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One-Plate EN Bath Solution Streamlines Process

Single-solution make up and replenisher saves on plating costs.

BY JESS LARKIN ASSISTANT EDITOR

Electroless nickel (EN) plating has traditionally required three to four solutions, which sometimes results in imprecise estimations and headaches.

“Shops have to purchase chemicals A, B and C to properly maintain an EN bath,” says Michael Feldstein, president of Surface Technology Inc. “You make up the bath with chemicals A and B, but replenish with A and C. There is a lot of room for operator error.”

Surface Technology’s new One-Plate EN bath make-up and replenishment solution simplifies the EN process by combining three solutions into one, a solution Feldstein calls Q. The company set out to find the exact chemicals that could coexist in a concentration of a one-step solution that would be practical and actually work.

“One-Plate is one chemical, period,” Feldstein says. “The plating shop only needs one solution, One-Plate, and instead of calling it A, B or C, we call it Q. The plating shops make up the baths with Q and water and replenish with Q. That’s it. All the ingredients that are needed are in that one solution.”

With this streamlined EN process, shops no longer have to purchase, ship or inventory three separate solutions. Feldstein says the one solution is designed to keep the baths in balance and reduce the risk of operator error.

The ingredients used to make up EN baths are depleted during plating and need to be replenished. If the plater were to replenish the bath with A and B by mistake, instead of A and C, the solutions may over-stabilize the bath and it would

not function properly. The Q solution is formulated to avoid this possibility for error and the need for technical assistance.

As both a plating shop and a chemical supplier, Feldstein says Surface Technology uses the product for his own customers.

“We’ve stripped the bath to its necessary components,” Feldstein adds. “We set out to make the most convenient, the most fool-proof and the most economical product. We truly understand the benefit of this product because we’ve used it in our own facility before making it available to other platers.”

The One-Plate solution is a bright medium phosphorous alloy that is RoHS and ELV compliant, as well as environmentally friendly. Development of low and high phosphorous and composite EN versions of One-Plate is nearly finished as well to meet the full needs of the industry.

THE DETAILS

Phosphorous content	6–9% by wt.
Hardness	As plated: 600 VHN ₁₀₀ Heat-treated at 400°F for 1 hr. at 850 VHN ₁₀₀
Salt spray	90–100 hrs.
Deposition rate	0.7–0.9 mil/hr.
Bath loading	0.6 ft ² /gallon
Bath temperature	194°F
Bath pH	5.0

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