The Future of Brake Caliper Finishing

There isn’t just one surface finish option for brake calipers. Calipers are now often anodized aluminum, powder coated, zinc plated or zinc alloy plated. Each finish is used for a variety of functional (corrosion resistance) or aesthetic reasons.

Anodizing of aluminum will continue to grow steadily as automakers use aluminum where possible to reduce weight. However, limitations of strength to mass will limit growth below that of other finishes.

Powder coating has evolved into a high-end fashion finish. There is increasing use of this finish over zinc nickel to provide high corrosion resistance while adding a highly visible color accent to the vehicle design. But increased processing and masking or machining requirements make this a costly niche finish with slower growth prospects.

Zinc plating is stable and growing along with overall automobile production levels. While capacity investment in this finish is limited, it appears to have a long future and a majority of over-all caliper finishing business. Reasonable corrosion resistance, industry capacity and lower cost result in zinc continuing to be the global standard.

Zinc alloys show by far the most activity and highest growth compared to other finishes. Despite the decline of zinc cobalt, there is still some demand for this economical black finish with moderate corrosion resistance. Zinc nickel has enjoyed significant global growth and promises a bright future of investment and interest for future programs. This growth is driven by the development of advanced acid zinc nickel chemistries which are compressively stressed and have good alloy and thickness distribution. The advancement in plating technology has allowed brake manufacturers to offer highly corrosion resistant, bright, aesthetically pleasing finishes to OEMs. And, as there is no end in sight for caliper-exposing open wheel designs, I expect this trend to continue.

Published with Permission From:
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Director, Industry Management
Enthone Americas
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Refer to the Original Article published HERE

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NASDAQ SUR/FIN 2014

Companies who face difficult surface finishing challenges attend the NASF’s SUR/FIN Manufacturing & Technology Tradeshow & Conference. From plant operators, legislative and environmental experts, industry executives and educators, SUR/FIN has become the industry’s preeminent finishing conference for those who want to become empowered in revitalizing the industry...and their companies.

SUR/FIN 2014 is well known for the quality of its in-depth sessions, exclusive networking events, and tradeshow exhibition featuring the best in technology, equipment, and services from surface finishers worldwide.

The National Association for Surface Finishing (NASF) announced exhibit space for its 96th annual SUR/FIN Manufacturing & Technology Tradeshow and Conference has officially sold out. Representing over 160 companies, SUR/FIN is the only conference and tradeshow sponsored by the NASF, the industry-leading...
Global Demand

The global demand for paints and coatings is growing, according to a recently published study by the market research firm Transparency Market Research. The expected growth of 5.4% per year between 2013 and 2019 is mainly achieved through the development in Asia-Pacific. However, stringent environmental regulations for paints and coatings industry, especially in Europe are expected to restrain the growth of the market in the upcoming years. So it is no wonder that this week’s news on expansion plans take place outside of Europe. The Altana Group invests more than EUR 30 million to strengthen and grow its operations in China. Arkema announced the opening of a new laboratory in Brazil and measuring and testing equipment company Analytik Jena seeks to expand its business in the Middle East.

Reprinted from: European Coatings Newsletter

ECOAT14—It’s a Wrap

ECOAT14 was held April 22-24 at the Rosen Centre Hotel in Orlando. With a robust attendance, beautiful weather and a top-notch program, it was primed for success. The Keynote presenters addressed very relevant topics for our industry and were followed by other good sessions and lots of fun in other associated events.

ECOAT14 kicked off with a luau-style Networking reception outside by the hotel pool, taking advantage of a beautiful, welcoming Florida evening. Attendees enjoyed snacks and drinks to the beat of steel drum band Calypso while socializing with colleagues and potential customers.

Maureen Midgley, Henkel Corporation, launched the event Wednesday morning with her dynamic keynote address, “The Chemical Industry’s Response to Trends and Innovations in the Transportation Industry.” This session was followed by an industry favorite, Matt Kirchner, American Finishing Resources. Kirchner discussed how to differentiate yourself from the crowd in his entertaining and provocative presentation, “Marketing for Ecoaters.” To round out the morning session, a panel discussion led by coatings experts fielded many audience questions in the "Advancements in Coatings" session.

Thursday opened with a thought-provoking keynote address by Joy Forsmark, Ford Motor Company. Ms. Forsmark surveyed several recent USAMP programs that have addressed corrosion challenges, with particular focus on a Magnesium – Intensive Front End Development Project. Following that was Axel Linnewerth, PPG Industrial Coatings, sharing his knowledge and expertise on REACH legislation. The morning concluded with an
Echo Engineering and Production Supplies, Inc. is pleased to announce they will begin circulating their product lines throughout Mexico. Echo will be providing both standard and custom masking, hanging, and OEM components and assemblies as well as protection products.

Echo is a growing company with experience servicing the automotive, lighting, agricultural, heavy machinery, electronics, and material handling industries amongst others. Echo is currently working with Mexican distributors in order to expand on their North American market.

