

MIL-C-8507D (ASG)

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MILITARY SPECIFICATION

COATING, WASH PRIMER (PRETREATMENT) FOR METALS, APPLICATION OF (FOR AERONAUTICAL USE)

This specification has been approved by the Department of the Air Force and by the Bureau of Naval Weapons.

1. SCOPE

1.1 This specification provides instructions for the application of wash primer pretreatment coating compound, Specification MIL-C-8514, prior to application of a primer.

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

O-D-306	Diacetone Alcohol, Technical (Acetone-Free)
TT-B-846	Butyl Alcohol, Normal (Butanol) (for use in Organic Coatings)
TT-I-735	Isopropyl Alcohol, Technical
TT-M-268	Methyl Isobutyl Ketone (for use in Organic Coatings)
TT-I-266	Thinner, Dope and Lacquer (Cellulose Nitrate)

Military

MIL-A-6091	Alcohol, Ethyl, Specially Denatured, Aircraft Finishes and Coatings, General Specification for Protection of Aircraft and Aircraft Parts
MIL-F-7179	Primer Coating, Cellulose-Nitrate Modified Alkyd Type, Corrosion-Inhibiting, Fast-Drying (for Spray Application Over Pretreatment Coating)
MIL-P-7962	Coating Compound, Metal Pretreatment, Resin Acid Primer Coating, Zinc Chromate, Low-Moisture-Sensitivity
MIL-C-8514	
MIL-P-8585	

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MIL-P-15328	Primer, Pretreatment (Formula No. 117 for Metals)
MIL-F-18264	Finishes, Organic, Aircraft, Application and Control of
MIL-P-23377	Primer Coating, Epoxy-Polyamide, Chemical and Solvent Resistant, for Weapons Systems

STANDARDS

Federal

FED. TEST METHOD STD. NO. 141	Paint, Varnish, Lacquer, and Related Materials: Methods of Inspection, Sampling, and Testing
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(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.)

3. MATERIAL AND EQUIPMENT

3.1 Wash primer coating. - The wash primer coating shall conform to Specification MIL-C-8514. Unless otherwise specified, this material shall be used on clean base metal surfaces prior to the application of mandatory paint finishing systems. Poor adhesion will result if the surface is not absolutely clean.

3.2 Equipment. - Pressure pot liners and mixing equipment shall be made of stainless steel to resist the chemical attack of the phosphoric acid in the wash primer coating material. Detailed procedures for the use of equipment will be found in Specification MIL-F-18264. Cleanliness must be exercised, since wash primer coating, once polymerized, becomes difficult to dissolve.

4. PROCEDURE

4.1 Surface preparation. - Wash primer coating shall be applied over metal surfaces which have been surface treated and cleaned as specified in Specification MIL-F-18264. A brief summary of general cleaning and surface preparation procedures is included in the appendix for general guidance. The appendix does not replace or supersede the more extensive and detailed requirements as specified in Specifications MIL-F-7179, MIL-F-18264, and related documents. The latter documents shall be employed by contractors and overhaul activities.

4.2 Method of mixing. -

4.2.1 Pot life. - For application temperatures below 90° F, the primer must be used within 4 hours and for application temperatures above 90° F, within 2 hours of mixing.

4.2.1.1 Application after these time limits may result in poor adhesion, even though there is no apparent visible change in the material.

4.2.2 Mixing procedure - general.- The following mixing procedure shall be used:

Thoroughly shake, using a "Red Devil" or approved equivalent shaker, both the acid and resin components prior to mixing to reincorporate any settled portion. Reincorporation of hard cake in aged resin component may be facilitated by pouring off the top liquid into a clean container, breaking up the hard cake with a paddle and reincorporating the poured off liquid a little at a time, stirring until all solid has dissolved. Mix one volume of acid to four volumes of resin component. The acid component is always added slowly to the resin component with constant stirring, never the reverse.

4.2.3 Thinning for spraying.- The following thinning procedures shall be used:

Reduce the mixed primer to spray viscosity (approximately 20 to 25 seconds on a No. 4 Ford cup) with a volume of the diluent specified below. Generally, the volume will be no more than that of the acid component.

