

**ERICKSON AIR-CRANE**  
INCORPORATED

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**TITLE:**                                      **FINISH SPECIFICATION FOR ERICKSON AIR-CRANE  
AIRCRAFT**

**PREPARED BY:**                      SIGNATURE ON FILE  
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**DENISE YAMAGATA**                      **DATE**

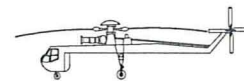
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**JEFF FOX**                                      **DATE**

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**CHUCK LANDERS**                              **DATE**

**REV:** F

**DATE:** 12.20.10

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## FINISH SPECIFICATION FOR ERICKSON AIR-CRANE AIRCRAFT

### TABLE OF REVISIONS

REV	DESCRIPTION	BY	APPROVED	DATE
IR	INITIAL RELEASE	D. YAMAGATA	C. LANDERS	10/8/03
A	REVISED SPECIFICATION TO ALLOW USE OF MILITARY PRIMER ON ALUMINUM PARTS.	D. YAMAGATA	C. LANDERS	1/29/04
B	SEPARATED PAINTING ISSUES INTO A SEPARATE SECTION IN THE SPECIFICATION. ADDED CLARIFICATION TO PAINTING PROCEDURES.	D. YAMAGATA	C. LANDERS	3/15/04
C	CHANGED TITLE OF SPECIFICATION. REVISED SPECIFICATION TO ADDRESS MAGNESIUM AND TITANIUM COMPONENTS AS WELL. ADDED NOTE REGARDING SUPER KOROPON ON ANODIZED PARTS.	D. YAMAGATA	C. LANDERS	4/26/04
D	REMOVED RESTRICTIONS ON THE USE OF SUPER KOROPON IN PLACE OF MIL-PRF-23377, AND ADDED THE USE OF SUPER KOROPON IN PLACE OF MIL-PRF-3043 BAKED RESIN COATING WITH STIPULATION THAT IT IS TO BE REPLACED AT EVERY OVERHAUL.	B. JOHNSON	IAN GIBSON	4/2/09
E	ADDED INFORMATION FOR THE USE OF SUPER KOROPON OR MIL-PRF-23377 ON STEEL AND ALUMINUM.	T. SOMMERS	W. JOHNSON	7/13/10

#### PROPRIETARY INFORMATION

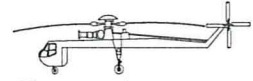
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Revision F

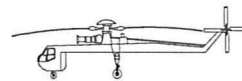
November 24, 2010

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F	REVISED SCOPE STATEMENT TO CLARIFY APPLICABILITY TO AHDESIVE PRIMERS AND REVISED SECTION 3.1.4.4 TO PROVIDE EXCEPTIONS OF WHEN ALTERNATE PRIMER IS ACCEPTABLE. ADDED SECTION 3.3 FOR CLEAR EPOXY COVERAGE.	A. WARREN	<i>J.R. August</i>	<i>12/20/2010</i>
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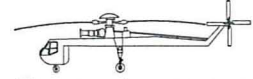
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### 1. SCOPE:

This specification covers the finish requirements for all Erickson Air-Crane aircraft parts. This specification supplements all primer/paint requirements on Erickson Air-Crane drawings. All other finishes such as plating are to be per the Erickson Air-Crane drawing requirements.

Note: Adhesive primers are not considered a part of this specification and shall be applied to drawing specification.

### 2. APPLICABLE DOCUMENTS:

#### Specifications:

The following specifications shall form a part of this specification to the extent herein. The latest issue of the documents shall be used unless otherwise specified:

#### 2.1 Military Specification:

MIL-PRF-23377 – Primer Coatings: Epoxy-Polyamide, Chemical and Solvent Resistant

MIL-PRF-3043 – Resin Coating, Permanent, For Engine Components and Metal Parts

### 3. REQUIREMENTS:

#### 3.1 Painting requirements:

3.1.1 Topcoats will be selected by the customer or by Erickson Air-Crane Operations.

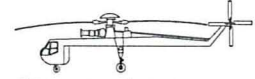
3.1.2 Parts may be painted prior to installation, or may be painted after installation into an assembly. If painting is done after assembly, all mating surfaces of assembled parts may be primed as noted in Section 3.1.4.