CEO and Chairman Kingdom Offenbacker is enthusiastic for Echo to continue to grow throughout the Latin American market. "Our growth is a direct result of both the external and internal forces working together to create The Echo Way: the relationship we build with our customers allowing us to not only understand their business, but also provide them with the best products, recommendations, and solutions. Mexico has a world class market, and we're ready to deliver world class results." Jessica Heffernan, Vice President of Marketing, wants to make sure the Mexican market knows Echo is there to better serve them.

“IT’s important for us to provide consumers in Mexico a choice. We want to provide Mexico with the same ‘Peace of Mind’ that we provide our customers today. I’m proud to say our proven customer service has awarded us a 97% customer retention rate. Our team is passionate about partnering with Mexico and providing real value, not just a part.”

Through Echo’s service, businesses have found an increase in line output, reduced labor costs, enhanced efficiency, and a number of other bottom line tangibles that provide real value. Echo is excited to be able to collaborate with companies in Mexico and offer them A CHOICE when choosing a vendor.

**Echo’s product lines include:**

**Masking Solutions:** Echo has built a reputation for developing reliable durable masking solutions that are: easy to install and remove, are color coded for easy identification, and are designed for reusability. They provide both standard and custom high-temperature masking consisting of caps, plugs, pressure sensitive tapes and die cuts.

**Hanging Solutions:** Echo offers hundreds of standard hooks and specializes in custom hook and rack design. Echo’s hooks and racks increase productivity, reduce racking labor, and provide better angles for coating.

**Rubber and Plastic Components:** Over the years, Echo has designed, engineered, and manufactured thousands of value-added rubber and plastic components. Some of these include: gaskets, seals, bushings, grommets, lenses, connectors, and pads just to name a few.

**Product Protection Solutions:** Echo provides high quality standard and custom protection products designed to protect parts from damage, debris, and moisture retention. They have developed hundreds of standard plugs, threaded plugs, caps, and netting for use in a wide array of applications.

Echo’s North American headquarters is located in Indianapolis, Indiana and they are recognized around the globe for their fast, innovative, and cost effective solutions. Echo looks forward to establishing partnerships throughout Mexico and becoming your number one choice for business.

**California Chrome Wins Kentucky Derby**

California Chrome, the speedy colt who established himself as the 5-2 morning-line favorite after winning four straight races by a combined 241/4 lengths, won the 140th running of the Kentucky Derby on Saturday under blue skies and 70-degree weather at Churchill Downs.

*Courtesy of: Echo Engineering and Production Supplies, Inc.*

5406 W. 78th Street
Indianapolis, IN 46268
echosupply.com
assistance representing the business, technical, scientific, and educational interests of the global surface technology community. The annual tradeshow will take place June 9-11, 2014 at the Cleveland Convention Center in Cleveland, Ohio. More than 1,200 leaders from various industries such as aerospace, automotive, and medical device manufacturing will be in attendance viewing the exhibits and hearing the latest news from honored lecturers on plant operations, environmental updates and late-breaking regulatory developments.

Ford's Drobnich Announced as Keynote Speaker
Wednesday, June 11, 11:15AM - 12:15PM As a successful leader in the finishing industry, Duane Drobnich leads a team of highly experienced engineers in the development and implementation of new finishing technology for one of the world’s most recognized and respected brands, Ford Motor Company. Mr. Drobnich is also responsible for global design and commonality strategies as well as Ford Worldwide Fastener Standards. Mr. Drobnich has over 30 years of experience in fastener and finish design, development and testing and has been instrumental in forming Ford’s global business plans.

Online registration to attend SUR/FIN 2014 remains open through June 4, 2014. Full event registration includes complete access to the tradeshow floor each day, access to over 70 conference and keynote sessions, as well as complimentary show floor luncheons and networking receptions.

Reprinted from:
NASF SUR/FIN
http://www.nasfsurfin.com/
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American Plating Power presents a robust offering of value-added services that provide benefits many standard providers cannot. We supply custom power solutions for both new facilities and existing operations with technologies already in place. Clearly designed to give your company a competitive edge!

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ECOAT14—It’s a Wrap

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Technology. His experience and wise counsel have always been valued among his colleagues and even as a consultant continues to contribute to PPG’s product development projects. This year’s George E. F. Brewer Award recipient in the area of Paint and Process technology is Henry Austin, PPG Industrial Coatings. Our next recipient was the visionary and entrepreneurial force behind the MetoKote Corporation’s rapid growth. During the mid-80’s when electrocoat was becoming a preferred technology for protecting automotive parts from corrosion, he led the company’s growth and globalization, preferentially designing, building, installing and operating new electrocoat lines. This year’s winner of the George E. F. Brewer Award in the area of Application of the technology is Jim Blankemeyer, MetoKote Corporation.

