phenolaldehyde resin, together with necessary amounts of driers and volatile solvents to meet the requirements of this specification (see table II). Small amounts of anti-oxidants, wetting agents, and stabilizers may be used. The volatile material shall contain no benzene, methanol, chlorinated hydrocarbons, or other solvents of a highly toxic nature.

3.3.2.1 Volatile vehicle. The volatile portion of primer shall be certified as meeting the requirements of Rule 66. Any supplied thinner shall also be certified as meeting Rule 66.

3.4 Quantitative requirements. The primer shall conform to the requirements of table II when tested as in 4.4.

TABLE II. Quantitative Requirements of Primer.

Characteristics	Requirements	
	Minimum	Maximum
Total solids, percent by weight of primer	70.3	-
Pigment, percent by weight of primer	50.3	53.0
Vehicle solids, percent by weight of primer	19.0	-
Pigment volume, percent by total solids volume	-	45.0

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TABLE II. Quantitative Requirements of Primer - Continued.

Characteristics	Requirements	
	Minimum	Maximum
Phthalic anhydride, percent by weight of vehicle solids	25.0	-
Water, percent by weight of primer	-	1.0
Coarse particles and skins (retained on No. 325 mesh sieve), percent by weight of pigment	-	0.5
60-degree specular gloss	2.0	10.0
Viscosity, No. 4 Ford Cup, seconds	55	65
Fineness of grind	5	-
Drying time, air-dry:		
Set to touch, minutes	3	6
Dry hard, minutes	-	30
Full hardness, hours	-	72

3.5 Qualitative requirements.

3.5.1 Condition in container. The primer, tested as in 4.4.6, shall be free from grit, seediness, skinning, or livering in a freshly opened full container, and shall show no more pigment settling or caking than can be easily and completely reincorporated to a smooth homogeneous state.

3.5.2 Storage stability.

3.5.2.1 Partially full container. A 3/4 filled, closed 8 ounce glass jar of the primer shall show no skinning when tested as specified in 4.4.7.1.

3.5.3 Accelerated stability.

3.5.3.1 Primer as packaged. When tested as in 4.4.8.1, the packaged material shall show no livering, curdling, hard caking, nor tough gummy sediment and shall mix readily to a smooth homogenous state.

3.5.4 Suspension properties. The primer shall completely redisperse to a smooth, homogeneous state when tested as in 4.4.9.

3.5.5 Spraying properties. The primer, when tested as in 4.4.10, shall spray satisfactorily in all respects, and shall show no running, sagging, or streaking. The dried film shall show no dusting, mottling, or color separation and shall present a smooth, uniform finish free from seediness.

3.5.6 Flexibility. A film of the primer prepared and tested as in 4.4.11 shall withstand bending without cracking of flaking.

3.5.7 Adhesion. A film of primer prepared and tested as in 4.4.12 shall show no removal of the primer by the adhesive tape beyond 1/16 inch on either side of the score line.

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3.5.8 Knife test. A film of primer prepared and tested as in 4.4.13 shall be hard and tough and shall adhere tightly to the metal panel. It shall be difficult to furrow off with the knife and shall not flake, chip or powder. The knife cut shall show beveled edges.

3.5.9 Water resistance. A film of the primer prepared and tested as in 4.4.14 shall show no wrinkling or blistering immediately after removal of the panel from water. The primer shall be no more than slightly affected when examined 2 hours after removal. After 24 hours air-drying, the portion of the panel which was immersed shall be almost indistinguishable from the portion which was not immersed with regard to hardness and shall show a color change equivalent to a lightness index difference not exceeding 2.5 units.

3.5.10 Hydrocarbon fluid resistance. A film of the primer prepared and tested as in 4.4.15 shall show no wrinkling or blistering immediately upon removal of the panel. After 24 hours air-drying, the portion of the panel which was immersed shall be almost indistinguishable from a panel prepared at the same time but not immersed with regard to hardness, color, and gloss.

