surface performance

www.uyemura.com

CL Satin Nickel Gains Fans by Slashing Filtration Time by 1/3

CL Satin Nickel Plating from Uyemura needs just 8 hours, rather than the standard 12 hours, for filtration—a huge time-saver. Plus, with just one simple resin filtration, it produces highly consistent results in 4 distinct color variations.

The CL Satin Nickel process produces fine-crystalline nickel deposits on a wide range of base metals (including polished metals) as well as molded plastics. It will also plate over a bright nickel layer of a duplex nickel system to give the substrate maximum anti-corrosion performance.

Distinctive color effects can be achieved by overplating with chrome, antique nickel, black nickel, black chrome gold, or a tin-cobalt alloy topcoat.

CL Satin Nickel plating has gained wide acceptance in the automotive and plumbing industries. Uyemura introduced this important satin plating technology to the North American market. Today, we are a leading supplier of satin nickel processes.

Uyemura Technical Specialists Highlight Sur-Fin Roster

Two Uyemura technical specialists will speak at Sur-Fin on June 13, highlighting the conference's focus on Advanced Surface Finishing Technologies.

Richard DePoto, Uyemura Territory Manager and a specialist in precious metal plating, will deliver a talk titled *"Miralloy 'White Bronze' Tri-metal—Expanding Applications and New Developments in a Changing Landscape."*

The paper will discuss the renewed interest in "white bronze," which is being driven by 4 main factors. 1) the rising cost of precious metals (particularly silver) and the need for long-term cost control; 2) the increasing performance requirements of high frequency devices, which demand higher corrosion resistance, higher hardness and non-magnetic properties; 3) recent developments related to improved process control and simplified analytical measurement, and 4) new formulations, including a high-speed version that reduces process times and operating costs.

The major "news" is data showing enhanced performance in high frequency electronics applications. **Continued on back page.**

Pictured: Richard DePoto (top) and George Milad.

The Thunder You Hear...

By Don Walsh,
Director of Operations

Manufacturers have been pressed into service as the uncompensated enforcement arm of government agencies.

Several well-intentioned, but ill-conceived laws are poised to impact US manufacturing. Here are the three I find most concerning.

1) Conflict Minerals—Language on conflict minerals was included in the Dodd-Frank bill which regulates the financial industries. This add-on will cost publicly-held companies throughout the U.S. hundreds of thousands each, as they attempt to prove that none of the gold, tin, tungsten or tantalum they use is coming from a particular distressed area of the Congo.

Those of us who sell gold have long been required by DEA to assure that the metal is not used for laundering drug money. What makes that requirement work, is that it is actually do-able. All plating manufacturers, Uyemura included, have established policies and procedures to assist in this effort. This conflict law is different.

Since Uyemura is a world leader in immersion gold chemistry, gold is our primary concern, and as written, the Dodd-Frank add-on is virtually impossible to obey. The reason is that none of the ore we use comes directly to the U.S. to be refined, since we are not in the primary smelting business. (Note: there is one US mining company that only handles its own ore). Most gold in the US is sourced from recyclers who provide highly refined gold from scrap (jewelry, electronics, teeth, etc.).

For years, "conflict gold" was primarily marketed by Arab brokers to companies in South East Asia. How much of that now finds itself in recycled scraps in the US market? No one knows, and more importantly, no one can know. There is no "gold DNA" and no ability to determine the geographic origin of this material. No matter, though: the law demands that publicly-held companies hire teams of experts to audit this unknowable at great expense.

Possible good news: The leaders of the House Committee on Financial Services have offered these observations and recommendations:

- *The State Department's map of Conflict Zone Mines is incomplete, mine sites are inaccessible, the Congolese Ministry of Mines cannot obtain verifiable information, and the information in the map is insufficient for companies to use for due diligence.*
- *A new temporary category—"indeterminate origin" is requested that would exempt companies from filing SEC reports when it is not possible to determine origin.*
- *The "indeterminate origin" classification is requested to become permanent for scrap materials.*
- *There was a call to establish a de minimis standard for conflict minerals, so that potential actions involving minimal quantities do not become an issue – or a headline.*

The latest news is that Congress will support an exemption for recycled metals. This would be a substantial improvement over the current wording.

Continued on back page.

WHAT'S NEW FROM GT?

New Mixed Metal Oxide and Platinized Titanium Anodes

New "MMO" and Pt insoluble anodes from Umicore GT provide better distribution on plated parts than Cu or Ag balls or anodes.