Our final recipient of the 2014 Brewer Award is the Global Business Development Manager at Henkel Adhesive Technologies' Surface Treatment Group. He has been at Henkel for 33 years, holding various positions in R&D, Technical Service, Marketing and Business Development. In his current position, he is responsible for introducing new technology to the global marketplace, with the focus being on the “Next Generation” of conversion coatings. Terry has been an active member of The Electrocoat Association for 15 years, serving on the Board of Directors and the Conference Steering Committee and is the Committee Chairman for ECOAT14. He developed technology.

High Technology in Low Places

Technology is good. Of course it is. And in today’s highly technical, fast paced, envelope pushing metal finishing shop technology is you ally, your savior and your future.

New processes that are faster, produce higher quality coatings, machines that can measure thickness and alloy and check for the presence of hex chrome or cadmium, inert anodes of space age metals... The new technology that is out there is futuristic compared to where the industry was just 20 years ago. Expensive? Risky? Usable? Some of the new technology brings with it risks to get the reward but there’s no arguing you need it and there’s a supplier who has it.

Maybe though, you have some technology already ion your shop that you could be utilizing right now and possibly for free. I just lost all the suppliers who were reading this... Sorry guys. But it’s true. What technology do you already have that is under utilized, seldom thought of or not being used at all? Here are some thoughts I had regarding the technology that we could start using as soon as you put this exciting technology issue down.

Your phone. I actually scratch my head when I see a customer pull a cell phone out of his or her pocket. I mean a cell phone not a smartphone. There are some out there that are still “flipping” open a phone and making a call. Have you ever considered that you can be checking your email? I got my 1st smart phone because I would be on the plating shop floor and would miss 37 emails while I was out in production for 3 hours. You know you have that customer that if you don’t email them back in under 3 minutes they email the world that you don’t respond or worse, send the order to the other guy because you didn’t answer. We all know “that guy”.

Plus, you can do so much in seconds from wherever you are with a smart phone. You can have internet access in the palm of your hand. Searching background on a customer, process, equipment need, metal cost, a phone number etc... You’re faster, more efficient and more immediate when you have this tool on your hip.

Now the majority of folks have a smart phone of some type but I’m always a little taken aback by someone with a “phone”. But are you using as many of the features as you can? How about the camera? Taking, texting, emailing pictures right from the line to a customer, supplier or heck why not a family member as something happens. Email a quick picture to a customer of that massive dent in the part you saw as you unwrapped it the second you see it. Evidence that proves it had to be their fault not yours at that point right? What about a quick video chat in a pinch? How about downloading the precious metals current pricing app for quick reference? I could go on and on if I thought about it but, no doubt, you have a powerful computer in your hand and the technology it offers is...
Industry Events

June 5th – 6th
Mexico’s Aerospace Industry Conference and B2B
Las Vegas, Nevada Bellagio
www.mexicoaerospaceconference.com

June 9th – 14th
SUR/FIN Manufacturing & Technology Tradeshow & Conference
Cleveland, Ohio
www.nasfsurfin.com

June 10th – 11th
Powder Coating 101 Basic Essentials + Lab
Jackson, Michigan
www.powdercoating.org/events/details/71

June 17th – 18th
The Powder Coating Summit
Columbus, Ohio
www.powdercoating.org/30/Events/Powder-Coating-Summit

June 25th
WEBINAR: Pretreatment for Architectural Market
Attend from Anywhere
www.powdercoating.org/events/details/74

August 21st
WEBINAR: Oven Design, Troubleshooting and Preventive Maintenance
Attend from Anywhere
www.powdercoating.org/events/details/75

September 16th – 18th
2014 Powder Coating Show
Indianapolis, Indiana
www.powdercoatingshow.com

September 16th – 17th
Electroplating Know-How Basics
Elk Grove Village, IL
www.platingschool.com

October 7th – 8th
Powder Coating 202 – Optimizing your Powder Operation
Amherst, Ohio
www.powdercoating.org/events/details/78

October 14th – 15th
Electroplating Know-How Basics
Elk Grove Village, IL
www.platingschool.com

October 27th – 29th
Forum for the Aerospace Industry
Guadalajara, Mexico
www.bciaerospace.com/mexico/en/

November 4th - 5th
Powder Coating 101 – Basic Essentials with Lab
Jacksonville, Florida
www.powdercoating.org/events/details/81

November 11th – 12th
Electroplating Know-How Basics
Elk Grove Village, IL
www.platingschool.com

November 13th
WEBINAR: Quality Assurance Testing
Attend from Anywhere
www.powdercoating.org/events/details/77

December 9th – 10th
Powder Coating 202 – Optimizing your Powder Operation
Indianapolis, Indiana
www.powdercoating.org/events/details/80

November 10th—12th
Anodizing for Aerospace UNAQ
Queretaro, QRO
www.surfacefinishingacademy.com

High Technology in Low Places

...continued from page 6.

amazing... If you use it.