3.5.11 Salt spray resistance. A film of primer prepared and tested in accordance with 4.4.16 and examined immediately after removal from the salt spray test, shall show no more than a trace of rusting and no more than five scattered blisters, none larger than 1 mm. On removal of the primer, there shall be no more than a trace of rusting, pitting, or corrosion of the steel.

3.5.12 Wearability. A film of primer prepared and tested as in 4.4.17 shall be completely worn away to the metal. Definite evidence of powdering shall be observed. No gumming or balling of the primer shall be permitted.

3.5.13 Phenolic resins. The primer, when tested as specified in 4.4.3.4, shall show the presence of the phenolic.

3.6 Color. The color of the primer shall be characteristic of red or brown iron oxide pigments (see 6.3).

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 this specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the

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specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.2 Sampling, inspection and testing. Unless otherwise specified, sampling, inspection, and testing shall be in accordance with Method 1031 of FED. TEST METHOD STD. No. 141.

4.3 Classification of tests. Testing under this specification shall be for the purpose of acceptance of individual lots. Noncompliance with any of the specified requirements in sections 3 and 5 shall be cause for rejection of the sample and inspection lot.

4.3.1 Acceptance tests shall normally consist of tests for all requirements specified in Section 3.

4.4 Test methods.

4.4.1 Test conditions. The routine and referee testing conditions shall be in accordance with Section 7, FED. TEST METHOD STD. No. 141 except as otherwise specified herein.

TABLE III. Index.

ITEM	Test methods			
	Applicable method in FED. TEST METHOD STD. No. 141	Applicable method in FED. TEST METHOD STD. No. 141	Para of this specification giving further refs	Para of this specification giving further reqmts
Color	4250	----	6.3	3.6
Analysis of pigment	7331	----	----	Table I
Isolation of vehicle (Super-centrifuge)	----	D 2698	----	----
Benzene	5091	----	----	3.3.2
Methanol	----	----	4.4.3.1	3.3.2
Chlorinated solvents	----	----	4.4.3.2	3.3.2
Total solids	----	D 2369	----	Table II
Pigment solids	----	D 2698	----	Table II
Vehicle solids	----	D 2698	----	Table II
Pigment volume	4312	----	----	Table II

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TABLE III. Index - Continued.

ITEM	Test methods			
	Applicable method in FED. TEST METHOD STD. No. 141	Applicable method in FED. TEST METHOD STD. No. 141	Para of this specification giving further refs	Para of this specification giving further reqmts
Phthalic anhydride	7014	----	----	Table II
Unsaponifiable	7014	----	----	Table II
Chloroform soluble	7014	----	4.4.3.3	Table II
Phenolic resins	----	----	4.4.3.4	3.5.13
Water	----	D 1364	----	Table II
Coarse particles and skins	4092	----	----	Table II
Specular gloss	6101	----	----	Table II
Viscosity	----	D 1200	4.4.4	Table II
Fineness of grind	----	D 1210	----	Table II
Drying time	4061	----	4.4.5	Table II
Set to touch	4061	----	4.4.5	Table II
Dry hard	4061	----	4.4.5	Table II
Full hardness	4061	----	4.4.5	Table II
Condition in container	3011	----	4.4.6	3.5.1
Storage stability	----	----	----	----
Partially full container	3021	----	4.4.7.1	3.5.2.1
Accelerated stability	----	----	4.4.8	3.5.3
Primer as packaged	----	----	4.4.8.1	3.5.3.1
Suspension properties	----	----	4.4.9	3.5.4
Spraying properties	4331	----	4.4.10	3.5.5
Flexibility	6221	----	4.4.11	3.5.6
Adhesion	----	----	4.4.12	3.5.7
Knife test	6304	----	4.4.13	3.5.8
Water resistance	6011	----	4.4.14	3.5.9
Hydrocarbon resistance	6011	----	4.4.15	3.5.10
Salt spray resistance	6061	----	4.4.16	3.5.11
Wearability (abrasion resistance)	6192	----	4.4.17	3.5.12

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4.4.2 The following tests shall be conducted in accordance with applicable Test Methods in table III or as hereinafter specified.