4.2.3.1 Diluents used shall vary with the weather conditions as follows:

- (a) Normal weather - 35 to 75 percent relative humidity:
 - (1) Ethanol (Specification MIL-A-6091) or isopropyl alcohol (Specification TT-I-735).
 - (2) Ethanol (Specification MIL-A-6091) or isopropyl alcohol with up to 10 percent by volume of butyl alcohol (Specification TT-B-846) added. Butyl alcohol increases the drying time.
- (b) Less than 35 percent relative humidity and 70° to 80° F: Primers procured to Specification MIL-C-8514 (prior to Specification MIL-C-8514A, Amendment 1) may contain isopropyl alcohol which would result in gelatin if mixed as follows:
 - (1) Diluent - A mixture in parts by volume
 - 20 distilled or demineralized water
 - 10 ethanol (Specification MIL-A-6091) or isopropyl alcohol
 - 1 butyl alcohol (Specification TT-B-846)
 - (2) Diluent modified to local conditions. The amount of water in (1) above may be adjusted.
- (c) Relative humidity of 70 percent or above: To prevent blush and consequent loss of intercoat adhesion, use one of the following. Use the first one in the list which will accomplish the desired result.
 - (1) Replace ethanol (Specification MIL-A-6091) or isopropyl alcohol with up to 50 percent butyl alcohol (Specification TT-B-846).
 - (2) Replace ethanol (Specification MIL-A-6091) or isopropyl alcohol with small amount of methyl isobutyl ketone (Specification TT-M-268).
 - (3) Replace ethanol (Specification MIL-A-6091) or isopropyl alcohol with small amount of diacetone alcohol (Specification O-D-306).

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4.3 Methods of application.- The wash primer coating shall be applied to a dry film thickness of 0.3 to 0.4 mil, by spraying, brushing, roller coating, or swabbing.

4.3.1 Spraying.- Spray guns, accessories, and lines should be cleaned out with ethanol, or butyl alcohol (ethanol mixtures) before use and as soon as work is finished. Spray equipment must be thoroughly clean (see 3.2). Spraying is preferred on large aircraft surfaces for speed of production. The wash primer coating should be sprayed in a thin, wet film in order that a continuous coating be obtained. A single spray pass should provide a dry film thickness of 0.3 to 0.4 mil. The operator shall not attempt to obtain a full hiding spray coating because this indicates an excessively thick coating. Coating thickness is critical and should be controlled. Excessively thick coatings, if applied, should be immediately removed with alcohol and replaced with a properly applied coating. The required thin film shall not be obtained by holding the spray gun more than 12 inches from the work, thus causing a dry, powdery film deposit that would seriously impair the adhesion of the paint finish system.

4.3.1.1 Application guide.- Spray equipment and pressures found suitable for employing the wash primer for spraying are presented in table I as a guide for production.

TABLE I. Spray gun nozzle combinations and pressures

Gun	DeVilbiss	Binks	Thor
Type	MFC	18 or 19	17
Fluid nozzle	15 FX	63 B	63 B
Air cap	30	67 FB	67 FB
Needle	44 FX	15	15
Air line pressure at gun	50 psi	50 psi	50 psi
Air line pressure to mix pot	90-100 psi	90-100 psi	90-100 psi
Air line pressure on mix pot	15-25 psi	15-25 psi	15-25 psi

4.3.1.2 Application guides for low-humidity conditions.- Application of wash primer under low-humidity conditions (less than 35 percent relative humidity) will produce a wash primer film with normal appearance, good resistance to removal by solvents, and generally good resistance to fingernail scratching. However, the adhesion of subsequently applied primers or topcoats to the wash primer coating will be poor, with occasionally poor adhesion of the entire system. Only a close and constant check on temperature and percent relative humidity conditions will forecast production difficulties. When low-humidity conditions are encountered, work should be stopped. If facilities are not available for raising the relative humidity level, satisfactory performance may be obtained by thinning as specified in 4.2.3.1(b).

