



**Description**

AC-828-77 is an extremely high solids, air curing, hand peelable coating that provides protection to metallic surfaces during chemical processing, 250°F. metal bonding, anodizing, plating, forming, and chemical milling.

**Product Performance**

AC-828-77 has demonstrated excellent performance when used as a chemical milling maskant and an anodizing stop off. A major breakthrough in the science of adhesion control has been incorporated into AC-828-77. As a result, lower, more uniform adhesion is obtained, both before and after processing, regardless of the alloy or pre-coat method used for cleaning. AC-828-77 was specifically formulated to provide excellent bubble release and flow properties. Should airless spray application be used, optimum results will be obtained by purchasing AC-828-77 Spray Concentrate instead of AC-828-77.

**Product Characteristics (as shipped)**

<b>Appearance</b>	Tan Viscous Liquid
<b>Solids Content (% by weight)</b>	46.5 ± 2%
<b>Solids Content (% by volume)</b>	35.0 ± 2%
<b>Coverage (ft<sup>2</sup>/mil dry film/gal.)</b>	580
<b>Weight (Lbs./Gal.)</b>	8.4 ± 0.2
<b>Flash Point (T.O.C.)</b>	45° F.
<b>Storage Life (Ambient Temperatures)</b>	2 years
<b>Solvent System</b>	Xylene, VM&P Naphtha, and Toluene

**Product Characteristics - Typical Results (cured film)**

<b>Tensile Strength</b>	<b>1000 lbs. minimum</b>	
<b>Elongation</b>	<b>300% minimum</b>	
<b>Resistance to Acid/Alkaline Solutions</b>	<b>Excellent</b> (In very aggressive acid solutions, such as those found in chemical milling of steel and titanium, AC-832-T Topcoat may be desired. AC-828-77 may be successfully used in a hard chrome solution when topcoated with one (1) coat of AC-832-T._	
<b>Adhesion (Typical values in oz./inch width)</b>	<b>Before Processing</b>	<b>After Processing</b>
7075-T6 clad aluminum, deoxidized	10-12 oz.	14-18 oz.
7075-T6 bare aluminum, deoxidized	10-12 oz.	12-16 oz.
2024-T3 clad aluminum, deoxidized	10-12 oz.	14-16 oz.
2024-T3 bare aluminum, deoxidized	12-14 oz.	16-18 oz.
7075-T6 clad aluminum, solvent wiped	9-10 oz.	15-18 oz.
7075-T6 bare aluminum, solvent wiped	10-12 oz.	16-18 oz.

**Product Precautions**

**DANGER! FLAMMABLE.** CONTAINS XYLENE, VM&P NAPHTHA, AND TOLUENE. **VAPOR HARMFUL. HARMFUL OR FATAL IF SWALLOWED.** KEEP OUT OF REACH OF CHILDREN. Keep away from heat, sparks, and open flame. Keep container closed when not in use. Use only with adequate ventilation. Avoid prolonged or repeated breathing of vapor. Avoid prolonged or repeated contact with skin. **DO NOT TAKE INTERNALLY.** Consult MATERIAL SAFETY DATA SHEET for handling and safety information.



### Packaging –

AC-828-77 is furnished in 5 gallon pails and 55 gallon F.O.T. nonreturnable 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-828-77 should be thoroughly mixed, thinned, 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.

Continual mixing, except while dipping parts, is recommended to prevent skinning in open dip tanks. Consult AC Products, Inc. for optimum dip tank designs.

#### Thinning –

*TWO COAT SYSTEM* - Thin each 55 gallon drum of AC-828-77 with 21 gallons of toluene. This should reduce the viscosity of the AC-828-77 to approximately 30 - 32 seconds in a #5 Zahn cup. Six (6) gallons of perchloroethylene may be substituted for six (6) gallons of the toluene should additional bubble breaking be desired. When the shop temperature exceeds 95°F. or 35°C., 10 gallons of xylene may be substituted for 10 gallons of the toluene when thinning.

