

MICROFAB[®] EVF NiBAR

Boric Acid Free Electrolytic Nickel

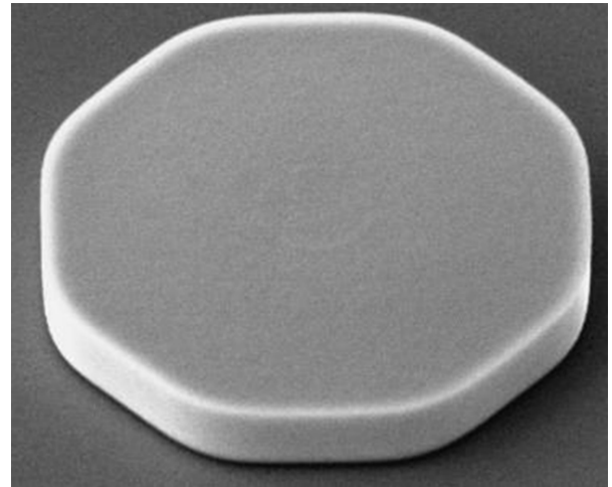
PERFORMANCE MEETS SUSTAINABILITY

In response to proposed regulatory restrictions on boric acid in the EU and at specific customers, MacDermid Alpha introduces MICROFAB EVF NiBAR, a boric acid free sulfamate nickel electroplating process for semiconductor applications.

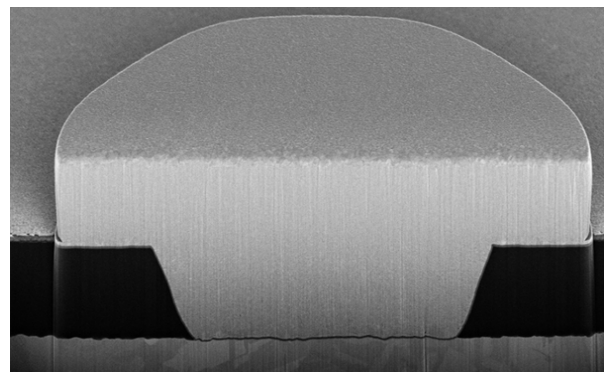
MICROFAB EVF NiBAR addresses EU and regional EHS concerns of boric acid, while providing best-in-class performance attributes. It features a proprietary buffering system that ensures diffusion layer pH stability and a buffering capacity equivalent to boric acid. The new buffering system allows for a wide current density range, and produces a pure, fine-grained, ductile nickel deposit suitable for diffusion barrier and UBM applications.

In addition, MICROFAB EVF NiBAR provides via filling capability, tunable deposit stress, and lower temperature operation versus traditional electrolytic nickel systems. The semi-bright deposit exhibits minimal porosity and excellent barrier properties.

MICROFAB EVF NiBAR is supplied as a ready-to-use makeup, and is compatible with all existing industry toolsets.



Smooth, semi-bright, ductile deposit with good uniformity



Fast, bottom-up via fill capability for next generation features



Superior barrier performance after 10x reflow,
1000 hours at 150°C

KEY FEATURES

- Pure, fine-grained ductile deposit
- Excellent pH stability / buffering capacity
- Superior barrier properties
- Via filling capability
- Tunable deposit stress
- Low temperature capable (40°C)
- Wide current density range
- Ready-to-use makeup



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