



# CFCM

CANADIAN FINISHING & COATINGS MANUFACTURING MAGAZINE

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September 2010

## Progressing to Green

CASE STUDY: LAURYSSEN KITCHENS, LTD.

BY SANDRA ANDERSON  
PHOTOS BY PETE WILKINSON

**L**aurysen Kitchens, Ltd. of Stittsville, ON is a 40-year-old family business started by John Laurysen and his wife Adri on July 15, 1970.

The kitchen cabinet manufacturer and finisher sells to builders, to dealerships and to retail outlets. They have also recently begun exporting to the United States.

The company, which has grown from a 2-to-3-man shop to employ 105 people, is now being run by their son Bill and daughter Caroline Castrucci. Bill has also brought in his sons Michael and Corey making it a three-generation business. One is a graduate from the University of British Columbia's wood finishing course and the other is a business graduate. Although retired, Adri still retains the title of president. John passed away in 1994.

### THE NEW LINE

"They have converted most of their products from solvent based to water based  
*continued on page 14*



Chris Munro loads the flat line finishing system with doors at Laurysen Kitchens in Ottawa (Stittsville) Ontario.

### ALSO IN THIS ISSUE

- Waste Water
- Testing in Paint and Coatings Manufacturing
- Fillers and Extenders
- E-COAT
- Pre-Trade Show Coverage

AND MUCH MORE!

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## Meeting Challenges in the Realm of Rheology

### Changes in Paint Formulation Require Greater use of Rheology Modifiers

BY SANDRA ANDERSON

With the introduction of regulations concerning volatile organic compounds (VOCs) in paints and coatings, paint technologies have been shifting from conventional solvent-borne systems towards lower or zero VOC technologies. These include water-borne, high solids and solvent-free systems. Rheology modifiers play an important role in influencing vertical flow, leveling, sagging, spattering and sedimentation.

Alexandre Vignini, B.Sc., Canada Technical Support Manager, Coatings and Plastics, BYK-USA, Inc. says, "Flow behavior is one of the most important application technology characteristics of coatings. To a great extent, flow behavior determines the handling and application properties of coatings." Rheology describes the laws

governing the deformation of a body under the influence of stress, the specific resistance to flow of a given liquid under given conditions such as temperature and stress is called viscosity. Plotting viscosity of the liquid as a function of shear normally leads to one of following rheological profiles:

- A. **The Newtonian flow behavior** is characterized by the fact that the viscosity remains constant under shear rate variations.
- B. **The Pseudo-plastic behaviour:** sees the viscosity decrease when the shear increases and the structure reforms as soon as the shearing energy is removed.
- C. **High shear thickening**, in water-borne only, is characterized by a

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### IN THE NEWS

#### Association and Trade Show Updates TOSCOAT Diploma

COMING SOON...TOSCOAT DIPLOMA in Coatings Technology will be available online later this year. More information will appear in next issue of CFCM. TOSCOAT Contact Dave Saucier 416-428-2974.

#### Defining the FUTURE of COATINGS

The Coatings Summit, will go to Washington DC in 2011.

Senior managers from the global coatings industry and its partners will once again come together to identify trends, opportunities and challenges that will shape their industry.

Co-hosted by the International Paint and Printing Ink Council (IPPIC) and Vincenz Network, the 2011 event, building on the success of four previous editions, will take the concept to the next level.

[www.coatings-summit.com](http://www.coatings-summit.com)

#### Electrocoat 2010: The Thoroughbred of Coatings!

ECOAT 2010 was held May 4-6, 2010, at the Louisville Downtown Marriott and the Kentucky International Convention Center in Louisville,

*continued on page 4*

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# Always Looking Up

Yes, that may be the title of a recent Michael J Fox book, (which is very good by the way), but it is also the perspective we can take within the coatings industry.

Several companies have reported refreshingly positive results for the second quarter of 2010 as the economy slowly recovers.