4.3.1.3 Application guides for high-humidity conditions.- Under conditions of high relative humidity and high temperature, the pretreatment coating blanches when applied. The deposited film either on the practice panel or in production is whitish in color (moisture condensation in film) and it is easily removed by scratching with a fingernail. Adhesion of topcoatings may be poor when such a condition is

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encountered. The degree of blushing may be judged by the ease of removal with a fingernail and by the color, as severely blushed film is white. However, a better indication of the degree of blushing may be judged by the solubility of the wash primer film in dope and lacquer thinner conforming to Specification TT-T-266. The degree of blushing can be estimated by determining the number of strokes necessary to remove the coating film, using a cloth saturated with the thinner with a weight of about 2 pounds. A severely blushed film will be removed in 5 to 10 strokes, whereas an unblushed film will not be removed in 25 strokes.

4.3.1.3.1 Techniques.-- Several techniques may be used for overcoming blushing of the wash primer coating, such as the following:

- (a) If severe blushing is encountered, the product shall be sprayed with N-Butanol conforming to Specification TT-B-846, to completely wet the blushed film. This will redeposit the film in an unblushed condition. The efficiency of the method may be judged by one or more of the procedures specified in 4.3.1.3. Overspraying with butyl alcohol must be accomplished within 8 hours after application of the blushed wash primer or the adhesion of the paint system may not be satisfactory.
- (b) Thin as specified in 4.2.3.1(c).

4.3.2 Brushing.-- Wash primer coating brushed on metal surfaces shall be limited to small touchup areas. Heavy brush coating shall be avoided for the reasons stated in 4.3.1.

4.3.3 Roller coating.-- Application of the wash primer coating may be accomplished by roller coating to a dry film thickness of 0.3 to 0.4 mil.

4.3.4 Swabbing.-- Application of the wash primer coating by swabbing may be employed for touchup if this means of application is most expedient.

4.4 Drying time.-- Although the wash primer coating dries to handle within a few minutes, it shall be allowed to dry not less than 60 minutes nor more than 4 hours before application of topcoating paint systems, since premature application of primer may impair the adhesion of the finish system. Topcoats should not be applied until the wash primer coating is capable of resisting removal with the fingernail.

4.4.1 Adjustment for local conditions.-- No definite drying time limits are available which incorporate all variable processing conditions. The actual minimum drying periods must be predetermined by tests based on local temperatures and humidity conditions encountered during the projected painting operations. Best intercoat adhesion will generally be obtained after 1- to 2-hour drying period, since intercoat adhesion begins to degrade slowly on aging indoors, and markedly when exposed to the sun. However, the minimum drying period specified (see 4.4) may be reduced to 45 minutes if a complete finish system conforming to Specification MIL-F-18264 or other applicable specification applied on large test panels under production conditions (see 5.2) results in satisfactory adhesion when tested in accordance with the anchorage test (tape test), Method 6301 of Federal Test Method Standard No. 141.

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4.4.2 Local investigations.-- The following suggestions are made as starting points for the local investigations or to determine the necessary drying times or thinning modifications:

- (a) If painting is done in a heated hangar (above 80° F) and ethanol is the only diluent used, the minimum drying period of 60 minutes may be generally satisfactory. When it is found necessary to add additional alcohol for spray purposes to permit application of the requisite thin continuous film, to minimize "cobwebbing" or "stringing," the minimum drying period of 60 minutes may have to be extended.
- (b) If painting is done below 80° F or under high relative humidity, or both, the minimum drying period of the wash primer may have to be increased for an additional 30 minutes before topcoating with primer.
- (c) If practice panels indicate the pretreatment coating will blush, the various diluents specified in 4.2.3.1(c) and techniques of application specified in 4.3.1.3 should be made as a starting point for local spraying application. When diacetone alcohol or any of the other blush-retardant solvents are used as the diluent, a drying time of not less than 90 minutes is required prior to topcoating.
- (d) If the wash primer had been redeposited with butyl alcohol as specified in 4.3.1.3.1, a minimum of 45 minutes should be allowed for drying before topcoating or sufficient time for the redeposited film to thoroughly dry hard and tough, and not be capable of removal with the fingernail or a cloth saturated with thinner conforming to Specification TT-T-266, as specified in 4.3.1.3.
- (e) The wash primer coating should always be checked by the fingernail method starting 30 minutes after spraying to determine hardness and resistance to removal. Even with the use of the blush-retardant thinners, a temporary blush, disappearing within 15 to 20 minutes, may occur. When such a condition occurs and the film resists scratching with the thumbnail, topcoating may proceed.

