

ThinkZinc

Quarterly



FUTURE SHOCK: WHAT'S AHEAD IN R & D

By Rick Holland, Vice President, Technology

Innovation and trend-setting technology has always driven Columbia Chemical and our R&D department. Columbia's ability to provide customers with the products they need now, as well as the innovation they will need many years down the road is our way of "future-proofing." As part of our forward-thinking to ensure we sail smoothly through any "future shock," here are some projects we are currently working on:

ONE-PART TRIVALENT BLACK CHROMATE

Probably the most challenging project in recent years is the development of trivalent black chromates. This was successfully accomplished with Trivecta® but now we are taking this one step further with the development of a *one-part system*. Appearance, performance and cost are critical criteria for this project but the focus is on developing a single additive product with ultimate ease-of-use for our end-user plating shop customers.



COBALT-FREE CHROMATES With the painful yet successful switch from hexavalent to trivalent chromates, the need for even more environmentally friendly passivates is on the horizon. Since both trivalent chromium and cobalt are presently on the watch list and will at some point be moved to the hit list, we are working on *cobalt-free chromates* as well as *non-chrome passivates*. These technologies will be ready for our global partners when the time comes.



ZINC-NICKEL ALLOY PROCESSES The next generation of *zinc-nickel alloy processes* for *alkaline and acid chloride electrolytes* are being developed to target stringent automotive and general manufacturing specifications. These new zinc-nickel alloy processes will be brighter, have wider operating parameters, and will be much more user-friendly. The processes will also be complemented with new trivalent black and trivalent blue chromates.

ADVANCED ORGANIC-NANOTECHNOLOGY TOPCOATS As corrosion protection requirements increase and as trivalent chrome and cobalt are further regulated, greater improvements to topcoats will be required to meet new performance standards. Our topcoat program using *advanced organic-nanotechnology* is in the works with promising results.

(continued inside)

Future Shock
(continued from cover)

NITRIC ACID-FREE TRIVALENT PASSIVATES Nitric acid has been a workhorse for chromate technologies for many, many years. Nitric acid activates the zinc deposit surface, promotes chromate film growth and provides clarity and color. Unfortunately, nitric acid is a potential hit-list candidate, so we are now faced with formulating around this key component. To ensure future product compliance, we are developing *nitric acid-free trivalent passivates*.

As you can see, Columbia Chemical is proactive in maintaining your competitive edge in the ever changing, highly technologically driven world of zinc plating. Keep up to date on our developments by visiting www.columbiachemical.com.



OHIO GOVERNOR HONORS COLUMBIA CHEMICAL FOR EXCELLENCE IN EXPORTING



Rosenberg receiving the Governor's E-Award on behalf of Columbia Chemical from Ohio Governor Ted Strickland (right) and Lieutenant Governor Lee Fisher (left).

Ohio Governor Ted Strickland honored Columbia Chemical and 23 other Ohio businesses with the 2008 Governor's Excellence in Exporting Award. The award, which recognizes superior performance in exporting and contributions to Ohio's economy, was presented to Columbia Chemical President Bill Rosenberg at the Ohio Statehouse Atrium in Columbus.

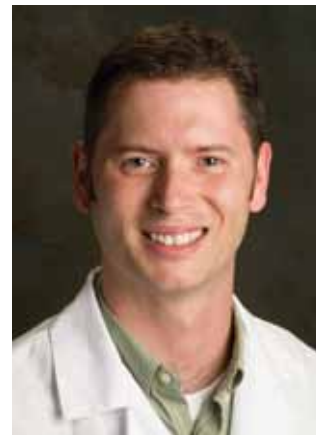
"We are committed to increasing our exporting efforts, as we maintain our competitive edge in the global zinc plating marketplace," says Rosenberg. "Our roots are in Ohio, so we are pleased to be strengthening Ohio's economy."

Established in 1986, the Governor's Excellence in Exporting Awards program recognizes companies and organizations of all sizes that have shown superior performance in exporting or heightened awareness of exporting as a vital component of the state's economy.

"Ohio is the eighth-largest exporting state in the country, a distinction largely due to economic partners like our 2008 Excellence in Exporting winners," said Strickland. "I want to thank them for their hard work and commitment to success and their contributions to keeping Ohio's economy strong and competitive."

MEET OUR ZINC PLATING EXPERTS

Chemist Rick Livingston joined Columbia Chemical as the newest member of our research and development team. He will be responsible for new product testing and planning during initial stages of product development and field testing.



Rick Livingston
Chemist

A chemistry graduate of Baldwin-Wallace College, Livingston served three years operating a nuclear power plant on a submarine for the U.S. Navy, where he was certified as a diver welder. He is a member of the American Mensa Society.

This resident adventurer spends his weekends scuba diving and skydiving! Playing guitar also gives him a thrill. If you ever have a desire to spice up your zinc plating conversation with some daredevil stories, Rick is our specialist to call!

ESOP PROGRAM GOING STRONG

The Employee Stock Ownership Program (ESOP) at Columbia Chemical is going strong.

Every employee with five or more years of service is eligible to participate in owning a part of the company they work for!

An ESOP Communications Committee was formed in 2006 to help keep communication lines open between employee owners and senior leaders. Their goal is to educate employee owners about the company, create an environment of shared ownership, and encourage cooperation and camaraderie between departments.

Newly appointed members of the ESOP Communications Committee include: Martin Gall, Mariann Dance, Bob Ludwig, Ed Postan, and Joe Vedova.