How about your web site? I’m sure it’s a great resource for your competition to see what you do and learn more about how to take your customers away. Oh and your customers can get directions and contacts.

But it can do a lot for you if you ask it to.

I worked at a shop that added password protected access for customers. They could log in to our software and they could see where their parts where in the shop and what our expected completion date was. We allowed key customers this access and immediately half my phone calls went away. Most of the time customers just wanted to know when the parts would be ready. Once they learned to trust our web site (and we worked hard to make that happen) they didn’t need to call 17 times a day to be sure. We bar coded at each step to so they would see that the parts had been received, racked, plated, packed and were in final inspection. Due tomorrow and obviously right on track, no need to bother Marko we’re good! Thank you!

I’ve seen systems that allowed customers to down load their PO’s right into the finisher’s systems. Jobs that were already in the computer and set up could be downloaded right into the system. Advantage? They’re doing your order entry. The paperwork / job traveler / router is printed before the parts even arrive. And they’re doing it for free!

And what about your computer system? You can set it up so the system adds pictures of the parts, racking or masking automatically rather than wait for somebody to remember we took pictures last time. And you can make it do it for free!

See Marko Before Processing” (ouch...

Click here to continue on page 8...
High Technology in Low Places

...continued from page 7...
I remember those days). Rather than find out that the parts you swore you’d do right next time just went through the shop when the customer calls with more bad news you can set yourself up to succeed and not rely on someone’s memory to NOT make that mistake again, again.

Lastly, what about the technology you pay for that happens to be at another location. The support equipment and tools your favorite supplier already owns and bought with the proceeds of the sales he got from you? Do you send materials out for testing? Do you get SEM work and those really helpful pictures that makes those raw material defects look like the surface of the moon? Nope, those aren't plating pits they belong to your customer so you can ignore that debit memo and DMR.

Hardness testing, special bake cycles, testing of adhesion, thickness and multiple layer cross sections. I can't speak for all suppliers but the biggest and the best will make you look like a NASA think tank with the equipment they have in their labs that you have at your disposal. Yes your key suppliers bring you lots of info and assistance, make sure when your back is up against it they bring you the technology that will support your needs and your customers needs.

Yes technology is everywhere and for those of you who are doing all of these things and probably so much more I apologize for taking your time. But there are still some out there that are underutilizing their most basic tools that are paid for and in house already. All you need to do is learn how to do it better.

It isn't easy in this business, you need every tool in the tool box to make it through the day. And it may help you at home too.

Courtesy of:
Marko Duffy President
Marathon Manufacturing Services
125 Glenn St Lawrence, MA 01843
508.904.8899
markod@marathon-sales.com

Job Opportunities

Plating Foreman Needed
Mid-sized industrial job shop, located in the south, looking for a plating foreman. Responsibilities will include:
Supervise day to day plating processes, coordinating with production control and laboratory to achieve maximum high quality production output.
- Inspection and testing of plating to meet customer expectations and finish specifications such as: thickness testing, adhesion, visual appearance, etc.
- Knowledge of equipment and processes we are running, so as to be able to advise on necessary maintenance, chemical analysis, or other inherent issues.
- Assist in plant safety and OSHA mandates.

We offer Blue Cross/Blue Shield Health Insurance (the company will pay half the costs) and there is a free life insurance package associated with it. We offer one week paid vacation for the first five years and two weeks paid vacation there after.

We do not mind training this individual on plating baths or equipment we have, but he or she must have a solid background in electroplating. This business has been in business for fifty years and has a stable workforce with many repeat customers.

Salary will depend on work experience, knowledge of plating, and desire to work.

Please respond by e-mail or letter to info@stratfordmetal.com or Stratford Metal Finishing 1681 S. MLK Jr. Dr. Winston-Salem, NC 27107

PLATING PRODUCTION LEAD AND A GENERAL MAINTENANCE PERSON
Growing Detroit area Nadcap shop needs experienced Plater Lead for second shift. Individual must have experience with manual rack plating ops including; rack selection, prep, masking etc. for cadmium, copper, nickel, e-nickel, silver processes and chem processing, as well as production scheduling and employee training. We are looking for a quality oriented person with strong leadership skills to help build a strong team environment.

-Also looking for General Maintenance support person. Must have plumbing, electrical and mechanical trouble-shooting skills. The ability to build process racking, fixtures and repair

Our goal is to find someone that understands the value of PM and the urgency to tackle production impact issues aggressively.

Day or afternoon shift option for maintenance position.

Competitive wages and benefits. Potential for personal growth for the right individuals.

Please email work experience/resume/references to:
pclark@ppiaerospace.com
kimb@ppiaerospace.com

Hard Chrome Plating Production Manager
Nationwide company with 5 plants seeks a professional, self-motivated, HANDS-ON, and technically-experienced Production Manager for one of our facilities. Must have experience with Hard Chrome Plating, customer interfacing, employee management, employee training &

Click here to continue on page 9...
Google buys drone manufacturer Titan Aerospace

Acquisition comes as Google and Facebook race to provide internet access with aircraft

Google has seen off interest from Facebook to buy a company that manufactures high-altitude drones, part of the technology giant's efforts to bring internet access to far-flung corners of the world.