4.5 Application of topcoats.-- The only coating materials permitted directly over the wash primer pretreatment coating are those conforming to the following specification:

- (a) Corrosion-inhibiting primer conforming to Specification MIL-P-8585.
- (b) Cellulose nitrate modified alkyd-type primer conforming to Specification MIL-P-7962.
- (c) Primer coating, epoxy-polyamide, chemical and solvent resistant, for weapons systems conforming to Specification MIL-P-23377.
- (d) Any paint system which may be authorized for use by the procuring activity. Topcoating directly with lacquer, without a primer is prohibited, since poor adhesion or poor corrosion resistance or both, will result.

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4.6 Sanding of wash primer coating.- In order to obtain the full gloss of the exterior topcoat, it is advisable to dry scuff the wash primer coating lightly with either No. 320 or No. 400 sandpaper to remove overspray and smooth out nibs before applying the primer. Any dust resulting from this operation shall be removed by tack ragging before applying the primer. New, clean kraft wrapping paper may be used for scuffing, provided it does not contain contaminants which would impair intercoat adhesion.

5. NOTES

5.1 Identification of wash primer coating.- The identification of the finishing materials by specification number shall be in accordance with Specification MIL-F-18264.

NOTE: Specification MIL-C-15328 wash primer is not a suitable replacement for Specification MIL-C-8514 coatings, particularly where the highest possible reflectance is required; also, specification MIL-C-15328 may gel if thinned as required for application under low humidity conditions.

5.2 Practice panels.- To familiarize personnel with coating techniques, equipment, thinning ratios, atmospheric conditions, etc., practice panels should be used before starting actual coating on the aircraft.

5.3 Thickness control.- To control thickness, it is recommended that panels be taped to the side of the aircraft and the coating thickness measured after application to assure the requisite film thickness or other suitable thickness measuring devices be employed for direct measurement on the aircraft.

5.4 Continuity of coating.- Once coating is started, the entire application should be carried out to completion without interruption. If any delay of more than 4 hours is encountered in applying the topcoating, the already applied wash primer should be removed, thoroughly cleaned and dried before proceeding, if adequate coating adhesion is to be obtained. (See appendix for notes on cleaning.) The yellow stain remaining after removal need not be removed from the metal surface, provided the surface conforms to the standard of cleanliness specified in Specification MIL-F-18264.

5.5 Gelation.- Wash primer, conforming to the basic document, Specification MIL-C-8514 of 3 March 1959 may contain isopropyl alcohol. Water cannot be added to material procured under this document, for low-humidity application (see 4.2.3.1(b)) as gelation occurs. Therefore, it is prohibited to use such procured material for low-humidity application. Wash primer, procured in accordance with the amended basic document, Specification MIL-C-8514 of 21 March 1962 shall be used. This revised document, not only deletes all use of isopropyl alcohol, both in formulation and as a diluent; but also deletes and prohibits the use of lampblack so as to increase reflectance of white topcoats, thus decreasing thermal pulse absorption.

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Air Force - ASD

Preparing activity:
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Review/user information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current DoF Index of Specifications and Standards.

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APPENDIX

General Aircraft Application Procedures

10. SCOPE.- This appendix contains a summary of application and finishing procedures.

20. APPLICABLE DOCUMENTS

20.1 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:

SPECIFICATIONSFederal

P-C-437	Cleaning Compound, High Pressure (Steam) Cleaner
P-C-444	Cleaning Compound, Solvent, Grease Emulsifying
TT-T-291	Thinner, Paint, Volatile Mineral Spirits (Petroleum Spirits)

Military

MIL-M-3171	Magnesium Alloy, Process for Corrosion Protection of
MIL-C-5410	Cleaning Compound, Aluminum Surface, Non-Flame-Sustaining
MIL-C-5541	Chemical Films for Aluminum and Aluminum Alloys
MIL-F-7179	Finishes and Coatings, General Specification for
MIL-C-8514	Coating Compound, Metal Pretreatment, Resin-Acid
MIL-R-8633	Remover, Paint, Nonflammable, Water-Rinsable
MIL-F-18264	Finishes, Organic, Aircraft, Application and Control of
MIL-C-18687	Cleaning Compound, Aircraft Surface
MIL-S-18718	Solvents, Safety
MIL-C-22542	Cleaning Compound, Liquid, High Pressure Cleaner
MIL-C-22543	Cleaning Compound, Water-Emulsion

30. APPLICATION AND FINISHING PROCEDURES

30.1 Kit composition.- The pretreatment coating conforming to Specification MIL-C-8514 is supplied as a two-component kit wherein the two components are admixed just prior to use. One component contains pigment ground in polyvinyl butyral resin, while the other component is composed of phosphoric acid in an alcohol solution. These components, as separately packaged units, generally have excellent storage stability, but when admixed, storage life is limited.