The Swiss company **Clariant**, announced sales of CHF 1.894 billion in the second quarter of 2010, compared to CHF 1.609 billion the previous year. The Pigments, Additives, Leather and Masterbatches business units benefited the most from the improved economic environment and grew above the group average.

The specialty chemicals Group **ALTANA** also had a good first half of 2010. Compared to the first half of 2009, the company increased sales by 43 per cent to EUR 773.1 million. Sales in the **BYK** Additives & Instruments division grew by 50 per cent from EUR 186.0 million in 2009 to EUR 279.5 million. With sales amounting to EUR 180.2 million, the **ECKART** Effect Pigments division also recorded a significant growth of 44 per cent (EUR 125.4 million). Sales in the **ELANTAS** Electrical Insulation division also grew by 44 per cent, to EUR 185.5 million. Sales in the **ACTEGA** Coatings & Sealants division, which was the least affected by the 2009 crisis, rose by 27 per cent to EUR 127.9 million in the first half of 2010.

**The Dow Chemical Co.** reports sales of \$13.6 billion in the second quarter of 2010, a 26 per cent increase compared with the same period last year.

**BASF** sales were up 30 per cent its second quarter. In North America, sales grew by 42 per cent in U.S. dollars.

**Nordson Corp.** has reported third-quarter sales that were strongly improved over the same period a year ago and in the second quarter of 2010, global specialty chemicals supplier **Cognis** continued its positive performance from the first quarter.

The downside is the increased price in feedstocks, which is causing companies to increase the price of their goods. And although the first half of 2010 has been up, companies are expecting demand to soften in the second half. We shall see.

Meanwhile, it is Fall, which we in the industry refer to trade show and conference season, a chance for the industry to get together discuss the economy and exchange knowledge, ideas and innovations. CFCM will be there.

*Sandy Anderson*  
sandra.anderson@cfc.ca

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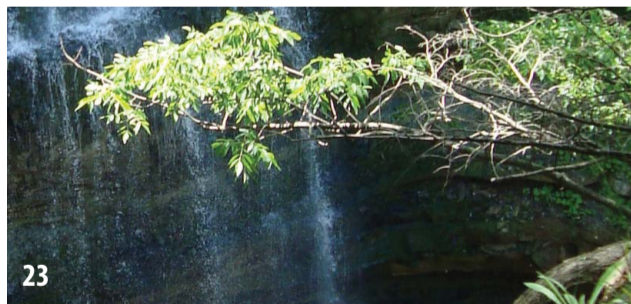
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#### EDITOR

Sandra Anderson  
519-442-4071  
Fax 519-442-1359  
sandra.anderson@cfc.ca

#### COPY EDITOR/PROOFREADER

E. J. Burns Anderson

#### PUBLISHER AND SALES

Pete Wilkinson  
416-255-1808  
Fax 416-519-1313  
pete.wilkinson@cfc.ca

#### VICE-PRESIDENT, ACCOUNTING, CIRCULATION AND SALES

Brian Jones  
905-405-1500  
Fax: 416-519-1313  
brian.jones@cfc.ca

#### GRAPHIC DESIGN

Allan S. Bates  
416-485-9229  
Green Apple Prepress  
allan.s.bates@sympatico.ca

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#### WILKINSON MEDIA CANADA INC.

250 The East Mall Suite 1103  
Toronto, Ontario,  
Canada M9B 6L3  
416-255-1808  
Fax 416-519-1313

# A Summer of Regulatory Changes

By MIKE MOFFATT

The summer of 2010 may be remembered as the summer of regulatory changes. Ontario's 'Eco Fees' on hazardous materials is dead for the time being, though there are indications it may come back in a revised form in late October. There are two other legislative changes that affect the coatings industry, Bill C-36 and the HST, along with an extensive change to WHMIS in the pipeline.