The acquisition of New Mexico's Titan Aerospace for an undisclosed fee was announced on Monday night, just weeks after Facebook was reported to be interested in the company.

Titan Aerospace, which has around 20 employees, develops solar-powered unmanned aircraft that can fly non-stop for years hundreds of metres above the ground, beaming wireless signals to the ground.

"Titan Aerospace and Google share a profound optimism about the potential for technology to improve the world," a Google spokesman said.

"It's still early days, but atmospheric satellites could help bring internet access to millions of people, and help solve other problems, including disaster relief and environmental damage like deforestation. It's why we're so excited to welcome Titan Aerospace to the Google family."

Both Facebook and Google are racing to develop ways of connecting up the billions of potential users in developing economies. Last year, Google launched "Project Loon", a scheme to build balloons that send signals to the ground, while Facebook recently bought the UK-based aerospace company Ascenta.

Using high-altitude aircraft is seen as cheaper and quicker than installing wired telecoms networks in countries with little infrastructure and sparse populations. Titan Aerospace’s drones can also take pictures of the earth's surface, potentially making Google's mapping software more accurate.

"At Titan Aerospace, we're passionate believers in the potential for technology (and in particular, atmospheric satellites) to improve people’s lives," a statement on Titan Aerospace's website said.

"It's still early days for the technology we're developing, and there are a lot of ways that we think we could help people, whether it's providing internet connections in remote areas or helping monitor environmental damage like oil spills and deforestation. That's why we couldn't be more excited to learn from and work with our new colleagues as we continue our research, testing and design work as part of the Google family."

Republished from: The Telegraph
James Titcomb
The Hull Cell is a miniature plating unit designed to produce cathode deposits on a panel that correlates the characteristics of the plating unit being evaluated. Interpretation of the “as plated” cathode panel give rapid information about brightness levels, irregular plate deposits, uniformity of deposits, coverage, throwing power, impurities, and plating bath chemistry. Within the parameters of recommended operating characteristics of a particular plating solution the Hull Cell will duplicate what is actually occurring in the plating unit proper. Correlation of the “as plated” panel and hull cell scale allows rapid nondestructive testing of plating solutions for research, preventative maintenance, troubleshooting, and quality control.

Steps to performing a hull cell test:

1. A representative sample from the plating unit to be evaluated is withdrawn and should be a composite sampling from various areas in the plating tank and from various depths within these areas.

2. The representative sample should be analyzed chemically for those critical components recommended by the supplier of the plating bath. Correlation of Hull Cell panels without the information on the bath chemistry can be very misleading.

3. Particular attention should be given to the physical conditions of the plating unit at the time of sampling and these operation conditions should be duplicated during Hull Cell testing. If this is not done, interpretation will be meaningless. Example: temperature, cathode agitation, air agitation.

4. A bench or portable miniature plating cell is employed using the following components: Rectifier with capable controls for amperage from 1-10 volts; Hull Cell anode the same as the plating unit; color coded cables capable of carrying the current required with an alligator clamp soldered to the cell end; cathode panels of the appropriate substrate; Hull Cell with scribed solution level line 276 ml, 24 ml, or 1000 ml in size; other accessories to simulate the plating unit conditions such as agitators, heaters, etc; and a time ideally build into the DC power unit.

Procedure

5.1. Preparation (It is recommended that panels be handled with tweezers and gloves to prevent misleading results.)
- Pre-clean cathode test panel.
- For zinc plated steel panels: immerse in 50% by volume C.P. Hydrochloric acid to strip off protective zinc film.
- Cold water rinse.
- Wipe surface with Hull Cell sponge that has been soaked in D.I. water.
- Observe panel for water break free condition. Repeat previous 2 steps as necessary.
- For plastic coated brass panels-remove plastic film by peeling it off.
- Soak in mild soak cleaner.
- Reserve current clean at 2 amps for one minute.
- Cold water rinse.
- Acid dip 10% C.P. Hydrochloric Acid for 5 seconds.
- Cold water rinse.
- Observe for water break free surface; repeat steps

5.2. Test
- Insert cathode test panel along the slanted side of the Hull Cell which has solution to scribed line.
- Hook red cable to anode (+).
- Hook black cable to cathode (—).
- Set timer to prescribed time (see tech bulletin).
- Turn on power source.
- Adjust power to described amperage.
- Start time.
- At prescribed time, shut off power.
- Disconnect cathode cable.
- Remove cathode panel.
- Cold water rinse.
- Complete desired post plate treatment if any-example: dipping panel in 1/4 to 1/2 of 1% by volume. Nitric Acid (C.P. Grade) for 3-5 seconds enhances the ability to interpret the panel on zinc and cadmium plating solutions.
- Warm Water Rinse.
- Dry, forced air or even wiping with a water absorbent paper towel.
- An alternate method of drying the panels is to water rinse followed by an alcohol rinse to drive off the water. Also, a method of
preserving samples is to spray them immediately with a clear lacquer to prevent oxidation.