3.1.3 After installation of fasteners, assembled parts should be touch-up painted as required. NOTE: Touch-up painting does not require etching or Alodine prior to primer application.

3.1.4 Parts are to be primed in accordance with drawing requirements, but Super Koropon #515-700 is an acceptable alternate to MIL-PRF-23377 primer.

3.1.4.1 It is permissible during assembly to apply Super Koropon to mating surfaces of housing flanges, washer spotfaces, bolt holes, stud and bolt shanks, hydraulic insert threads, housing liner bores prior to liner installation, and static O-ring diameters provided it is smoothed out with Scotch Brite once dry. This will enhance corrosion protection by reducing the likelihood of moisture intrusion.



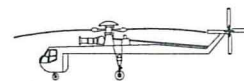


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- 3.1.4.2 The instructions for mixing and applying Super Koropon are contained in section 3.2.
  - 3.1.4.3 Super Koropon cures faster, and can be topcoated sooner than MIL-PRF-23377. However, note that the available time for topcoating without abrading the primer surface is shorter (see 3.2.6.3).
  - 3.1.4.4 For steel and aluminum parts, as an alternate to drawing requirements, it is acceptable to use MIL-PRF-23377 or Super Koropon #515-700 in all cases except; Main and Tail Rotor Blade components, or when the approved data states that an alternate primer is not acceptable.
  - 3.1.5 Super Koropon #515-700 is an acceptable alternate to MIL-PRF-3043 baked resin coating provided it is stripped and replaced at each overhaul.
- 3.2 Instructions for Super Koropon primer:
- 3.2.1 Mixing Instructions:
    - 3.2.1.1 Before mixing the primer, the material should be allowed to reach room temperature. This can be achieved by leaving the material at room temperature for about 24 hours before mixing.
    - 3.2.1.2 Be sure all mixing and measuring containers are clean and free from contamination.
    - 3.2.1.3 Shake the base component or stir it thoroughly until there is no solid material left on the bottom of the can.
    - 3.2.1.4 The mix ratio of Super Koropon primers is one to one. Slowly add while agitating, one volume of curing solution to one volume of base component. Do not add thinner. NOTE: Do not use thinners or flow control agents from another source. Do not use material beyond its shelf life, which is one year from the date of manufacture.
    - 3.2.1.5 Super Koropon primers need an induction time before spraying to optimize chemical resistance properties. The suggested time between mixing and spraying is 30 minutes. Strain the mixed primer through a fine mesh cloth to remove any particles that may have been introduced during mixing and measuring. Stir the mixed material for 10 minutes before spraying.



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### 3.2.2 Pot life:

**TABLE 1**

POT LIFE VERSUS TEMPERATURE	
TEMPERATURE	POT LIFE
65°F TO 70°F	16 HOURS
71°F TO 80°F	16 HOURS
81°F TO 90°F	14 HOURS
91°F TO 95°F	12 HOURS

NOTE: Discard any unused material that has exceeded its usable pot life. A primer that has exceeded its usable pot life may still have low viscosity, but could develop severe orange peel.

### 3.2.3 Spray Equipment:

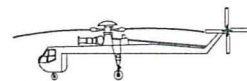
3.2.3.1 Super Koropon primers have been developed for use with HVLP, conventional and airless spray equipment.

#### 3.2.3.2 HVLP:

Airverter: Tip Size: 1.2 or 1.5mm  
Air Cap: 10 or 12  
Compressor Pressure: 40 to 60 psi  
Atomization Pressure at Gun: 10 psi maximum

Binks Mach I: Tip Size: #91 or #94  
Pot Pressure: 15 to 35 psi  
Atomization Pressure at Gun: 10 psi maximum

Graco 1265: Tip Size: .047 to .057 inches  
Pot Pressure: 15 to 35 psi  
Atomization Pressure at Gun: 10 psi maximum



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NOTE: In order to achieve 45-50 psi air atomization pressure at the spray gun, the regulated pressure at the mixing pot should be set higher to compensate for pressure loss in the hose. Table 2 lists air regulator pressure requirements for different hose lengths.