## BILL C-36: CANADA CONSUMER PRODUCT SAFETY ACT

The Canada Consumer Product Safety Act was reintroduced as Bill C-36 this summer and is expected to pass this fall. When it comes into law the act will replace the Hazardous Products Act but only for consumer products. Canada's consumer chemical regulation, which applies to consumer paint products, the Consumer Chemicals and Containers Regulations, 2001 (CCCR, 2001) will remain largely unchanged.

Penalties for non-compliance with the CCCR, 2001 have been increased, along with the obligations of manufacturers and powers of Health Canada. Under the act, the maximum penalty for non-compliance has been raised to \$5 million. New mandatory reporting obligations on serious incidents are created for importers, manufacturers and sellers. Perhaps most importantly, the act will give Health Canada the power to mandate a full public recall of a non-compliant consumer product – a power Health Canada does not currently have. There is additional information on Bill C-36 in an instructional video at <http://bit.ly/billc36>.

The Canada Consumer Product Safety Act does not apply to products that are industrial in nature – the Hazardous Product Act will still be the governing act. However, the definition of a consumer product is broader than it appears at first glance. Companies have found themselves running afoul of Health Canada because they did not realize that their products are subject to consumer regulations.

## IS YOUR PRODUCT TRULY INDUSTRIAL ONLY?

Although your company may not consider their paint and coatings products to be consumer products, the law may see it differently.

Section 1 of the CCCR states that the regulation applies to chemical products, which is defined as "a product used by a consumer". Health Canada's Reference Manual on the CCCR (available at <http://bit.ly/cccrmanual>) gives further guidance by stating, "A consumer is considered to be anyone from the general public who has access to a product that is advertised, imported or sold in Canada." The key word here is access – a product does not need to be actively marketed towards consumers to be considered a consumer product under the regulations. All that is required is that a member of the general public can reasonably purchase a product if they so desire.

If a sales channel does not have a mechanism to prevent the general public from purchasing a product, then the products they sell are considered consumer products under the CCCR and are therefore required to adhere to the regulations. This has caused some difficulty in Canada, as companies who believed their product was exempt from the CCCR, 2001 only to find out the 'hard way' that they have violated Canadian regulations. Such cases include:

Products sold on websites that have no mechanism to prevent the general public from

purchasing those products.

'Professional user' stores such as janitorial supply houses and plumbing supply stores that do not require a business license or contractor's license to purchase products.

Big box stores that sell both to consumers and to contractors, but have inadequate controls to ensure the general public is not purchasing industrial products.

One tactic occasionally seen in Canada to deter the general public from purchasing industrial products is to print "for industrial use only" on the product label. However, the regulations are very clear – writing "for industrial use only" does not absolve a company of their responsibilities under the CCCR. If a consumer can access a chemical product, it falls under the CCCR, regardless of any label claims.

## HST AND THE COATINGS INDUSTRY

On July 1, 2010 both British Columbia and Ontario introduced a harmonized sales tax (HST), which merges the GST with each province's sales tax, at a combined rate of 13 per cent in Ontario and 12 per cent in British Columbia (equal to the combined GST + PST rates previously in place). Due to exemptions under the old province sales tax laws, the taxes placed on some items increase under the GST, including most services and a handful of products, such as thermal insulation and caulking (B.C.) and gasoline (Ontario). Sellers of finishings and coatings to consumers do not see a tax increase on their products, as those products were taxable items under the old provincial sales tax systems.

The HST comes with a big benefit to companies in Ontario and British Columbia. As with the GST, the HST is a "value added tax" and as such, any HST paid by businesses for supplies or inputs is fully refunded. A company in Ontario that purchases \$100,000 worth of office supplies and computers in a year will see an \$8,000 increase in their bottom line due to the HST. During these difficult economic times, every extra penny helps

## THE FUTURE – GHS TO CHANGE WHMIS AND CCCR

A number of large regulatory changes are headed towards Canada. As with the United States, Canada is expected to adopt the "Globally Harmonized System of Classification and Labeling of Chemicals" (GHS) in the near future. Both WHMIS MSDSs and WHMIS labels will be significantly altered with the adoption of GHS, though it is expected that the name "WHMIS" will remain, along with the WHMIS hatched border and the 3-year expiry for WHMIS MSDSs. It is unknown when the implementation GHS will take place or how long the transition period will be, though a two-year transition period appears likely. The Canadian Centre for Occupational Health and Safety (CCOHS) has a helpful instructional manual WHMIS after GHS: Preparing for Change available for purchase at <http://bit.ly/whmisghsbook>.