5.3. Evaluation
- See proprietor’s data sheets utilizing the Hull Cell Scale appropriate for the amperage used as the guide to current densities.
- Hull Scale use: place the bottom edge of the “as plated” on the line that matches the amperage plated was performed. The areas on the panel above these numbers are the area of that number’s current density.

6. Notes
6.1. Preventative Maintenance, Troubleshooting.
- Depending upon the bath chemistry as analyzed, condition of the panel relative to uniformity, burning, cloud patterns skip plate, etc., modification by controlled additions can be made to the Hull Cell plating solution and procedures can be repeated. Changes caused by addition to the Hull Cell will duplicate results to be expected by the same proportionate additions to the main plating bath.
- Correlations of thickness checks in the controlled time, temperature, amperage cathode panel will also tell the optimum plating range.

Republished from:
The Institute for Interconnecting and Packaging Electronic Circuits
2215 Sanders Road
Northbrook, IL 60062-6135

“Have You Tried this Remarkable New Cleaning Agent?”

“It’s the best. All the big companies in aerospace, (or medical devices or telecommunications or....) use this fantastic cleaning agent.” You hear claims in advertising, from sales reps who come to your shop; from people at trade shows.

Is it the right cleaning chemistry for manufacturing your product? Learn more about the product than the fact that it cleans “real good.” The basic approach is: ask, listen, verify, and make a decision.

Here are a few questions for suppliers of cleaning agents so you can better determine if the product is likely to be a good fit for your production requirements.

What is it?
The first step is to find out more about the chemistry of the product. You don't need to become a formulations chemist, but learning a bit about the physical and chemical properties of the product is essential to putting together a good cleaning process.

What kind of cleaning agent is it? Is it a single solvent? A blend? Is it an azeotrope? A true azeotrope? What’s the boiling point? If it’s high boiling, can it be water-rinsed or solvent rinsed? The boiling point influences the cleaning agent performance in that, as a rule of thumb and all other things being equal, for every 10 degrees Celsius increase, the rate of cleaning doubles. A solvent or solvent blend with very aggressive solvency characteristics but with a low boiling point may not perform as well as a more mild solvent with a higher boiling point. If you're trying to match solvency with a cleaning agent you are currently using, ask for the Hansen parameters or at least for a Kb number, so that you can do a comparison. If your product is sensitive to high temperatures, a high boiling cleaning agent may not be a viable option.

If it's water-based, is it basic, acid, or near-neutral? What is a typical dilution? For critical or precision cleaning, does it need to be rinsed? Does it contain rust preventatives?

Evaluate the response
Too often, you get a “deer in the headlights” response. Or, you get an overly-confident assurance of superb product performance, without any technical details. In either event, ask for a technical data sheet and an SDS. If you still have questions, ask for a referral to a chemist or a technical specialist. Particularly for formulated aqueous or solvent blends, cleaning agent suppliers are, perhaps justifiably, reluctant to give out detailed information because of competition-sensitive issues. However, if you continue to be offered a mystery mixture made in a bubbling cauldron, it is wise to stop considering the product.

Regulations
How do you manage the cleaning agent? Can it be filtered or recycled? How do you dispose of the used cleaning agent? Is it a VOC? Please explain what you mean by that. Is it exempt at the Federal level? What about in your area? What is the VOC level of the product as sold? (Then, of course, you have to consider the VOC level at a typical dilution.) Is there a flashpoint? Is there a flammability range? What is the worker exposure?
Cost savings and Conservation in Plating Processes

Everyone wants to save money. How many of the items listed below do you practice?

Careful selection of the suggested ideas should be done. They may not apply to your situation. Hopefully there is at least one idea you can use to your advantage to reduce water use, reduce waist treatment costs, improve quality and save money.

1. Allow drain time over the plating tank when lifting the rack or barrel of parts. 5 to 10 seconds before rinsing can save valuable Plating solution. Longer times are even more helpful. But be careful that the plated parts do not dry.

2. In conjunction with no.1 above, a drain pan at the exit area of the tank is an additional plus. Be sure it slopes back into the plating tank.

3. In addition to dwell time and drain pan, a fog rinse provides even more conservation and prevents drying. The fog spray can lengthen the dwell time over the tank and add make up water in a small amount. It acts as the first rinse resulting in conservation of water in the following rinse stations. Fog spray is a good idea even if drying is not a problem.

4. Counter flow rinse tanks are another great way to conserve water and do a better job of rinsing. A two tank system will save up to 50% of the water compared to a single tank, and a three counter flow rinse system can save up to, or in excess of 90% of the water use compared to one rinse station.