Last year's committee included: Mindy George, Jeff Grodecki, John Postan, Pete Crasson, and Marcia Rybacki.

VIETNAM PARTNERS

ANNUAL EMPLOYEE PICNIC

Employees celebrated the company's 33rd anniversary with a pig roast. Games and prizes were provided by the ESOP Communications Committee.



Martin Gall with our visitors from Vietnam.

MDI VIETNAM VISITS COLUMBIA

Representatives of MDI, our partner in Hanoi, Vietnam, visited the U.S. and our new facility for the first time. In May, MDI brought two of their customers from EMTC Plating and Haiphong Paint Company, who use Columbia Chemical processes, to review our quality procedures and inspect our new production facility.



Mr. Ho Viet Tam of EMTC presents a silk embroidered countryside scene to Bill Rosenberg (center). Also pictured (left to right): Martin Gall; Tran Binh An, President MDI/our partner company in Hanoi; Brett Larick; Phan Van Tham of EMTC; and Nguyen Manh Hien of MDI.

Although the days were packed with business, the group made time on the weekend to visit Niagara Falls and New York City. Columbia Far East Business Manager Martin Gall led the tour. Before returning to Vietnam, the group attended the American Coatings Show in Charlotte, NC.

"Our partners expressed that they felt very welcomed and appreciated the warmth the Americans showed toward them," Gall said. "It was a successful trip for everyone involved."

A special thanks goes out to Larry Post of Metal Finishing Magazine and his friend Wendy Rohn for their kind hospitality when the group visited New York City. 

CONGRATS TO ANDREW RECKER

Congratulations to our Research Chemist Andrew Recker and his wife, Amanda, on the birth of their second baby! Brody Kenneth Recker was born July 11th. He weighed in at 8 lb. 13 oz. and was 19 inches long.

UPCOMING TRADE SHOW

November 26-28, 2008



Booth #12G27
Guangzhou Int'l Convention Center; Guangzhou China
www.sfchina.net/2008/exh_en.htm



1000 Western Drive
Brunswick, OH 44212

TWENTY SECOND issue of
Think Zinc Quarterly

I WOULD LIKE TO RECEIVE MORE INFORMATION ABOUT:

- Processes for acid chloride zinc plating
- Processes for alkaline cyanide-free zinc plating
- Trivalent chromates
- Processes for zinc alloy plating
- Top coats & lacquers
- Rinse aids
- Cleaners and Acid Inhibitors
- (Other) _____

Name _____ Company _____

Telephone Number _____ E-mail _____

Simply Complete This Form And Fax It To 330/225-1499



COLLOY NI-Z-POSIT: YOUR ZINC ALLOY ALLY Zinc-Nickel Plating Process

Today's trend toward high performance vehicles and longer warranties, as well as the need to replace cadmium plating, has driven automotive manufacturers to turn to zinc alloy plating. By alloying zinc with a more noble metal, the alloy corrodes at a slower rate, affording much better corrosion protection. Zinc nickel has shown to be superior to all other zinc alloys in terms of corrosion resistance and range of applications, including cadmium replacement.

Columbia COLLOY™ NI-Z-POSIT alkaline zinc-nickel plating process produces a bright, ductile zinc-nickel deposit that is ideal for today's demanding automotive applications. The high nickel-containing deposits produced with COLLOY NI-Z-POSIT are especially durable for under-the-hood components that come into contact with high heat, such as air conditioning components, fuel lines, fasteners and brake components.

COLLOY™ NI-Z-POSIT provides the best, most uniform thickness and nickel distribution across all current density areas and meets the most severe salt spray test requirements. The deposit has good ductility and has been successfully used on parts requiring post-plate forming. The inherent alkalinity of the bath also reduces corrosion tendency of unplated, internal surfaces of parts.

Our acid-chloride version for zinc-nickel plating, COLLOY™ AZN, offers the same high nickel content and reasonably even distribution along all current densities – with the added ability of plating on heat-treated or hardened steels.

Columbia also offers two passivates to use on top of zinc-nickel: COLDIP™ NI-Z BLACK, a two-part hexavalent chromate process which produces a glossy, black finish. And, COLDIP™ NI-Z Tri Blue, a one-part trivalent which produces a clear/blue finish compliant with ELV and RoHs standards.

Additional zinc alloy plating processes available from Columbia include:

COLLOY I-Z-POSIT, an alkaline plating process that produces a bright, ductile zinc-iron deposit. COLLOY CO-Z-POSIT, an alkaline plating process which results in a bright, ductile zinc-cobalt deposit. And, COLDIP I-Z-BLACK, our one-part hexavalent chromate process for zinc-iron.



COLLOY™ NI-Z-POSIT Zinc-Nickel Plating Process

High performance automotive plating demands the very best processes. Columbia Chemical can put you in the driver's seat.

Columbia's COLLOY NI-Z-POSIT alkaline plating process produces a bright, ductile (high-nickel) zinc-nickel deposit that is ideal for meeting today's demanding automotive specifications. It's easy to use and simple to control. COLLOY NI-Z-POSIT puts 10-15% nickel in the deposit, which is perfect for under-the-hood components that come into contact with high heat, such as air

conditioning components, fuel lines, fasteners and brake components. COLLOY NI-Z-POSIT provides the best, most uniform thickness and nickel distribution across all current density areas and meets the most severe corrosion test requirements.

So when you think zinc nickel, think COLLOY NI-Z-POSIT... and call Columbia Chemical, Your Zinc Alloy Ally.

COLUMBIA®

CHEMICAL
The Zinc Plating Experts

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