The future of the CCCR with respect to GHS is less clear. It is expected that the CCCR will be revised to adopt some aspects of GHS, though it is unclear how much will be adopted and how harmonized the GHS version of CCCR would be with the GHS version of WHMIS. A Consumer Chemical Sector Working Group developed a guide to facilitate discussion on the transition. The guide is available at <http://bit.ly/ccswg-guide>.

*Mike Moffatt is the Director of Communications of Nexreg Compliance Inc.*

*Mike can be reached by e-mail at [info@nexreg.com](mailto:info@nexreg.com) or by phone at 866-361-3032.*

*continued from front cover*

Kentucky. Louisville was magnificently decorated as The Kentucky Derby was the week prior to the conference.

The conference was scheduled a bit differently than in years past, hoping to help attendees curtail travel expenses while still packing in all the great keynotes, workshops, networking and exhibits that attendees enjoy with every conference.

Each day was sprinkled with selections of workshop content including basics of ecoat, maintenance, pretreatment, corrosion testing, operational excellence, colour control, lean workflow, roundtable and panel discussions on various topics, rounding out the attendees' educational experience.

A bonus for ECOAT 2010 attendees this year was complimentary admittance to the Process Cleaning Expo's special events and exhibit floor.

The Electrocoat Association will continue its effort to promote members' products and services and to be a strong voice in encouraging the use of electrocoating throughout industry. Also available for reference is *Electrocoating: A Guidebook for Finishers*, a comprehensive technical book for finishers using electrocoating technology.

We hope you will join us for Electrocoat 2012!

## SSPC's New Show Debuts in Vegas

For the first time since 2003, SSPC: The Society for Protective Coatings will hold its own show, SSPC 2011 featuring GreenCOAT, in Las Vegas, NV, on January 31-February 3, 2011. According to SSPC, it is the only show that features 100 per cent protective, marine, and industrial coatings and caters to painting contractors, facility owners, coating manufacturers, equipment suppliers, inspectors, and engineers to address protective and marine coatings issues as well as trends in environmental solutions for industrial projects.

Special events for SSPC 2011 featuring GreenCOAT span the entire conference.

Attendees will be able to learn or review a range of topics at workshops planned for the conference. A preliminary list, with descriptions when available, follows.

## Company News Finishing Line Hit By Lightning During Blackout

A lightning bolt struck an exhaust chimney and ignited a blaze this past July at Woodarts Ltd. in Peterborough, ON.

The company received a 2006 Architectural Woodwork Award for its work constructing furniture for the Library of Parliament in Ottawa. The business was featured in the February 2007 edition of *The Sounding Board: Canadian Architectural Woodworking Digest*. The owner Terry Philpot also owns Chemong Yacht Haven.

The chimney vents fumes that rise from a

paintbooth where paint and lacquer is sprayed.

The power had gone out about 10 minutes before the bolt struck. Suddenly there was a loud bang and lightning arced across the walls.

The fumes and paint acted as an accelerant for the flames.

The building suffered extensive structural and water damage.

## Eastman Expands Hydrogenated Hydrocarbon Resin Production

Eastman Chemical Co., Kingsport, TN, will be expanding production of hydrogenated hydrocarbon resins at its Middelburg, The Netherlands, and Longview, TX, facilities.

At Middelburg, current capacity of Regalite hydrogenated hydrocarbon resins will increase by just over 20 per cent. This is the third expansion at this site since 2006 and completion is expected in the second half of 2011. In Texas, there will be a capacity increase of greater than 10 per cent for

Eastotac hydrogenated aliphatic hydrocarbon resins, expected to be completed early 2011.