**TABLE 2**

AIR REGULATOR PRESSURE REQUIRED TO MAINTAIN 45 TO 50 PSI ATOMIZATION PRESSURE AT THE GUN	
AIR HOSE LENGTH	AIR REGULATOR PRESSURE
4 FEET	45 PSI
15 FEET	50 PSI
25 FEET	55 PSI
35 FEET	65 PSI
50 FEET	70 PSI
75 FEET	85 PSI
100 FEET	100 PSI

### 3.2.4 Application Procedure:

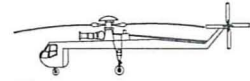
3.2.4.1 Wet abrade surface with a fine Scotch-Brite pad and deionized or distilled water. Note: If surface has been previously anodized, skip to step 3.2.4.7.

3.2.4.2 Solvent clean with Desoclean 110 cleaner or equivalent and wipe dry.

3.2.4.3 Use an alkaline cleaner, rinse with warm water, and make sure no residue remains.

3.2.4.4 Acid etch with a mild acid brightener. Agitate the brightener with Scotch-Brite pads. NOTE: Mix the brightener according to the manufacturer's instructions.





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3.2.4.5 Water wash to neutralize the acid brightener. Next observe the surface for water breaks. If a water break occurs before 30 seconds, repeat steps 4 and 5. Also check pH of run off water.

3.2.4.6 Apply chrome conversion treatment, such as Alodine 1200 or equivalent.

3.2.4.7 Rinse with water.

3.2.4.8 Check for water break free surface.

3.2.4.9 Allow the surface to dry completely.

3.2.4.10 Apply Super Koropon primer within 24 hours of applying the chromate conversion treatment. Apply to an average dry film thickness of 0.60 to 1.2 mils. This can be accomplished by one horizontal application of primer with a 50% overlap or with a box coat (one pass vertically and one pass horizontally).

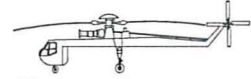
### 3.2.5 Curing:

3.2.5.1 The following table describes the cure characteristics at various temperatures.

**TABLE 3**

CURE CHARACTERISTICS VERSUS TEMPERATURE				
DRY TIME	65°F	75°F	85°F	95°F
DUST FREE	15 MIN	10 MIN	8 MIN	5 MIN
DRY TO STACK	60 MIN	45 MIN	35 MIN	30 MIN
DRY TO TOPCOAT (MINIMUM)	60 MIN	45 MIN	35 MIN	30 MIN
DRY TO TOPCOAT (MAXIMUM)	24 HRS	24 HRS	24 HRS	24 HRS
ULTIMATE CURE	7 DAYS	7 DAYS	7 DAYS	7 DAYS

3.2.5.2 The cure can be accelerated with heat. After a flash off time of 15 minutes, the primed part can be placed in an oven for 15 minutes at 150°F.



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### 3.2.6 Topcoat application:

3.2.6.1 Topcoat to be selected by customer.

3.2.6.2 Table 3 shows minimum and maximum times to apply the topcoat after priming.

3.2.6.3 If the primer is older than the maximum time recommended, the following schedule is recommended:

Primer age is 1 to 7 days: Lightly abrade the primer surface with Scotch-Brite pads, clean with Desoclean 110 solvent cleaner or equivalent, then topcoat.

Primer age is beyond 7 days: Lightly abrade the primer surface with Scotch-Brite pads, clean with Desoclean 110 solvent cleaner or equivalent, apply a light coat of primer, and then topcoat.

### 3.2.7 Clean up:

3.2.7.1 Flush the spray equipment with Desoclean 45 solvent cleaner or equivalent.

3.2.7.2 The primer is a chemically reacting system. It is no longer soluble in solvents after it has cured. For this reason, the equipment should be cleaned as soon as possible after the primer has been applied and always before the material has cured. Note that even a fresh coating deposits a film on the equipment that does not dissolve easily. Agitation with a brush or cloth will help to remove these deposits.

### 3.3 Instructions for Clear Epoxy:

3.3.1 Unless otherwise specified, when "Clear Epoxy per ES0043" is specified on the drawing, a two component, high solids epoxy per MIL-PRF-22750 shall be used. Unless otherwise specified, the epoxy coating shall be clear (no color pigments added).

3.3.2 Mix, apply, and store per MIL-PRF-22750 and/or manufacturer's requirements.