



TECHNICAL BULLETIN
AC-820-NF-RTU/AC-820-NF-CONC MASKANT

Description

AC-820-NF-RTU is a ready to spray or dip, air curing, hand peelable coating that provides protection to metallic surfaces during chemical processing, metal bonding, anodizing, plating, and chemical milling. AC-820-NF-RTU is supplied in a nonflammable solvent system. AC-820-NF-CONC is supplied at higher solids for brush application or thinning to a desired viscosity.

Product Performance

AC-820-NF-RTU/CONC resist the solutions used in the pre-bond cleaning line and perform well in the 250°F. bonding process.

AC-820-NF-RTU/CONC demonstrate excellent performance when used as a chemical milling maskant and an anodizing stop-off. Lower, more uniform adhesion values are obtained both before and after processing, regardless of the alloy or pre-coat cleaning method used.

Product Characteristics (as shipped)

	AC-820-NF-RTU	AC-820-NF-CONC
Appearance	Tan Viscous Liquid	Tan Viscous Liquid
Solids Content (% by weight)	18.0 ± 2.0	27.0 + 2.0
Solids Content (% by volume)	19.0 ± 2.0	27.0 + 2.0
Coverage (ft²/mil of dry film/gal.)	305	432
Weight (Lbs./Gal.)	12.1 + 0.2	12.1 + 0.2
Flash Point (T.O.C.)	None to boiling	None to boiling
Storage Life (Ambient Temperatures)	2 years	2 years
Solvent System	Perchloroethylene, Toluene, Xylene	Perchloroethylene, Toluene, Xylene

Product Characteristics - Cured Film (Typical Results)

Tensile Strength (psi)	800 lb. Minimum	
Elongation	300% minimum	
Resistance to Acid/Alkaline Solutions	Excellent (In very aggressive acid solutions, such as those found in chemical milling of steel and titanium, AC-832 Topcoat may be desired.)	
Adhesion (Typical values in oz./inch width) 2024-T3 clad aluminum, solvent wiped 2024-T3 bare etched, deoxidized	Before Processing 6-12 oz. 12-24 oz.	After Processing 9-24 oz. 16-30 oz.



Product Precautions

WARNING! CONTAINS PERCHLOROETHYLENE, TOLUENE, AND XYLENE. VAPOR HARMFUL IF INHALED. KEEP OUT OF REACH OF CHILDREN. Avoid breathing vapor. Use with adequate ventilation. Keep away from heat, sparks, hot glowing surfaces, and open flame. Keep container closed when not in use. Avoid prolonged or repeated contact with skin. **DO NOT TAKE INTERNALLY.** Consult MATERIAL SAFETY DATA SHEET for handling and safety information.

Packaging –

AC-820-NF-RTU/CONC are furnished in 5 gallon pails and 55 gallon steel drums.

Product Use Instructions

General –

The directions and recommendations given below are intended to serve as a guide and may need modification to meet local conditions.

Mixing –

AC-820-NF-RTU/CONC should be thoroughly mixed prior to use and remixed at least once per eight hour shift. Avoid introducing air into the coating during mixing. Parts must be clean and dry before coating for optimum performance.

Thinning –

Use AC-820-NF-RTU as received. **DO NOT THIN.** AC-820-NF-CONC may be brush applied as received or thinned with AC-813 Thinner to the desired viscosity. Thin AC-820-NF-CONC with AC-813 Thinner, two gallons CONC to one gallon AC-813 Thinner to create AC-820-NF-RTU.

Recommended Dry Film Thickness –

Eight to twelve mils, depending on the process requirements.

Cure Cycle –

Allow the film to air cure for four hours minimum at 75°F. or above. At lower temperatures allow additional curing time. AC-820-NF-RTU/CONC may be baked at 130°F. for 60 minutes after an initial air cure of one hour should faster processing be required. Minimum seepage at the edge of the maskant during anodizing and plating may be obtained by baking the maskant at 200°F. for 30 - 60 minutes after the initial cure prior to processing. Parts previously chemically milled do not require the 200°F. bake in order to obtain minimum seepage.

Airless Spray Application

Equipment –

1. Cold or hot circulating 25:1 or 30:1 airless spray unit.
2. Tips - 721 or 823
3. Tip Filter Unit using a 100 mesh filter

Maskant Temperature –

Above 70°F. (Cold Airless Application)

Pressures and Temperatures –

1. Air Pressure - 60 to 70 lbs. cold airless; 80-100 lbs. hot airless.
2. Back Pressure (hot airless) - 1600 to 1800 lbs.; when no fluid pressure gauge is present, 1 cycle/7 seconds with the air pressure set at 90 to 100 lbs.
3. Temperature (hot airless) - 140°F. to 160°F.

Thinning for hot or cold airless spray - Spray AC-820-NF-RTU as received. Mix well prior to use. **DO NOT THIN.**



Application –

Hold the spray gun 10 to 14 inches from the part. The speed with which the spray gun is moved determines the quality of the sprayed film. A slow moving spray gun with wide overlaps produces spongy films. The more rapidly the spray gun is moved over the part, the better the quality of the dry film.

Cold Airless Spray

1. Apply 1 box coat. Allow to dry tack free (5 minutes).
2. Apply 2 box coats. Allow to dry tack free (approximately 15 minutes). Resultant film build will be 3 - 4 mils. Each box coat should yield 1.0 to 1.5 dry mils of maskant.
3. Repeat Step 2. Dry film build will now be 6 - 8 mils.
4. Repeat Step 3. Dry film build will now be 8 - 11 mils.

Hot Airless Spray

1. Apply 1 box coat. Allow to dry tack free (5 minutes).
2. Apply 2 box coats. Allow to dry tack free (approximately 15 minutes). Resultant film build will be 5 mils. Each box coat should yield 1.5 to 2.0 dry mils of maskant.
3. Repeat Step 2. Dry film build will be 8 - 12 mils.

Should heavier films be required, apply additional coats. A box coat consists of a series of vertical and horizontal passes over the same surface. A 50 to 75% overlap is used depending on the speed with which the spray gun is moved.

Warranty

The following warranty is made in lieu of all other warranties, either expressed or implied. This product is manufactured of selected raw materials by skilled technicians. Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of this product and no warranty is made as to the results of any use. The only obligation of either seller or manufacturer shall be to replace any quantity of this product, which is proved to be defective. Any claim of defective product must be received in writing within one (1) year from date of shipment. Neither seller nor manufacturer assumes any liability for injury, loss, or damage resulting from use of this product.

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