### Huber Buys Kemgard from Sherwin-Williams

Huber Engineered Materials, a division of the J.M. Huber Corp., has acquired the Kemgard flame retardant and smoke suppressant business of Sherwin-Williams. The addition of the Kemgard portfolio strengthens Huber's current alumina trihydrate (ATH) and magnesium hydroxide (MDH) product line. The Kemgard products will continue to be manufactured in Coffeyville, KS, with the same brand grades and product specifications.

### AkzoNobel Consolidates in Quebec

AkzoNobel's International Paint Protective Coatings business has consolidated sales and distribution operations with the company's Decorative Paints Canada group in a "store-within-a-warehouse" site in Dorval, Quebec.

The 25,000-square-foot facility was previously operated as a distribution service center for International Paint's protective coatings and marine products; Devoe High Performance Coatings accounted for approximately 90 per cent of the store's annual sales. With the consolidation, the Decorative Paints group moved operations from a nearby company-owned store in Ville St. Laurent.

The consolidation brings the International Paint Protective Coatings product range to the Decorative Paints Group, while giving International Paint "potential access" to an extensive network of decorative representatives and store locations, the company says. International Paint is a supplier of high-performance protective coatings and fire-protection products.

During the second half of 2009, construction began on the Dorval facility to transform what was strictly office and warehouse space into a layout featuring a traditional paint store with walk-in showroom and an array of architectural paints, color displays and related products. In addition to the International Paint name, the store's signage will now feature the Betonel-Dulux name. The Dulux and Devoe High Performance Coatings brands are prominently displayed in the store showroom to reinforce the brands' importance to professional painters and maintenance users, the company said.

The new retail "store-within-a-warehouse" opened for business in April, it houses tinting facilities for architectural paint brands and two separate industrial paint tinting systems for International Paint and Devoe High Performance Coatings brands. The sales and distribution center also houses a suite of offices, currently occupied by International Paint and Decorative Paints Canada managers, sales and administrative support personnel.

Decorative representatives working under the mentorship of International Paint counterparts, Cathacoat 302, Bar Rust 235 and some other Devoe High Performance Coatings products have been leveraged into larger Quebec industrial facilities and projects.

"We are beginning to bring a more aggressive industrial sales mentality into the decorative paint operation," said International Paint Sales Manager Gino Scaringi.

## Wagner 2010 North American Distributor Meeting

Wagner held its annual distributor meeting in beautiful Lake Tahoe, NV this August. Distributors came from Canada, the U.S. and Mexico for two days of meetings with a trip to Squaw Valley and a dinner cruise between meeting days. Distributors heard about new product introductions for powder and liquid applications, territory trends, and what being a Wagner distributor will mean in the future.

Jerry Trostle, General Manager of WAGNER, delivered the message, "The WAGNER Distributor Channel is very important going forward" and offered distributors "tools you want to use, not tools we want you to use." Steve Houston, executive director of The Powder Coating Institute, gave presentations on an overview of the marketplace for powder and making tough business decisions in a tough economy. Breakout groups were charged with coming up with innovations for the powder and paint market.

WAGNER recognized the Top Ten North American Distributors for 2009 which includes Dove Equipment, Gestion Pierre Proulx, Industrial Air, J.W. Sales, Myers Brothers, Patriot Metal Finishing, PEDTECH, Providing System Solutions, Rontier Industrial Supply and Sherwin-Williams. Distributors left the meeting with a renewed enthusiasm for selling WAGNER Products.

Wagner Systems Inc. is a worldwide leading manufacturer of finishing equipment with plants in Germany, Switzerland and U.S.A. Wagner Systems offers a complete range of finishing equipment from manual gun systems through complex custom-engineered finishing systems.

[www.wagnersystemsinc.com](http://www.wagnersystemsinc.com).