4.4.3 Analysis of vehicle.

4.4.3.1 Test for methanol. Place 5 ml of the primer solvent, obtained by vacuum distillation, in a small 10 ml distilling flask containing a Berl saddle. Stopper the flask and attach a short, water-cooled condenser with delivery tube which extends under 4 ml of water contained in a small test tube. Place the distilling flask in a water bath at 85° - 90°C and collect the distillate for 15 minutes. Detach the condenser and rinse with 2 ml water. If two layers are present in the collected distillate, separate the lower layer by means of a separatory funnel and discard the upper layer. Divide the aqueous layer equally between two small test tubes and treat as "sample" and "blank". To the "sample", add three drops of 50 percent phosphoric acid and one drop of saturated aqueous potassium permanganate. After 1 minute, decolorize the excess permanganate by adding a little solid sodium sulfite. Add two drops of 0.5 percent aqueous resorcinol and layer the solution into 1 ml of concentrated sulfuric acid contained in a separate test tube. If methanol is present in the original distillage, a red ring will form at the junction of the two layers and increase in intensity on standing. The entire solution will appear red if agitated. Treat the "blank" with three drops of 50 percent phosphoric acid and two drops of the resorcinol solution and also layer into 1 ml sulfuric acid in a separate test tube. No red color should form.

4.4.3.2 Test for chlorinated solvents. Form a small loop of copper wire (18 to 20 gage) and heat in a small Bunsen flame until it no longer colors the flame. Allow the loop to cool and then dip it in a sample of solvent separated by vacuum distillation for determining methanol as prescribed in 4.4.3.1. Immediately place in the outer part of the flame and when the first luminous flame disappears, examine for the green coloration due to chlorinated compounds.

4.4.3.3 Chloroform solubles. Determine chloroform solubles in accordance with Method 7014 of FED. TEST METHOD STD. No. 141 except ignore the alkaline unsaponifiable extraction step, and follow 4.3 Method 7014. Weigh and calculate as percent chloroform solubles. Save this residue for phenolic test in 4.4.3.4.

4.4.3.4 Phenolic resin. Determine phenolic group presence using about 0.30 gm of sample from the nonvolatile vehicle according to Gibbs method stated as follows: Place sample in 5/8 x 5 inch test tube equipped with side-arm stopper tube. Connect side-arm to a piece of glass tubing which is immersed in another test tube containing several milliliters of water. Heat sample tube vigorously over an open flame until sample is burned to a cinder. Remove glass tube from water solution. Cool and filter solution through fast filter paper that has been wetted with water. To the filtrate, add a few milligrams of 2,6 dibromoquinonechlorimide, and shake vigorously. Add N/10 NaOH in 5 drop increments to obtain a pH of about 9.4. Shake once. Observe the color formed within a few minutes and after 30 minutes. In the

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presence of phenol, a bluish color develops on standing a short time. Avoid an excess of reagents; and sample. Test should be run on samples containing known phenols. Rub above test on chloroform solubles from 4.4.3.3 also. A negative test on both samples constitutes failure of this test.

4.4.4 Viscosity (reduced). Reduce three parts by volume of primer with one part by volume of thinner conforming to Rule 66 as recommended by the manufacturer or supplied by the manufacturer as meeting Rule 66, and test as in Method 4282 of FED. TEST METHOD STD. No. 141. Check for compliance with Table II.

4.4.5 Drying time. Determine drying time under referee conditions in accordance with Method 4061 of FED. TEST METHOD STD. No. 141 for compliance with Table II, except use 1 mil wet film.

4.4.6 Condition in container. Determine package condition on acceptance testing in accordance with Method 3011 of FED. TEST METHOD STD. No. 141 and observe for compliance with 3.5.1.

