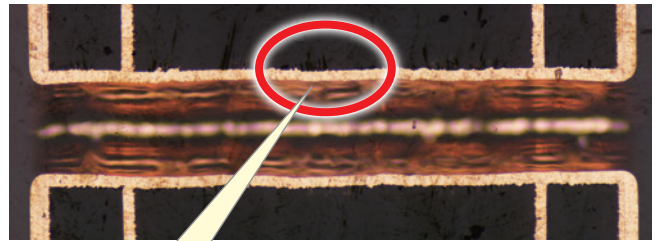
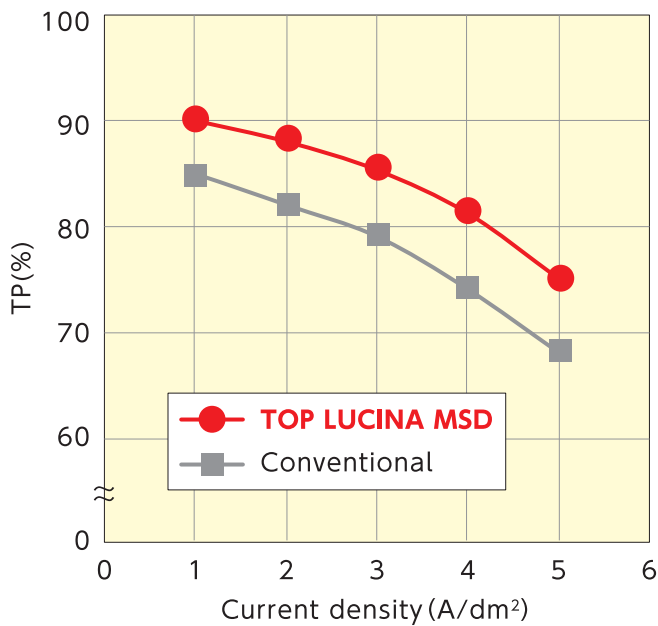


# TOP LUCINA MSD

## Additives for acid copper plating to through holes for high electric current

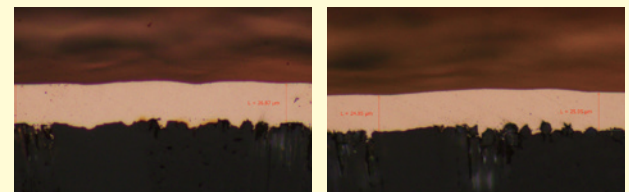
- High throwing power at wide current density
- Maintain stable reliability in continuous operation
- Form good black films, reduce sludge occurrence

### High throwing power



**TOP LUCINA MSD**

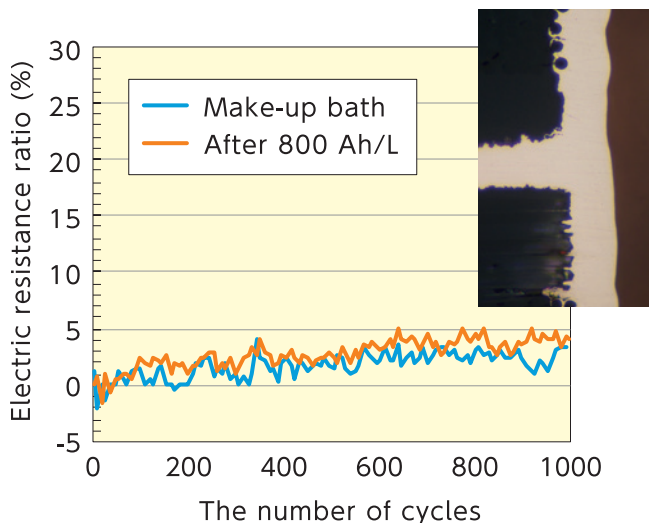
Conventional



CuSO<sub>4</sub>·5H<sub>2</sub>O : 85g/L, H<sub>2</sub>SO<sub>4</sub> : 190g/L, Cl: 50mg/L  
 current density : 3.5A/dm<sup>2</sup> hole diameter : 0.3mm,  
 board thickness : 1.6mm

### Stable, high connection reliability

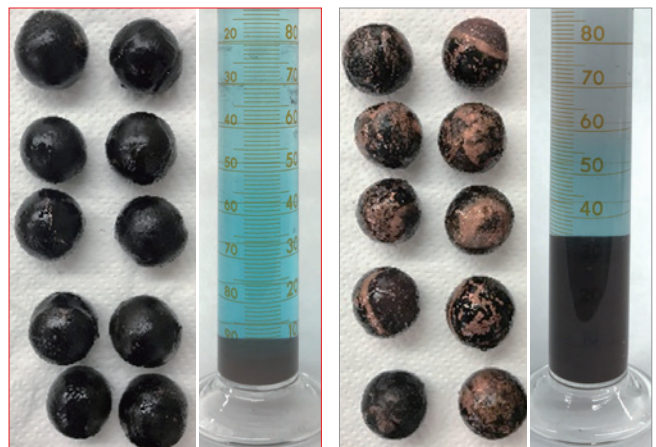
Cross-section after 1000 cycles  
(800 Ah/L)



### Small sludge amount

**TOP LUCINA MSD**

Conventional



After 100Ah/L operation

JIS C5012(9.2 Heat cycle test), 1 cycle -65°C, 30min and 125°C, 30min