

# ac products, inc.

172 E. La Jolla Street, Placentia, CA 92870 ! (714) 630-7311 ! FAX (714) 666-8309

## AC-850-M MASKANT

### PRODUCT DESCRIPTION

AC-850-M is an air or forced dry, hand peelable coating that provides protection to metallic surfaces during transportation, fabrication, chemical milling, chemical processing, metal bonding, and storage.

### PRODUCT PERFORMANCE

AC-850-M is a version of AC-850 that was specifically formulated with an all perchloroethylene solvent system for use in a dip tank and will provide excellent flow properties and bubble breaking. The perchloroethylene solvent system lends itself to use with a carbon adsorption recovery system.

AC-850-M was formulated to be applied by dip masking to clean metal parts. Parts may be aged at 375°F. for up to 18 hours. AC-850-M performs well in chemical milling, bonding, and anodizing.

Do not immerse AC-850-M in solvents or vapor degreasers as they will dissolve the coating.

### PRODUCT CHARACTERISTICS - AS SHIPPED

APPEARANCE .....	Tan viscous liquid
SOLIDS CONTENT (% BY WEIGHT) .....	21.6 ± 2.0
SOLIDS CONTENT (% BY VOLUME) .....	25.1 ± 2.0
COVERAGE (SQ. FEET/MIL OF DRY FILM/GAL) .....	404
POUNDS PER GALLON.....	12.85 ± 0.2
FLASH POINT (PENSKY MARTENS).....	None
STORAGE LIFE (AMBIENT TEMPERATURES).....	2 years
SOLVENT SYSTEM .....	Perchloroethylene
V.O.C. (LESS EXEMPT SOLVENTS).....	-0-

### PRODUCT CHARACTERISTICS - CURED FILM (Typical Results)

TENSILE STRENGTH (P.S.I.) .....	800# minimum
ELONGATION .....	200% Minimum
ADHESION - (2024-T3 Clad) Air Dry.....	6 - 12 oz./inch width
After 10 hours @ 375°F. in Air.....	12 - 20 oz./inch width
(2024-T3 Bare Deoxidized) Air Dry .....	14 - 22 oz./inch width

## PRODUCT PRECAUTIONS

**WARNING! CONTAINS PERCHLOROETHYLENE. 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.

## PRODUCT PACKAGING

AC-850-M is furnished in 5 gallon pails, 55 gallon lined F.O.T. steel drums, and by special arrangement in 350 gallon portable bins.

## 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-850-M should be thoroughly mixed prior to use. Avoid introducing air into the coating during mixing. Parts must be clean and dry before coating for optimum performance. Intermittent mixing is necessary in a dip tank to prevent surface skinning of the AC-850-M.

**THINNING** - Use AC-850-M as received. Maintain the viscosity of the dip tank at  $26 \pm 3$  seconds in a #5 EZ Zahn cup. At maskant temperatures of 70°F, maintain the viscosity at approximately 29 seconds to obtain adequate film builds. At 90°F, maintain approximately 23 seconds viscosity.

**SOLVENT REPLACEMENT DUE TO EVAPORATION DURING DIPPING** - Maintain the dip tank at the desired viscosity in a #5 EZ Zahn cup by adding only AC-813 Thinner or perchloroethylene.

**RECOMMENDED DRY FILM THICKNESS** - 6 to 12 mils, depending on the process requirements.

### **METAL PREMASK CLEANING** -

1. Skin quality or polished clad aluminum skins may be successfully processed with no premask cleaning if the parts are clean. Remove mill marks with the appropriate solvent prior to masking.
2. Satisfactory line definition may be achieved on aluminum over solvent wiped, alkaline cleaned and deoxidized, or clear conversion coated surfaces.
3. Titanium, steel, and Inconel may be satisfactorily masked on a scale free, pickled surface.

**CURE CYCLE** – Aluminum: Allow the film to air cure for 8 hours minimum at 75°F. or above. AC-850-M may be baked at 130°F. for 60 minutes after an initial air cure of 1 to 2 hours should faster processing be required. Titanium, steel, and Inconel: After an air cure of 4 hours or more, place in an ambient oven, heat to 250°F., and bake for 60 minutes.

### DIP APPLICATION

1. Apply the 1st coat to clean and dry parts. Allow to dry. If a two coat system is to be used, rotate the parts 180°. Two coats should provide adequate protection on parts over 36 inches in length. Shorter parts will require 3 coats. Rotate between the 2<sup>nd</sup> and 3<sup>rd</sup> coats when using a three coat masking system.
2. Apply the 2nd coat and allow to dry.
3. Reverse the parts 180° between the 2nd and 3rd coats if a third coat is to be applied.
4. Apply the 3rd coat and allow to dry. See cure cycle above for optimum drying conditions.

### HOT OR COLD AIRLESS SPRAY APPLICATION

#### Equipment:

1. Hot or cold circulating 30:1 airless spray unit with teflon packings.
2. Tips - Graco 163-721 or 163-823 or equivalent.
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 - 80 psi (hot airless): 55 - 60 psi (cold airless)
2. Back Pressure (hot airless) - 1600 psi; when a fluid pressure gauge is not present, 1 cycle/5 seconds with the air pressure set at 80 psi.
3. Maskant temperature (hot airless) - 135°F. to 155°F.  
Maskant temperature (cold airless) - 75°F. Minimum

Thinning: Thin with AC-813 Thinner or perchloroethylene to 13 seconds #5 EZ Zahn cup viscosity.

### Hot or Cold Airless Spray 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 a spongy film. The more rapidly the spray gun is moved over the part, the better the quality of the dry film. The optimum speed of the spray gun over the part is 3-4 ft./second. A box coat consists of a series of vertical and horizontal passes over the same surface using a 50% overlap. Vertical passes over the part using a 75% overlap will also create the equivalent of one box coat.

1. Apply 1 box coat. The maskant should just begin to flow together. Excessive application of the maskant will result in runs and sags. Allow to dry tack free.
2. Apply 2 box coats. The maskant should just flow together. Allow to dry tack free.
3. Apply 2 box coats. Allow to dry tack free. Resultant dry film build will be approximately 8 to 10 mils.
4. Apply 2 box coats. Allow to dry tack free. Resultant film build will be approximately 11 to 13 mils.
5. Apply additional coats if thicker films are desired.

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