4.4.7 Storage stability.

4.4.7.1 Partially full container. Determine skinning after 48 hours in accordance with method 3011 of FED. TEST METHOD STD. No. 141 and observe for compliance with 3.5.2.1.

4.4.8 Accelerated stability.

4.4.8.1 Primer as packaged. Store a sample of the packaged primer according to Method 3022 of FED. TEST METHOD STD. No. 141 for 7 days at 60°C. Observe for compliance with 3.5.3.1.

4.4.9 Suspension properties. Reduce three parts by volume of package material with one part by volume of thinner as in 4.4.4. Place 6 ounces of the reduced material in an 8 ounce glass jar. Allow the stoppered jar to remain undisturbed for 24 hours and then place the unopened jar on a paint shaker and agitate the contents for 20 seconds. Re-examine the material for any evidence of nonhomogeneity or undispersed pigment. Examine for compliance with 3.5.4.

4.4.10 Spraying properties. Reduce the primer as in 4.4.9. Spray on a steel panel to a dry film thickness between 0.0004 and 0.0006 inch and observe for spraying properties in accordance with Method 4331 of FED. TEST METHOD No. 141 for compliance with 3.5.5. For referee test, use automatic application per Method 2131 of FED. TEST METHOD STD. No. 141.

4.4.11 Flexibility. Determine flexibility in accordance with method 6221 of FED. TEST METHOD STD. No. 141. Apply a 2-inch wide film of primer with a film applicator that will give a dry film thickness between 0.0004 and 0.0006 inch on a 31 gage steel panel prepared in accordance with Method 2012 of FED. TEST METHOD STD. No. 141, using the petroleum naphtha ethylene glycol

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monoethyl ether mixture. Allow the test panel to air dry 1/2 hour and then bake for 24 hours at 105°C ± 2°C (221° ± 4°F). Condition the panel for 1/2 hour at 23° ± 1°C. Bend over a 1/4 inch mandrel and examine for compliance with 3.5.6.

4.4.12 Adhesion. Apply a 2-inch wide film of primer with a film applicator that will give a dry film thickness between 0.0004 and 0.0006 inch on a steel panel that has been sanded with 6/0-220 silicon carbide paper and solvent cleaned in accordance with method 2011 of FED. TEST METHOD STD. No. 141 using the petroleum naphtha-ethylene glycol monoethyl ether mixture. Air dry the specimen for 1 hour under referee conditions and then score a line through to the metal across the width of the film using a sharp pointed knife. The film shall then be taped perpendicular to and across the score line with water resistant, pressure sensitive adhesive tape (3/4-inch width) conforming to the requirements of PPP-T-60, Type I, II or III, Class 1. The tape shall be pressed in firm contact with the film and shall extend for approximately 1-inch on each side of the score line. All air bubbles shall be rolled out by firm pressure of the thumb. Allow approximately 10 seconds for the test area to return to room temperature. Grasp a free end of the tape and at a rapid speed strip it from the specimen by pulling the tape back upon itself at an angle of 180 degrees. Observe the specimen for compliance with 3.5.7.

4.4.13 Knife test. Prepare a film of primer as in 4.4.12 and air dry for 72 hours. Perform the knife test in accordance with Method 6304 of FED. TEST METHOD STD. No. 141 and observe for compliance with 3.5.8.

4.4.14 Water resistance. Prepare a film of primer as in 4.4.12 and air dry for 72 hours. Measure the directional reflectance of the coating and coat all exposed, uncoated metal surfaces with wax or other suitable coating. Immerse the panel for 18 hours in distilled water at 23 ± 1°C in accordance with Method 6011 of FED. TEST METHOD STD. No. 141. On removal, observe the panel for compliance with 3.5.10. Determine the amount of color change, expressed as lightness index difference (ΔL), using Method 6122 of FED. TEST METHOD STD. No. 141. Check test results for compliance with 3.5.9.

4.4.15 Hydrocarbon fluid resistance. Prepare a film of primer as in 4.4.12 and air dry 72 hours. Do not wax or coat the exposed metal surfaces. Immerse the panel for 4 hours in a hydrocarbon fluid conforming to TT-S-735, Type III. Upon removal examine for compliance with 3.5.10.

