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<td>NC</td>
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<td>Updated company name &amp; logo to reflect company name change.</td>
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SCOPE:
This specification contains the procedures and requirements governing the application of paint.

CONFORMITY:
RSG AeroDesign, LLC, Texas Aviation Services Inc., and Integrated Flight Systems parts, Corp. subcontractors or their subcontractors shall comply with this specification or submit to RSG AeroDesign, LLC, Texas Aviation Services Inc., and Integrated Flight Systems parts, Corp. for FAA approval for those variations they will make to this specification with accompanying support data for the areas of variation.

CONFLICTS:
Where engineering drawings conflict with this specification, the drawings shall govern.

REFERENCE DOCUMENTS:
1) MIL-PRF-85285 COATING: POLYURETHANE, AIRCRAFT & SUPPORT EQUIPMENT
2) FED-STD-141, FEDERAL TEST MEHOD STANDARD, PAINT VARNISH, LACQUER & RELATED MATERIALS: METHODS OF INSPECTION, SAMPLING AND TESTING, Method 6301 Adhesion (Wet) Tape Test.
3) RSG Document No. 20R00510002 APPLICATION OF PRIMER
4) RSG Document No. 20R00510004 CHEMICAL FILM TREATMENT OF ALUMINUM PARTS

EQUIPMENT REQUIREMENTS:
1) SPRAY EQUIPMENT: Spray guns and accessories used for the application of top coat shall be capable of applying a paint film which will conform to the requirements of paragraph 2.0.
2) COMPRESSED AIR: Clean dry compressed air shall be trapped and filtered to render it oil and moisture free prior to use.
1. GENERAL INFORMATION
These polyurethane topcoats are intended as a finish for interior and exterior surfaces. These topcoats are applied as a finishing coat over properly prepared, cured, primed (per RSG Document No. 20R0510002) surfaces.

1.1. INTENDED USE
This specification covers the application of the following Urethane top coats:

a) MIL-PRF-85285 COATING: POLYURETHANE, AIRCRAFT & SUPPORT EQUIPMENT
   • Type I - Aircraft application (420 grams/liter g/l maximum VOC content)
   • Type II - Support equipment application (340 g/l maximum VOC content)
   • Type III - Aircraft and support equipment application (50 g/l maximum VOC content)
      i. Class H - High-solids formulation
      ii. Class W - Water-borne formulation

2. PROCESS & PRODUCT REQUIREMENTS

2.1. APPEARANCE
After drying, the applied film shall be free from grit, blisters or other such surface irregularities.

2.2. THICKNESS
The dry film thickness of a coat of sprayed urethane shall be uniform. Thickness measurements shall be completed by one of the following methods:

a) VISUAL COMPARISON - A set of properly coated test samples shall be mounted in the process area(s) for comparative use. These test samples will provide a visual reference for correct surface appearance.

b) COATING THICKNESS GAUGE - An alternate method of measuring dry film thickness is to use a calibrated Coating Thickness Gauge. The measured thickness shall be .0017 - .0023 inches (1.7- 2.3 mil).

*NOTE: Touch-up areas that are coated by the brush or swab method shall not be subject to the thickness requirement, except these areas shall not exhibit any bare (primed) areas.
2.3. ADHESION

2.3.1. TOPCOATED SURFACES
After overcoating the primer with the applicable topcoat material, the system shall be capable of passing the adhesion tests specified in paragraph 4.1.3. There shall be no loss of adhesion of the top coat to base material.

3. PROCEDURE REQUIREMENTS

3.1. SURFACE PREPARATION
Clean, freshly primed, surfaces do not require further cleaning prior to top coat application. Contaminated surfaces shall be prepped for top coating.

3.2. MASKING
Areas requiring masking shall be masked using 3M P/N 231-1/4", 234-1/2", 234-1", 234-2", or 232-1/8" masking tape and U.S. Chemical P/N 38012, 38018, 38024, or 38036 solvent resistant masking paper.

3.3. TOP COAT PREPERATION

3.3.1. MIXING
When following the manufacturer's instructions all components of the coating shall mix readily using a hand-held paddle to a homogenous product.

*NOTE: Catalyzed polyurethane top coat shall be discarded if not used within five (5) hours after mixing. Use of older material will result in loss of adhesion even though there is no apparent change in the materials consistency or spraying characteristics.

3.4. METHODS OF APPLICATION

3.4.1. SPRAYING
Adjust spray equipment and control rate of stroke to apply a film of top coat which when dry will meet the requirements of paragraph 2.0.

3.4.2. BRUSH OR SWAB
Small areas which require touch up with top coat shall be coated using a brush or swab of the appropriate size to ensure complete coverage.
3.5. HEAT CURING
Follow manufacturer’s instructions for heat curing painted parts.

3.6. REFINISHING
Cured, epoxy primed and painted surfaces requiring refinishing shall be processed as follows:

a) Strip parts and/or assemblies, using chemical solvents or media blast.
   *NOTE: DO NOT strip parts by grinding parts or assemblies.

b) Chemically treated surfaces damaged by primer removal shall be retreated prior to repriming, IAW RSG Document No. 20R00510004.

c) Apply primer coat IAW RSG Document No. 20R00510002.

d) Refinish parts in accordance with paragraphs 3.1, 3.2, 3.3, and 3.4.

4. PROCESS CONTROL REQUIREMENTS

4.1. SPECIFIC CONTROLS

4.1.1. APPEARANCE
Top coated surfaces shall conform to the requirements of paragraph 2.1.

4.1.2. THICKNESS
The dry film thickness of the top coat shall be as specified in paragraph 2.2.

4.1.3. ADHESION

4.1.3.1. Primed & Topcoated Surfaces
Prior to testing, the applied coating shall be air dried for no less than 14 days at room temperature, or air dried for no less than 24 hours followed by 24 hours at 150°F. Topcoated surfaces shall conform to the requirements of paragraph 2.3.1 when tested in accordance with paragraph 4.1.3.2.

4.1.3.2. Wet Tape Test
Immerse the test specimen in Distilled Water for 24 hours. Remove the test specimen form the water and wipe dry with a soft lint free cloth. Within 1 minute after removal from the water make two parallel scratches, one inch apart, through the coating to the metal with a stylus. Immediately apply a 1" wide strip of flatback paper tape, having an average adhesion of 60-ounces/inch widths with a code number 250 or equivalent, with adhesive side down across the scratches. Press the tape against the surface of the coating by passing a 4-1/2-pound rubber covered roller, having a Durometer hardness value between 70 & 80, and an approximate diameter of 3-1/2 inches and 1-3/4 inches in width,
eight times across the tape. Remove the tape with one quick motion and examine for damage to the coated surface adhesion.

**4.2. PRODUCT ASSURANCE**

The Quality Control Department shall assure application of process controls and additional controls as may be necessary for compliance with this specification.