5. Spray rinses are a very good way to rinse and conserve water. Most racked items for plating can be effectively rinsed by spray. Some parts may require an immersion rinse in addition to a spray to help remove chemicals entrapped in holes or capillaries. Or areas that a spray cannot hit well enough. Counter flow spray rinsing is possible with the right plumbing system.

6. Drag out tanks using little or no make up water added has been used effectively for conservation of plating and processing solutions. But be aware that dilute solutions may change pH and precipitate particulate matter or react in dilute conditions such that when added back to the plating solution may be harmful. Be sure to check this idea. Once you use a drag-out tank, it is suggested that the rack or barrel of parts be submerged in this tank prior to entering the plating or processing solution so that there is a drag in of the plating or processing materials.

7. Agitation of rinse tanks can be helpful. Air agitation is often used. Be sure that the air source is a low-pressure oil-less blower and not from an air compressor. Most air compressors have vaporized oil in the air stream. Vaporized oil will go through oil filters into your tank. Note: Turn of the air before the rack or barrel enters the tank to take advantage of the surface flow rinsing to the overflow compartment. The surface flow to the weir can rinse most of the plating or processing solution if the rack or barrel is lowered very slowly into the rinse tank.

8. The negatives of installing counter flow rinse tanks are the cost of additional tanks; floor space and possibly longer time flow through the process.

9. Devices that control water are available such as conductivity controllers that work by measuring the conductance of the water. They are set to turn on the water flow when a specific conductance is registered due to the presence of conductive materials such as the plating or processing solutions. The water is turned off when the conductance is again lowered to the set point.

10. Timer controls can be effective by turning the water flow off when the tank is not in use.

11. Flow restriction devices that limit the water flow into the tank. This good for constant production. The level of allowed rinse tank contamination must be determined first then the flow restrictive device is set to maintain a constant flow.

Ground broken for the expansion of UTC Aerospace Systems in Baja California

With the attendance of authorities from all three levels of Government and representatives from the private enterprise, ground was broken at the plot of land where, with an investment of a little over US$100 million, expected to reach US$300 million, the facilities of UTC Aerospace Systems will be expanded in Mexicali, Baja California. This is one of the projects in the initiative "Crusade for Employment", where the State Administration set the goal to generate new jobs, being the growth of such corporation a key piece to establish in Mexicali by 2016 at least 60 labor sources in addition to the current 800.
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level? What group or governmental agency set that level?

The adage “trust but verify” applies. Listen to what the rep has to say; and take notes. It’s a good idea to get independent corroboration either from your own advisors, by going on-line, or even by checking with the regulatory agencies themselves.

The process

Cleaning is a process, so the cleaning agent must be coordinated with the cleaning equipment. Even if a vendor tells you the offering provides the same performance as the cleaning agent you currently use, obtaining that performance may require a different cleaning machine than you are accustomed to.

Ask about the cleaning equipment that is used with this product. If you do not plan on replacing your current cleaning equipment and the rep tells you it will work “just fine,” investigate further. Your current cleaning equipment may be perfectly acceptable. Or, perhaps it could be modified or adapted with some degree of effort. Would you have to add more rinse cycles? Would drying or a more aggressive drying step be required? Would seals need to be changed? If your current system uses a filtration system, is that same system appropriate for the newer cleaning agent under consideration? For lower-boiling solvents, would solvent loss be higher in your current equipment than in newer, perhaps more well-contained models?

Choices

One way of learning more is to say you are considering purchasing new cleaning equipment and ask for suggestions. If the rep volunteers information about one supplier only, investigate further. With rare exceptions, we are wary of having clients adopt a chemical that can only be used in one model of cleaning equipment offered by one vendor. In general, it’s better to have choices.

There are a few reasons why a single cleaning supplier might be recommended. One possibility is that there really is only one supplier who actually sells suitable cleaning equipment. Try to figure out why there is only one source. Is it a newly-developed process? Is it a very niche application? Why hasn’t the approach to cleaning caught on? A second reason you might be offered only a single choice in equipment is that the cleaning agent rep has a financial affiliation with a particular cleaning equipment supplier. Affiliations between cleaning equipment and cleaning agent vendors can provide advantages in terms of product
Cost savings and Conservation in Plating Processes

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12. It is possible in some instances to operate the processing or plating solution at a lower concentration thus lowering the drag out amount.

13. Continuous filtration of processing and plating solutions is a good idea. Filtering provides agitation and sparkers with or without eductors. Eductors increase the flow velocity.

14. Multi purpose rinse tanks are used to conserve space. But are potential causes of problems when reactions take place or when unwanted other processing or plating solution are contaminated by the combination rinse that still have chemicals in it.

15. For barrel plating it is necessary to maintain the holes by drilling back to the proper size. Parts and media can peen the inside portion of the holes closing them from slightly to completely closed. The cost savings in less drag out far offsets the cost of maintenance.