4.4.16 Salt spray resistance. Prepare three 4 x 12 inch steel panels which have been solvent cleaned and sanded as in 4.4.12. Reduce the primer as in 4.3.9 and spray the test panels to a dry film thickness between 0.0004 and 0.0006 inches, being sure that all sides and edges are completely coated with the primer. Air dry for 96 hours. Do not score. Expose the unscored panels to the salt (5%) spray for 24 hours as described in Method 6061 of FED. TEST METHOD STD. No. 141. Upon removal, wash the panels gently in running water not warmer than 100°F until free from any visible salt deposits and examine immediately for compliance with the requirements of

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3.5.11. Strip the primer film from the panels by means of lacquer thinner and inspect steel for rust, pitting, or corrosion. The maximum amount of rusting in the salt spray test (see 3.5.11) shall be comparable to photo 9-1 in ASTM standard D610.

4.4.17 Wearability. Spray the primer to a dry film thickness between 0.0004 and 0.0006 inch on three steel abrasion panels solvent cleaned in accordance with Method 2011 of FED. TEST METHOD STD. No. 141 using the petroleum naphtha-ethylene glycol monoethyl ether mixture. Air dry 72 hours under referee conditions. Run 250 cycles on each of the panels in accordance with Method 6192 of FED. TEST METHOD STD. No. 141 using CS-17 wheels and a 1000 gram load on each wheel. Examine for compliance with 3.5.12.

5. PACKAGING

5.1 Preservation. Preservation shall be level A, B, or C as specified (see 6.2).

5.1.1 Level A and B.

5.1.1.1 Cleaning. All containers shall be cleaned in accordance with MIL-P-116, Process C-1.

5.1.1.2 Drying. All containers shall be dried prior to use, in accordance with MIL-P-116.

5.1.1.3 Preservation. When specified (see 6.2), the primer shall be furnished in one quart or one gallon multiple friction top containers, in five gallon lug cover steel pails, or in 55 gallon steel drums, conforming to all applicable Department of Transportation requirements.

5.1.2 Level C. Level C preservation shall be in accordance with ASTM D3951.

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

5.2.1 Level A. The one quart and one gallon containers shall be packed six cans and four cans, respectfully, to a Type I, Class 2, Style RSC of PPP-B-636. Single wall corrugated fiberboard separators conforming to PPP-F-320 shall be placed between each can. Gross weight of box and contents shall not exceed the requirements of PPP-B-636. Box closure shall be as specified in PPP-B-636. The five gallon containers shall be unitized in accordance with Method III or IIIa of MIL-STD-147. Fifty-five gallon drums shall be unitized on a standard 4-way entry, 40 x 48 inch, NN-P-71, hardwood pallet.

5.2.2 Level B. Packing shall be the same as Level A except that the fiberboard boxes shall be Type I, Class 1, Style RSC of PPP-B-636.

5.2.3 Level C. Packing shall be in accordance with ASTM D3951.

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5.3 For Army use only. Preservation, packing and marking for Level C shall be accomplished in accordance with MIL-STD-1190(SM).

5.4 Marking. In addition to any special marking required by the contract (see 6.2), all unit, intermediate, and exterior shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The primer coating covered by this specification is intended for application to a dry film thickness between 0.0004 and 0.0006 inch on exposed metal surfaces in the internal areas of brake and clutch assemblies in tank-automotive use.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification.
b. Level of packaging and level of packing required (see 5.1).
c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
d. Additional data required for the first article sample (see 3.1).
e. The primer purchased by volume, one U.S. liquid gallon is 231 cubic inches at 68°F (20°C).

6.3 Variation of color. It is important to note that the color of the primer will vary within according to the type and amounts of color pigment used (see 3.6).

6.4 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerers on whether the item(s) should be a first article sample, a first production item, or a standard production item from the contractor's current inventory and the number of items to be tested as specified in 4.4. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

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6.5 Definitions.