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## Brenntag Specialties, Inc. Announces Dedication of ACES Applications Laboratory

Brenntag Specialties, Inc., a premier specialty ingredients distributor to the Adhesives, Coatings, Elastomers and Sealants industry, is pleased to announce the dedication of a new "ACES" Applications Laboratory in North Wales, PA. Joe Mulvey, Technical Development Director, will oversee this new facility. The addition of Zhong, PhD, ACES Technical Specialist, provides over 20 years of ACES formulation experience. Zhong brings skills and knowledge in polymer synthesis and starting formulations. This new, fully equipped applications laboratory will focus on starting point formulations to provide customers an opportunity to commercialize their product offerings with minimal technical investment. Polymer development will also be accomplished to provide new options to the industry including green resin systems with outstanding properties.

## Troy Corporation Introduces Polyphase PW20 Dry Film Preservative in Canada

Troy Corporation today announced that The Pest

Management Regulatory Agency of Health Canada has approved the use of Polyphase PW20 for the protection of interior and exterior paints. Polyphase PW20 is a zero VOC, broad-spectrum fungicide engineered to replace conventional solvent-based products. The product contributes zero VOCs, has a low toxicity profile, and contains no alkylphenol-ethoxylates. Zero VOC Polyphase PW20 offers manufacturers the ability to meet sustainability and environmental goals without sacrificing performance.

"Troy developed Polyphase PW20 in anticipation of Canadian customers' needs for a preservative that meets or exceeds market and regulatory demands for high performance, low toxicity, and broad capability. Polyphase PW20 is a complement to Troy's diverse portfolio of dry film preservative products and strengthens our commitment to providing environmentally sound products and service worldwide," said David Faherty General Manager and Vice-President, Americas.

For further information regarding Polyphase PW20 or any of the preservatives or performance additives Troy offers in the Canadian market, please contact Troy Chemical Company Ltd at

905-760-7902 or your local Canadian sales representative listed at [www.troycorp.com](http://www.troycorp.com).

## Nanotech Industries, Maker of Green Polyurethane, Merges with EPOD Solar

EPOD Solar, Kelowna, BC, has announced the signing of a definitive stock purchase agreement with Nanotech Industries International, San Francisco, CA, for the reverse merger of the two companies.

Nanotech Industries manufactures and sells Green Polyurethane Binder and Green Polyurethane Floor Coating, a green product line claimed to be environmentally friendly and free from isocyanates, and toxicities related to isocyanates.

Nanotech Industries focuses on the industrial and specialty coatings market.

A previously announced Nanotech Industries stock purchase on January 31, 2010 was cancelled on August 16.

## Sherwin-Williams to Acquire Becker Acroma Industrial Wood Coatings

The Sherwin-Williams Company announced it has signed a definitive agreement to acquire Becker

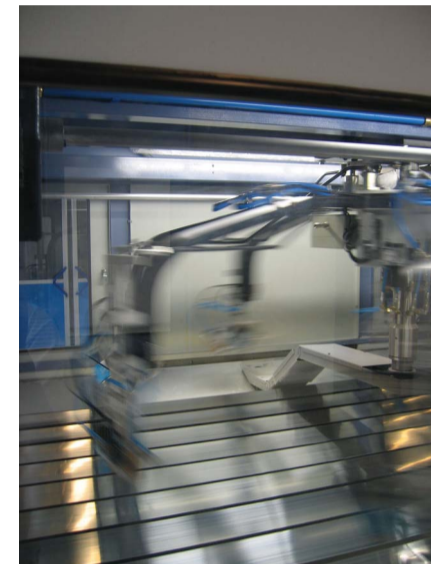
Acroma Industrial Wood Coatings, a subsidiary of AB Wilh. Becker based in Sweden. The transaction, subject to certain regulatory approvals, is expected to close in the third quarter of 2010.

Head quartered in Stockholm, Sweden, Becker Acroma is one of the largest manufacturers of industrial wood coatings globally and a technology leader in water, UV, and other wood coatings.

