



# OS-953\* LPI/ Dry Film Solder Mask Remover

## DESCRIPTION

OS953\* LPI/Dry Film Solder Mask Remover is an aqueous, alkaline liquid designed to remove fully cured dry film solder mask and most photoimageable solder masks from printed circuit boards. OS953\* removes solder mask with much shorter exposure time than most competitive products. Solder mask is removed without damaging the circuitry or epoxy laminate.

## OPERATING PARAMETERS

<b>Concentration</b>	100% undiluted
<b>Temperature</b>	160°F to 210°F
<b>Time</b>	20 to 120 minutes

## PHYSICAL PROPERTIES AND OPERATING PROCEDURES

Fill tank with undiluted OS953 \* and heat to 160°F to 210°F. For most applications, 180°F is desirable. Soak parts to be stripped for 30 to 60 minutes or until the mask is softened and swelled into a jellylike mass. Gentle agitation of the parts in the OS953 \* solution will speed the stripping action and will avoid localized hot or cool spots. Remove parts from the tank allowing excess solution to drain back into the tank. **DIP PARTS INTO WATER RINSE AND SOAK FOR ABOUT 5 MINUTES.** Room temperature rinse water may be used, but rinse water warmed to about 100°F is preferred. Gently agitate parts through water. The softened mask will be removed from the parts in the soak rinse. Remove parts from water soak. Spray rinse with fresh water.

Any residual solder mask left after rinsing can be brushed away with a soft bristle brush or can be removed by using a high-pressure water spray. Dry at once to prevent water spotting. The above procedure should be repeated if not all of the solder mask is removed.

**NOTE:** Most solder masks are NOT fully removed during the soak in the OS953\* bath. Rather the mask is merely softened and swollen. Actual removal occurs in the water soak after exposure to OS953\*.

## CONTROL PROCEDURES

Bath Analysis of OS953\*:





- 1) Place a 5 ml sample into a 250 ml Erlenmeyer flask.
- 2) Add approximately 50 ml deionized or distilled water and 2 to 3 drops phenolphthalein indicator solution.
- 3) Titrate with 1N sulfuric or hydrochloric acid until the pink color is discharged.
- 4) Calculation:  $\text{ml 1N acid} \times 4.81 = \% \text{ OS953 }^*$  .

Recommended operating range for OS953 is 90 to 110% by volume. To lower OS953 \* concentration add water to the solution. To raise the OS953 \* concentration, allow water to evaporate from the bath and replace volume lost with additions of fresh OS953 \* .

If any mask remains after the operating procedure, the entire procedure must be repeated. However, a second pass increases the chance of laminate attack. Next time similar mask needs to be removed, increase the dwell time in OS953 \* so that complete removal is achieved on the first pass. OS953 \* is NOT effective on most conventional screen printed thermal or ultraviolet cured solder masks, nor on most solvent processible epoxy based liquid photoimageable solder masks. OS953 \* is far more effective on aqueous processible dry film solder masks than on solvent processible dry film solder masks. Soak cycles 4 to 5 times as long as those for aqueous dry film solder mask are required for removal of solvent processible products. Solvent processible products frequently require brushing with stiff bristle brush to remove the softened film.

OS953 \* has no adverse effect on epoxy laminate when used as instructed. Because polyimide laminate is much more chemically sensitive, prolonged exposure to OS953 \* may cause measling. If maximum safety for polyimide laminate is required, use OS965.

#### **SAFETY AND STORAGE**

Stainless steel and mild steel are acceptable for containing OS953\* solutions. Glass containers may also be used, but there will be slight etching of the glass surface. Heaters of stainless steel, mild steel, titanium, and Teflon are compatible with OS953\*.

OS953\* contains strong alkali which can burn skin and eyes. Protective clothing such as impervious gloves, apron, boots, and chemical safety goggles should be worn when handling this material. In case of accidental contact, flush immediately with fresh water. Remove contaminated clothing and wash before wearing again. For eyes, flush immediately with fresh water for 15 minutes. Seek medical attention at once. OS953\* is harmful if swallowed or inhaled. Avoid breathing vapors or mists.

**\*PATENTED**

