

PCB Equipment



Tin plating crystals

Description

A powder for making an "immerse tin solution" which enables you to plate a smooth, even surface, of tin onto copper circuits at room temperature. A tin plated circuit protects the circuit from oxidisation and greatly improves solderability.

Mixing

Although the solution can be used at room temperature, the powder must be dissolved with hot (50°C) distilled water.

If using the 34-0775 (90g) for 1 litre mix, The 50°C water can be poured directly into the screw top container that can be shaken to dissolve the powder. Once dissolved the liquid can be poured into a clean tray and allowed to cool before using at room temperature.

If the 34-0776 (450g) for 5-litre mix is being used, The 50°C distilled water should be added to a suitable clean container or directly to a heated process tank. After the water is added, the tank should be set to 50°C (**WARNING:** Labstation and Bench Line tinning tanks are pre-set and therefore will continue to rise above and beyond 50°C) and when up to temperature the powder should be slowly poured in whilst stirring constantly. When dissolved the temperature should be set to room temperature (minimum 20°C) or in the case of Labstations or Bench Lines, the heater turned off and the liquid allowed to cool before using.

Usage

Firstly it is important that the copper is perfectly clean and free from oxidisation. After the photoresist has been stripped from the circuit and it has been washed and dried it should be scrubbed clean with a Polifix block (34-0295). Then tap the board and rub with a hard clean cloth to remove any particles left by the Polifix block and immediately immerse in the tin solution.

With fresh solution, after 20 seconds a coating of 0.2 microns will be plated, 0.8-1 .0 microns after 5 minutes and 4-5 microns after 3 hours. When the initial area of copper has been plated the tin will begin to plate tin on tin. It is therefore uneconomical to leave aboard immersed for too long, overnight for instance.

For optimum results the board should be immersed in cold water as soon as it is removed from the tin. This will stop the tinning process; the board should then be washed in hot water (40°C+) and rubbed dry with a clean cloth before air drying with a hair dryer or other hot air blower.

Capacity and Shelf Life

1 litre of fresh solution will plate 30-40 complete copper Eurocards with 1-1.5 microns of tin or 10 Eurocards with 5 microns.

As an average etched circuit has 30% copper a figure of 100-135 and 35 Eurocards respectively is a more accurate figure. The solution will have a shelf life up to six months if used in an etch tank.