COPPER PROTECTIVE COATING

DEVELOPED IN CONJUNCTION WITH ENTHONE

- ENTEK Cleaner
- Cascade Wash
- ENTEK Micro Etch
- Cascade Wash
- Sulphuric Acid Rinse
- Cascade Wash
- ENTEK Plus
- Blow off
- Cascade Wash/DI Rinse
- Dryer

Cemco-Fsl 1 Metre /3.3ft Minute Enthone ENTEK PLUS System

ENTEK PLUS is one of the worlds leading Organic Solderability Preservatives with over 350 major OEM approvals and over 250 PCB fabricator installations world-wide. It is a simple, easy to use, environmentally friendly process, providing the most cost effective alternative to Hot Air Solder Leveling. The coating can withstand over 4 heat excursions and has a shelf life of 12 months, and together with the benefits of flat pads and first pass yield improvements makes ENTEK PLUS the choice for many assemblers.

Stage 1 : ENTEK Cleaner SC-1010DE. Three Stage Cascade Water Wash.
This first stage removes light organic residues from the copper surface to allow even activation of the micro etch.

The module used is a spray type process, operating at temperatures of 43° - 49° C, utilising a series of top and bottom fixed spray bars. The materials of construction are PVC and Titanium which are both chemically resistant. Features of the module include pressure gauges, pump side filtration and top and bottom spray trim valves.

Stage 2 : ENTEK Micro Etch ME-1020. Three Stage Cascade Water Wash.
The micro etch is specifically designed to provide the ideal micro-roughened and active copper surface prior to coating with ENTEK PLUS. This surface will enhance the bond and the uniformity of the ENTEK PLUS coating.

The module used is a spray type process operating at temperatures of 21 - 25°C, utilising a series of top and bottom fixed spray bars. The materials of construction are PVC and Titanium, both chemically resistant. Features of the module include pressure gauges, pump side filtration and top and bottom spray trim valves.

Stage 3 : Sulphuric Acid Rinse. Two Stage Cascade Water Wash.
This stage of the process reactivates the copper surface and reduces any copper oxide formation.

The module used is a small spray type processing unit operating at ambient temperature. The unit is fitted with 2 or 3 spray bars. The materials of construction are PVC and Titanium which are both chemically resistant. Features of the module include, pressure gauges, pump side filtration and top and bottom spray trim valves.

Stage 4 : ENTEK PLUS Cu-106A The organic coating bonds with the copper in this stage and builds to a thickness of between 0.2 and 0.5μ. Concentration, pH and temperature are optimised to produce the required thickness, usually 0.3 to 0.4 μ.

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The module used is a flood immersion process operating at temperatures of 40° - 48°C, utilizing a series of carefully designed immersed top and bottom side through hole flood manifolds. The module allows the requirement for minimal, and controllable, turbulence in the flood chamber. This is assisted by a carefully engineered solution return and re-distribution system with even solution dispersion across the flood bars. This in turn gives an even coating thickness across the board.

FINAL STEPS

AIR KNIFE MODULE : This unit is fitted with 1 top and 1 bottom mid velocity air knife to remove any excess ENTEK PLUS Solution. This is followed by a short inspection section.

TWO STAGE DI CASCADE WATER WASH & FINAL BOARD DRY : The final board drying module has two main process areas. The first section is fitted with 1 top and 1 bottom mid velocity air knives for through hole drying. This is followed by a warm air oven which removes any remaining surface moisture.

- Alan Bradley Touch Screen and PLC Control System
- Chemical sampling points for easy analysis
- Pressure gauges fitted to all process steps to monitor the solution flow
- Variable conveyor speed control for optimum processing
- Heating and cooling carefully balanced and linked to energy saving circuits
- Re-circulating and automatic linked water rinsing systems for minimal water usage
- Low maintenance vertical pumps facilitate removal without the need to drain chemistry
- Optional online SPC (Statistical Process Control) package
- Optional auto loading and unloading equipment

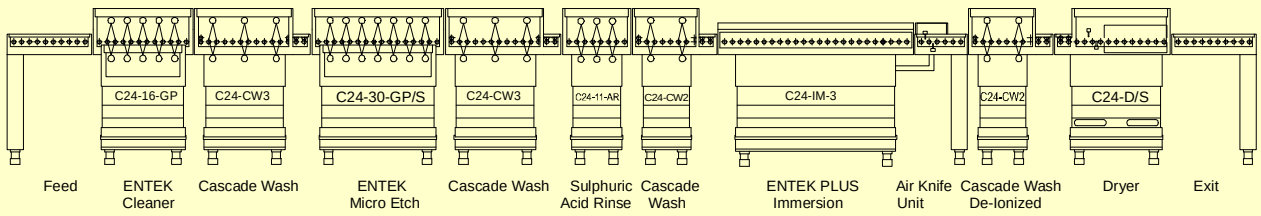
Cemco-FSL and Enthone offer a conveyorised OSP system combining equipment and chemistry facilitating manufacture from start to finish in 8 - 10 minutes. Cemco- FSL systems are perfectly tailored to each process. The modular design and construction of all FSL equipment ensures favourable cost/performance ratio and allows for the system to be extended to suit increased capacity if ever the need arose.

Combining our many years of engineering experience in manufacturing wet process modules with the latest processing techniques ensures that our process systems operate at the highest performance levels delivering optimum yields.

Cemco-FSL offer a full range of modular process systems capable of processing speeds from 0.4 - 6m per minute depending on the system configuration required.

Enthone : Horizontal ENTEK PLUS processing cycle times:

Stage 1	:Cleaner	: 30/45 seconds
Stage 2	:Micro Etch	: 30/60 seconds
Stage 3	:Sulphuric Acid Rinse	: 30/60 seconds
Stage 4	:ENTEK PLUS	: 60/90 seconds



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