

“We Listened and Created Amazing Solutions!”



Uyemura Takes Finishes
for **Automotive Electronics**
and **Power Generation**
to the Next Level!



UYEMURA

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C100

Silver Graphite Dispersion

- ▶ Extends wear cycles to 10,000+ without lubrication
- ▶ Superior resistance to tarnishing, heat, vibration
- ▶ Resists fretting corrosion
- ▶ Extensive OEM qualifications; broad customer acceptance



ARGUNA 630

Hard Silver Gold Replacement

- ▶ For high stress and high wear applications
- ▶ Extends wear cycles to 2000+ without lubrication
- ▶ Resists fretting corrosion
- ▶ High voltage compatible



NIPHOS 964/968



- ▶ Barrel and rack chemistries
- ▶ Significantly lower cost than electroless nickel
- ▶ Layers are diamagnetic, lubricious, abrasion and corrosion resistant
- ▶ Low operating temperatures, low waste burden
- ▶ Long bath life

NIPHOS 6500 RTR



High Speed Nickel Phos

- ▶ Cost-saving mid-layer for hard gold plating
- ▶ Highest corrosion protection, wear resistance and diamagnetic properties
- ▶ New RTR version provides 2X the plating speed
- ▶ Rack and barrel process also available

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Topseal 693

Anti-tarnish for Silver

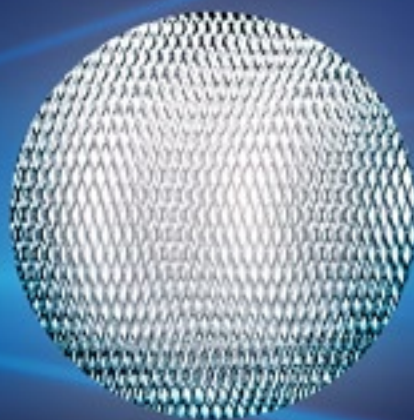
- ▶ Inorganic formula withstands high heat and voltages without compromise of contact resistance or resistivity
- ▶ Rack or barrel application



PLATUNA N1

Electrolytic Platinum

- ▶ Crack-free coatings $> 1 \mu\text{m}$
- ▶ Low platinum bath concentration (2gm/liter)
- ▶ Property enhancements with other alloys
- ▶ Direct plating on titanium



DIALLOY 824

RTR



Cyanide-free Tin-Zinc

- ▶ Electrolytic alternative to cadmium
- ▶ Ecofriendly corrosion protection; can be enhanced by post-treatment passivation sealing
- ▶ Exceptional 500-hour salt spray
- ▶ Proven matte white alloy for aero, auto, HF, electrical applications
- ▶ Also available for rack and barrel processing

MIRALLOY



Best Silver Alternative

- ▶ Tri-metal is tarnish and whisker free
- ▶ Ideal diffusion barrier layer
- ▶ Best option for HF connectors
- ▶ Nickel-free REACH and RoHS - compliant barrier for gold
- ▶ Gold Miralloy deposits up to $15\mu\text{m}$ with exceptional uniformity

Uyemura's new Development Line

offers advanced capabilities for rapid, high-level testing and plating recipe development.



Testing is performed for Umicore and Uyemura products: gold, silver, rhodium, platinum, palladium – as well as customizations of these chemistries.

AURUNA 8100 Gold Cobalt Electrolyte and Inhibitor 2

- ▶ High speed hard gold process generates 8-15% savings in RTR spot plating
- ▶ Deposits are ultra-bright, solderable, corrosion-resistant
- ▶ Wide operating range

AURUNA 311 Gold Cobalt

- ▶ New technology for direct plating on stainless steel and nickel
- ▶ Ideal for chromium-nickel steels, molybdenum steels and nickel-based alloys that are difficult to activate
- ▶ Ductile, low porosity deposits are exceptionally corrosion-resistant
- ▶ Maximum process flexibility: RTR or rack and barrel; cobalt-free version available



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