16. Good rack maintenance is important in protecting plating solutions for drag in of processing solution entrapped in crack rack coating, split rack tip coverings. These defects in rack coatings contribute to drag out losses and higher waste treatment costs. It is very difficult to rinse small cracks and capillaries.

I wish you all good plating and good profits.

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By Don Baudrand

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support, including testing the product in their applications laboratories. Vendors that work together may develop an understanding of the strengths and weaknesses of their respective product lines. However, a single source of cleaning equipment leaves you with very little room to negotiate price, to select your optimal equipment design, or to arrange for employee training/education. Therefore, we encourage our clients to make their choices based on coordinating the features of the cleaning agent and cleaning system, not on affiliations of the sales rep.

Decide

As you find cleaning chemistries that are suitable for your product line, start to evaluate the entire cleaning process. This includes cleaning equipment, chemical management, and regulatory issues. Critical cleaning is a process. Asking the right questions puts you in a great position to make a productive, cost effective decision.

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A Personal Friend of Mine

A personal friend of mine, and many others in the metal finishing world, recently celebrated 50 years in business. Palmetto Plating of Easley, SC owned by John Cutchin was all started when he was 16 years old and still in High school. Back then he was plating baby shoes other inanimate objects for people in the community. In March of 1964 he incorporated Palmetto Plating Co., Inc. and opened a facility that stripped and re-copper and later hard chrome plated textile machine components.

As metal finishing requirements changed, the company has evolved into an organization that specializes in passivation and electropolishing of stainless steel, chromate conversion and anodizing of aluminum, electroless nickel on various components, as well as nickel chromium and hard chromium.

Under John’s leadership Palmetto Plating has grown as one of the most respected plating shops in the Southeast. In his true gentlemanly manner John accredits his successes to his employees and customers – customers of which include from the US Military, nuclear facilities, automotive and aerospace manufacturers.

I am also privileged to have had the opportunity to know, work and play with many of John’s employees over the years. I’ll never forget the green hue on Hunter’s (John’s son and star salesman) face while he was hanging over the edge of the fishing boat in Aruba, how everyone seems to know Brandon’s name in Myrtle Beach, and especially Bill Smith who passed away a few years back but is still honored each year with a local AESF golf tournament. Now they have Paul Frank who has recently been added to their management team as Executive Vice President and General Manager. Paul was actually the first AESF National President to give me the time of day.

So if what they say about “like attracts like” then this is certainly one of the big reasons for John’s success with Palmetto Plating.

Speaking of “Big”….. take a look below at some of the work that Palmetto processes. I’ve been in thousands of shops around North America and have never seen anyone else who can do this stuff. John built a special building so that the entire room is used for processing these parts from the Nuclear facility.
For those who have been with us since we started our newsletter way back in 2001 it will be obvious that a lot has changed. For starters – I haven’t released a newsletter in nearly 4 years. Sorry about that – life has its funny twists and turns and sometimes we never know which way we’ll land.

I ended up landing in a pretty good place though (Gracias a Dios). I moved to San Miguel de Allende in Central Mexico after selling my other companies in NC to one of my best friends. While I was trying to find my new way, I made the decision not to publish the monthly newsletter for the time being. Really I was too busy learning about tequila to write much – and really I wasn’t sure if I’d stay with the industry at first. But it didn’t take too long for me to realize that I needed to find something to do because if I didn’t my tequila research was going to kill me.

So a couple of years ago I came back to see old friends at Sur/Fin. The first question they asked me was, “You are living where!! Are you crazy??” Then the next thing many of them said to me was “We’ve been trying to find a way to do business in Mexico – can you help me?” So in short - now I’m back into it and up to my ears just like the good ole days.

That brings me back to the Finishing Talk newsletter. This is something that I thought about a lot while it was idle, but I just wasn’t ready to invest the time that it took to publish this thing each month. Sharing this kind of information with the Surface Finishing Industry has always been a passion for me but as you may or may not know – you really can’t make a living publishing newsletters (or at least I never figured out how).

That’s where our new editor comes in. Cathleen Brainerd – up in Connecticut offered to revive our newsletter in her free spare time and for now will be publishing every 4 months – and I gladly accepted. In the beginning I wasn’t sure how it was going to work out – but felt it certainly was worth a try.

Now that we are about ready to publish (with the exception of this editorial that I’m currently working on) I can honestly say – Cathleen did an amazing job. She took this bull and ran with it all the way to the Corrida. I look forward to seeing her work over the future – and hope you do too. Please feel free to reach out to her if you have any article you want to have published, advertising you want to place or any of the other day to day matters of our humble grass roots newsletter. You can find her at CBrainerd@FinishingTalk.com and she’ll be happy to hear from you.

Gracias y Saludos a todos.

Paul Fisher
(AKA Pablo Wablo)
Publisher