30.2 Material precautions.- Only materials from the same kit shall be mixed, except that two or more kits may be mixed in the same vessel, provided the kits are all manufactured by the same vendor. Kits will be furnished to contain the requisite amounts of pigmented resin component and clear acid component. If smaller quantities are required for touchup, proportion the quantities in accordance with paragraph 4.2.2. It is prohibited to substitute the resin component or acid component.

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from another manufacturer, because if admired material exhibits unsatisfactory properties its source could not be determined. It is mandatory that established mixing ratios are followed, otherwise the coating will exhibit unsatisfactory properties, such as poor adhesion, poor chemical resistance, or slow or a nondrying film.

30.3 Preparation of metal surfaces.- Metal surfaces shall have been surface treated before assembly and shall have received the requisite insulating coatings between faying surfaces in accordance with Specification MIL-F-7179. A brief summary of the applicable surface preparation and priming sequence requirements, contained in Specification MIL-F-18264 and related documents, is contained in 30.4 and table II herein as a guide. These do not replace or supersede the more extensive and detailed requirements of the applicable specifications.

30.4 Bare surfaces.- Unpainted surfaces which require painting after complete assembly or after stripping with remover conforming to Specification MIL-R-8633 should be treated as follows, prior to application of the coating.

30.4.1 Masking.- Prior to surface cleaning, chemical treatments, or painting areas such as canopy, windshield, radome, or transparent light covers shall be masked with masking material and taped in place. On canopy or windshield, tape shall be applied to the frames adjacent to the transparent areas but shall not contact the plastic or glass. All exposed portions or actuated rods passing through hydraulic seals shall be protected from any material application during cleaning or finishing to prevent damaging seals. All other areas requiring protection shall be masked. Any residue left by masking shall be removed with safety solvent conforming to Specification MIL-S-18718.

30.4.2 Cleaning.- Surfaces which are not clean will not only accelerate corrosion, but will weaken adhesion of subsequent finishes. Therefore, removal of grease, oil, and other gross surface contaminants shall be accomplished by aqueous solutions conforming to Specification MIL-C-22543, water-emulsion type cleaning compound or steam cleaning with material conforming to Specification MIL-C-22542, liquid cleaning compound, high-pressure cleaner (about 1 quart to 50 gallons of water) or steam cleaning with material conforming to Specification P-C-437 (about 2 ounces of compound per gallon of water). The spray shall be kept in motion while impinging on the surface to avoid overheating of the surface skin. All residue shall be finished off with hot or cold water rinse.

30.4.3 Removal of surface oxide and trace contaminants on aluminum and magnesium.- Removal of surface oxides and trace contaminants on aluminum and magnesium surfaces after cleaning operations, and while still wet, should be accomplished with material conforming to type II of Specification MIL-C-5410, mixed with an equal volume of water. Application should be with soft bristle brushes working from bottom to top. The material should be allowed to react with aluminum for 15 to 30 minutes, and with magnesium for 5 minutes (maximum) and then rinsed with water, brushing all screws, rivet heads and faying surfaces to insure removal, particularly on magnesium to avoid severe pitting attack. Use of vacuum to dry out seams, rivets, etc., is recommended. (Warning: Avoid trapping solution in crevices by adequate masking to prevent entry of solution into inaccessible areas.) At this stage the surface should have a neutral reaction and be capable of passing the water-break test of Specification MIL-F-18264.

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30.4.4 Touchup surface treatment.- Surfaces which have suffered surface treatment damage should be treated with manually applied surface retreatment with material conforming to Specification MIL-C-5541 after removal of surface oxides as specified above. After a complete rinsing, a wipe with a clean white cloth, wet with distilled water shall show no stains. For magnesium surfaces, if brown stains are found, the surface shall be wiped with clean white cloths, wet with distilled water, until a clean surface is obtained.