Becker Acroma joins Sherwin-Williams' growing Global Finishes Group following the acquisitions of Sayerlack (2010), Inchem (2008) and Becker Powder Coatings U.S. (2008).

[www.sherwin.com](http://www.sherwin.com)

## Malvern Spraytec helps specialist manufacturer optimize furniture coating



Researchers from Becker Acroma, a manufacturer of high quality solutions and customised systems for the wood finishing industry, have used the Spraytec laser diffraction particle size analyzer from Malvern Instruments to help optimize the application of water-based furniture coatings using airless spraying. As a result of work with the Spraytec they have been able to tailor the droplet size of the paint to different applications, ensuring the best possible finish.

"Within an individual paint, we could very clearly see that the application parameters which resulted in smaller droplets produced a smoother surface," said Mr Mikael Beving, R&D Project Leader at Becker Acroma. "The Spraytec proved to be a very good optimization tool for coating application."

Waterborne coatings are used increasingly in wood finishing, producing results similar to those of solvent-based paints but with much less environmental impact. In terms of their application, the use of airless spraying reduces overspray, and at the same time increases transfer efficiency and production rate. However, droplet size of the applied product is critical and must be optimized and maintained in order to assure the application of a uniform coating.

Spraytec is proving well suited to characterizing paints and coatings, where it is important to be able to measure high concentration sprays of different geometries and having wide spray fans. Its ability to measure in real time has allowed the Becker Acroma teams to track the changes in droplet size that can occur during coating operations.

Using the Spraytec, the researchers have been able to thoroughly investigate a number of important parameters, beginning with the variation in droplet size across the spray fan, to assess how the range of sizes within the distribution

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affects the finish. Since sprays are often used at an angle, which introduces a variation in the distance between nozzle and target, the effect of distance on droplet size has also been examined, as has the effect of liquid pressure on droplet size. As a result they have been able to tailor the droplet size to different applications by varying the paint pressure.

Spraytec is a laser diffraction particle size analyzer designed for use in a diverse range of spray applications, and is widely used across different industries.

### Buhler Group signs inorganic nanoparticles agreement with Sigma-Aldrich

Buhler and Sigma-Aldrich have signed an agreement in which research volumes of nanoparticle dispersions from Buhler will be sold worldwide exclusively by Sigma-Aldrich. These products are dispersions of nanoscale inorganic particles in water and organic solvents, which show great economic potential in a wide spectrum of possible applications. The initial target group for these products will be materials science research and development. The dispersions are manufactured in the nanotechnology business unit (PARTEC) of the Buhler Group and are sold worldwide through the Aldrich Materials Science initiative of Sigma-Aldrich.

[www.sigma-aldrich.com/nano](http://www.sigma-aldrich.com/nano).

### Industry News

#### BPA Toxic?

Canada is in the process of adding bisphenol-A (BPA) to its list of toxic substances according to Environment Canada. This is expected to happen before the end of the year.

BPA used in making plastic has become increasingly controversial since Ottawa's intention was published two years ago in the Canada Gazette. Its estrogen-like effects are suspected in creating havoc with hormone levels.

The government did ban the sale of polycarbonate plastic baby bottles that contain bisphenol-A in 2008, but any further action has been challenged fiercely by the chemical industry.

The American Chemistry Council (ACC) demanded a review of the proposed toxic listing last year, saying declaring BPA toxic was not based on the best available data and scientific knowledge.

Canada is the first country in the world to declare that it intended to label BPA a toxic substance.

Jim Quick, CPCA president comments, "The CPCA agreed with the ACC comments. At that time it certainly looked to the CPCA that governments were not making decisions based on the 'best science available' but were in a contest of one-upmanship.

We believe that Canada has the highest standards of product safety in the world. Canadian manufacturing is governed by over 400 federal and provincial pieces of legislation, as well as thousands of regulations and self-imposed standards – all of which Canadian industry meets or regularly exceeds.