MMO anodes have an electrocatalyst of precious/nonprecious metal oxide in "sandwiched" layers.

Platinized Titanium Anodes are manufactured using the world's most advanced anode manufacturing process. The single-layer platinum electrocatalyst is plated in a molten bath for a service life for physicochemical, rather than mechanical, adhesion, and a service life substantially longer than clad anodes (which are prone to cracking) or traditional plated anodes (which are often plagued by microporosity.)

Umicore Antitarnish 616

Umicore Antitarnish 616 from Uyemura is a nearly invisible protective coating that provides the durability, and scratch and wear resistance of a chromate finish.

Antitarnish 616 is based on advanced nano-biotechnology. It is a non-metallic, water-based finish, applied via immersion. Application will not compromise the material's soldering characteristics, and the precious metal remains recyclable.

Rhoduna Alloy

Rhoduna Alloy is the world's first galvanic rhodium alloy, formulated from rhodium and ruthenium. It provides whiteness and performance characteristics equal to the highest-quality rhodium coatings, with even greater smoothness and durability.

Rhoduna has excellent thickness distribution, and is well-suited for parts with complex geometries. It can be deposited directly on nickel, palladium, silver and gold.

Most important: Rhoduna from Uyemura is lower in cost than any rhodium coating.

Determine how much you can save with the new Rhoduna Alloy. Visit the web site, **www.uyemura.com/calculator.html**, or use your smart phone to scan this QR code. Then, based on your rhodium consumption, find out how much you can save by switching to Rhoduna, from Uyemura.

Miralloy

Miralloy is not "new"—(it has a track record of more than 30 years!) But "new" applications are discovered for it virtually every week. The reason: it is a formidable and cost-effective replacement for silver, palladium and nickel.

- Miralloy is the ultimate cost-saving alternative to silver for decorative and functional applications, thanks to its elegant mirror-like finish and tarnish-free performance.
- Miralloy is the #1 "go to" alternative for palladium—thanks to its far lower cost.
- Miralloy is non-magnetic and non-allergenic, so it is used worldwide as a replacement for nickel in apparel zippers, buttons and clasps.

For details, or to arrange test processing, contact your Uyemura representative.

The Thunder You Hear (continued from page 2)

2) ITAR – a Department of Commerce proposal would change rules regarding the secrecy laws that protect some military products. Until now, circuit boards for ITAR-protected projects could only be made in the US. This was a legitimate national security requirement, as those boards are the brains behind our latest innovations in munitions, aeronautics, naval and radar systems.

Opponents of this proposed change point out that if the circuit design is made available to outside companies, new systems could be designed just from the board. If this occurs, our national security would clearly be threatened in ways both obvious and unforeseen. This ill-conceived idea would also further weaken an already struggling North American printed circuit industry. Credible estimates are that it would force the closure of another third of the remaining shops.

3) DEA – another new law forces manufactures of electroless nickel products to become non-paid policemen against the illegal manufacturing of methamphetamines. Never mind that no one has ever heard of any plating lab trying to use plating chemicals for such production: the task of generating more onerous costly paperwork for legitimate industry thunders on.

Uyemura Technical Specialists Highlight Sur-Fin Roster

(continued from front cover)

George Milad, Uyemura National Accounts Manager for Technology, will speak on *"ENEPIG Ni/Pd/Gold: a Universal Surface Finish for Electronic Applications."*

This important paper begins with the premise that RoHS requirements have made it necessary once again to revisit all surface finish options, and that most finishes transitioned reasonably well into RoHS-compliant assembly. The paper explores how ENEPIG has come under new scrutiny, as industry evaluates its capabilities using lead-free assembly conditions.

George Gallager is New "Tech Rep"

Uyemura has appointed **George Gallager** to the position of Applications Specialist. Gallager will work with Uyemura customers and partners both in the US and internationally, in both the Printed Circuit and General Metal Finishing business units.

Gallager brings to Uyemura 34 years of experience in finishing technology. He has extensive experience in Europe and Asia, and was based in Singapore for 5 years.

"George has extensive knowledge of Uyemura's product line, and understands the demands and unique challenges of this industry," said Don Walsh. "His knowledge and experience will be a great asset to Uyemura customers."

Gallager is based at Uyemura's Connecticut Tech Center.

UYEMURA INTERNATIONAL CORPORATION

Corp HQ: 3990 Concours, #425 • Ontario, CA 91764 • ph: 909.466.5635

Tech Center: 240 Town Line Road • Southington, CT 06489 • ph: 860.793.4011

www.uyemura.com