30.4.5 Surface preparation for magnesium.- Wash primer coating shall not be applied over magnesium unless the magnesium has an adequate protective film conforming to Specification MIL-M-3171. Special precaution shall be taken where treated magnesium surfaces are scratched. Such scratched areas and areas inadequately surface treated shall be carefully touched up with manually applied chemical treatment conforming to Specification MIL-M-3171, or approved equivalent, prior to coating application; otherwise bubbling would be encountered when the wash primer coating and subsequent coatings are applied to these surfaces. If hydrogen bubbling has occurred, the coating must be stripped and the metal given an additional chemical treatment before reapplication of the wash primer coating. Thinning of the wash primer coating with alcohol as specified in 4.2.3.1(a) will reduce the tendency to bubbling.

30.5 Touchup of painted aircraft.- Aircraft surfaces requiring touchup must be clean since contamination of any kind will cause poor adhesion, corrosion, cratering, and premature film failure. Surfaces requiring touchup shall be prepared by first, masking necessary areas as specified in 30.4.1.

30.5.1 Cleaning treatment.- After masking, areas shall be cleaned with aqueous solution conforming to Specification MIL-C-22543. When severely heavy soils are encountered, these areas shall be cleaned with solvent conforming to type I of Specification P-C-444. The use of solvent conforming to Specification P-C-444 will leave a residual oily film which must be removed with a light cleaning, using cleaning compound conforming to Specification MIL-C-18687, or light cleaning with water base emulsion cleaner conforming to Specification MIL-C-22543. Oxidized coating shall require light sanding with 300 to 400 abrasive paper to obtain adequate intercoat adhesion. Any areas scratched or abraded to the bare metal shall be treated as specified in 30.4.4 and 30.4.5, as applicable.

30.5.2 Oily surfaces.- Painting over oily residues may result in a shiny area in the dried wash primer. Such areas should be stripped, resealed, and recoated as outlined in 30.4, 30.4.2, 30.4.3, and 30.4.4, as applicable.

30.5.3 Paint application.- Wash primer should not be used on painted surfaces unless tests have shown that adequate adhesion can be obtained. Application coverage must be only on clean, bare, metal surface..

30.6 Spray equipment.- Spray equipment and pressures found successful in production, employing materials for spraying when mixed in accordance with 4.2.2 and thinned as specified in 4.2.3 are specified in table I. The spray gun should be held about 10 inches from the surface for a continuous wet film of the wash primer. The spray gun shall not be held more than 12 inches from the work to obtain the required thickness, since this would cause a dry, powdery film deposit which would seriously impair the adhesion of the finish system (see 4.3.1).

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30.7 Application procedures.- Table II contains a summary of application procedures.

TABLE II. Summary of application procedures

Operation	Comments	Paragraphs
Cleaning	Cleaning in accordance with Specification MIL-F-7179 and MIL-F-18264	4.1
Surface preparation	Prepare surface for painting: (a) Bare surfaces or (b) Strip in accordance with Specification MIL-R-8633 (c) Masking	30.3 30.4 30.4.1
Cleaning treatment	(a) Cleaning surfaces (b) Removal of surface oxide (c) Chemical film treatment for aluminum (d) Chemical film treatment for magnesium	30.4.2 30.4.3 30.4.4 30.4.5
Touchup of painted aircraft	Cleaning and treatment	30.5
Material	Wash primer coating	3.1, 30.1, and 30.2
Equipment	Guns and mixing equipment	3.2 and 30.6
Mixing	Two-component mixing	4.2.2
Thinning	Thinning for spraying: (a) Normal weather conditions (b) Low-humidity conditions (c) High-humidity conditions	4.2.3 4.2.3.1(a) 4.2.3.1(b) 4.2.3.1(c)
Application	Apply by spraying, brushing, roller coating, or swabbing: (a) Spraying: low-humidity (b) Spraying: high-humidity conditions	4.3.1, 4.3.2, 4.3.3, and 4.3.4 4.3.1.2 4.3.1.3
Drying time	General: Local conditions Local investigations	4.4 4.4.1 4.4.2

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