*THREE COAT SYSTEM* - Thin each 55 gallon drum of AC-828-77 with 28 gallons of toluene. This should reduce the viscosity of the AC-828-77 to approximately 13 - 16 seconds in a #5 Zahn cup. Optimum bubble breaking will occur between 13 and 16 seconds in a #5 Zahn cup. 14 gallons of toluene and 14 gallons of xylene may be used during very hot weather.

#### Solvent Replacement due to Evaporation -

Maintain the desired viscosity of the flowcoater or dip tank by adding toluene or xylene. Toluene is used at shop temperatures below 90°F./35°C. Half toluene/half xylene may be used at higher shop temperatures.

#### Recommended Dry Film Thickness –

Eight to twelve mils, depending on the process requirements. AC-828-77 may be used at five to six mils as an in-shop protective coating.

#### Cure Cycle –

Allow the film to air cure for 4 hours minimum at 80° F. or above. AC-828-77 films may be baked at 150 - 160°F. for 30 to 60 minutes after an initial air cure of 1 hour, should faster processing be required. AC-828-77 may be successfully used without an oven cure. Improved line definition on parts that are anodized or plated may be obtained by baking at 190 - 200°F. for 30 to 60 minutes prior to anodizing or plating after the initial air or forced cure. Parts chemically milled prior to anodizing need not be baked.

#### Dip/Flow Applications -

Thin AC-828-77 as directed. When utilizing a two coat masking system, maintain the viscosity at 30 to 32 seconds in a #5 Zahn cup. Should a three coat or flowcoater masking system be desired, maintain the viscosity at 13 to 16 seconds in a #5 Zahn cup. When two coats are used, reverse the parts after the first coat is tack free. Should three coats be preferred, allow the film to dry tack free between applications. Rotate the parts 180° between the 2nd and 3rd coats to obtain more uniform film thickness. Resultant dry film build should be 8 to 12 mils on most parts. Should additional film build be desired, apply a fourth coat.

**Airless Spray Application**

**NOTE:** Optimum spray properties will be obtained by purchasing AC-828-77 Spray Concentrate instead of AC-828-77.

**Equipment –**

1. Cold or hot circulating 25:1 or 30:1 airless spray unit.
2. Tips - Graco 163-721, 163-823 or equivalent for parts larger than 12" x 12".
3. Tip Filter Unit - consists of:
  - 1 only, Graco 205-264 tip filter 100 mesh
  - 1 only, Graco 220-253 tip filter unit

**Pressures and Temperatures:**

1. Air Pressure - 55 to 60 psi, cold airless; 85 psi hot airless.
2. Back Pressure (hot airless) - 1600 psi or when no pressure gauge is present, 1 cycle per 7 seconds with the air pressure set at 80 psi.
3. Temperature (hot airless) - 130°F. to 180°F.

Thinning for hot or cold airless spray:

Thin AC-828-77 with toluene to a viscosity of 13 to 14 seconds in a #5 Zahn cup. This should require approximately 28 gallons of toluene per 55 gallon drum of AC-828-77.

**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 sprayed film. The optimum speed of the spray gun over the part is 3 - 4 feet/second.

1. Apply one fast box coat. Allow to dry tack free.
2. Apply 1 1/2 box coats. Allow to dry tack free.
3. Apply two box coats. Allow to dry. Resultant dry film build should be 6 - 8 mils tack free.
4. Apply 2 box coats. Allow to dry tack free. Resultant dry film build should be 8 - 10 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 percent 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.

**AC Products, Inc.**

172 East La Jolla Street, Placentia, CA 92870

Ph: 714.630.7311 / Fax: 714.666.8309

E-Mail: [acpaersp@quakerchem.com](mailto:acpaersp@quakerchem.com) Web Site: [www.epmar.com](http://www.epmar.com)

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