6.5.1 Definitions of terms used in sampling inspection.

a. Classification of defects. A classification of defects is the enumeration of possible defects of the unit of product classified according to their seriousness. A defect is any nonconformance of the unit of product with specified requirements. Defects will normally be grouped into one or more of the following classes: critical, major and minor defects. Also, defects may be grouped into other classes, or into subclasses within these classes.

b. Critical defects. A critical defect is a defect that judgement and experience indicate would result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product, or a defect that judgement and experience indicate is likely to prevent performance of the tactical function of a major end item such as a ship, aircraft, tank, missile, or space vehicle.

c. Critical defective. A critical defective is a unit of product which contains one or more critical defects and may also contain major and/or minor defects.

d. Defective. A defective is a unit of product which contains one or more defects.

e. Formation of lots or batches. The product shall be assembled into identifiable lots, sublots, batches, or in such other manner as may be prescribed (see 1). Each lot or batch shall, as far as is practicable, consist of units of product of a single type, grade, class, size, and composition, manufactured under essentially the same conditions, and at essentially the same time.

f. Lot or batch. The term lot or batch shall mean "inspection lot" or "inspection batch", i.e., a collection of units or product from which a sample is to be drawn and inspected and may differ from a collection of units designated as a lot or batch for other purposes (e.g., production, shipment, etc.).

g. Lot or batch size. The lot or batch size is the number of units of product in a lot or batch.

h. Major defect. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

i. Major defective. A major defective is a unit of product which contains one or more major defects, and may also contain minor defects but contains no critical defect.

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j. Minor defect. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

k. Minor defective. A minor defective is a unit of product which contains one or more minor defects but contains no critical or major defect.

l. Presentation of lots or batches. The formation of the lots or batches, lot or batch size, and the manner in which each lot or batch is to be presented and identified by the supplier shall be designated or approved by the responsible authority. As necessary, the supplier shall provide adequate and suitable storage space for each lot or batch, equipment needed for proper identification and presentation, and personnel for all handling of product required for drawing of samples.

m. Representative sampling. When appropriate, the number of units in the sample shall be selected in proportion to the size of sublots or subbatches, or parts of the lot or batch, identified by some rational criterion. When representative sampling is used, the units from each part of the lot or batch shall be selected at random.

n. Sample A sample consists of one or more units of product drawn from a lot or batch, the units of the sample being selected at random without regard to their quality. The number of units or product in the sample is the sample size.

o. Sampling plan. A sampling plan indicates the number of units of product from each lot or batch which are to be inspected (sample size or series of sample sizes) and the criteria for determining the acceptability of the lot or batch (acceptance and rejection numbers).

p. Time of sampling. Samples may be drawn after all the units comprising the lot or batch have been assembled, or samples may be drawn during assembly of the lot or batch.

6.5.2 Recovered materials. "Recovered materials" means materials that have been collected or recovered from solid waste (see 6.5.3).

6.5.3 Solid waste. "Solid waste" means (a) any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility; and (b) other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations, and from community activities. It does not include solid or dissolved material in domestic sewage, or solid or dissolved material in irrigation return flows, or industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act, (33 U.S.C. 1342 et seq.), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) (Source: Federal Acquisition Regulations, section 23.402).

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6.6 Subject term (key word) listing.

Adhesion
Chloroform soluble
Hydrocarbon fluid resistance
Knife test
Methanol
Phenolic resin
Pigment
Primer coating
Salt spray
Synthetic
Viscosity
Volatile vehicle
Wearability

6.7 AMC policy on AQLs/LTPDs. This specification is certified to be in compliance with current Army Materiel Command (AMC) policy for the elimination of AQLs/LTPDs (Acceptable Quality Levels/Lot Tolerance Percent Defectives) from military specifications.

Custodian:
Army - AT

Review activities:
Army - SM, ME

Preparing activity:
Army - AT

(Project 8010-A391)

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