In our chemical management discussions with governments we continue to reinforce that our industry is committed to protection of the environment, enhancing human health and the quality of life through the responsible formula-

## Motoman Robotics Begins New Headquarters Construction

Ground has broken for Motoman Robotics' new facility in Miamisburg, Ohio. The new facility will serve as Motoman Robotics' headquarters and main manufacturing facility for its North and South American operations.

Stealing the show at the groundbreaking ceremony was the Motoman SDA10D robot. The innovative, dual-arm robot – otherwise known as Dexter Bot – donned a hard hat and turned the first shovel of dirt. Motoman executives and local officials also took turns breaking ground.

The new 300,000 square foot state-of-the-art office and production facility will combine the current West Carrollton, Ohio headquarters, along with a manufacturing plant and a warehouse located in Troy, Ohio.

Construction will take approximately 10 months with an expected move-in date of June 2011.



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## IN THE NEWS

tion, production, and sale of high quality, safe products. We believe that this only makes good business sense - to ensure the public's continued trust in the products they use and enjoy.

We are in the midst of a heightened global health and environment agenda with governments everywhere racing to establish their sustainability credentials. Canada will be the first country in the world to declare its intent to label BPA as toxic. As the ACC points out - there is significant evidence out there that would indicate that Canada does not have to go down this road. This has Canadian industry wondering if this is indeed an 'emotional response' to the issue, versus a decision made on sound science."

### New ISO Methodology Demystifies Nanomaterials

ISO has published a new technical report, ISO/TR 11360:2010, Nanotechnologies – Methodology for

the classification and categorization of nanomaterials, offering a comprehensive, globally harmonized methodology for classifying nanomaterials.

Nanotechnology deals with structures between 1 to 100 nanometers. Applications are wide, and range from computer memory storage to sunscreens. Nanomaterials currently in existence exhibit various physical, chemical, mechanical, optical, magnetic and biological properties, as well as different internal/external structures.

Because scientists and researchers in this field have very diverse backgrounds, and are working on different applications, there are now many divergent understandings and assumptions associated with emerging scientific concepts in this area. This is causing poor communication, lack of interoperability among systems and duplication of efforts.

ISO/TR 11360 introduces a system called the "nano-tree," which places nanotechnology concepts into a logical context by indicating relation-

ships among them as a branching out tree. The most basic and common elements are defined as the main trunk of the tree, and nanomaterials are then differentiated in terms of structure, chemical nature and other properties.

ISO/TR 11360:2010 describes a classifying system, termed a "nano-tree," upon whose basis wide ranges of nanomaterials can be categorized, including nano-objects, nanostructures and nanocomposites of various dimensionality of different physical, chemical, magnetic and biological properties.

### Global Regulation Update

US - Stricter Disclosure: The EPA is developing a new rule that would require increased disclosure from chemical manufacturers. EPA Press Release states:

"The proposed rule would require manufacturers, including importers, to submit information electronically, which will help the agency to make

the data public more quickly. The proposed rule also would limit the information that can be treated as confidential so the public can access it, and require more reporting from chemical manufacturers."

More information about the rule available at: <http://www.nexreg.com/regulatorynews/index.php/2010/08/17/aug17-usa-epa-proposes-improvements-to-chemical-reporting-actions/>

EU - Confidentiality and Notification: The ECHA has released information on the need for ECHA notification and for when companies can keep components confidential:

"As of Jan. 3, 2011, companies that manufacture, import, use, or distribute chemical substances or mixtures must provide information about the classifications of and labels for any substance or mixture, regardless of its annual tonnage, before they place it on the European Union's market. Placing a chemical on the market means making it physically available.

Specifically, chemical manufacturers, importers, or distributors can claim the IUPAC name confidential if their chemical is new to the European market; if it is an intermediate, meaning it is used to make other chemicals; if it is used for scientific research and development; or if it is used in the development of what the manufacturer hopes will be a new chemical product."

<http://www.nexreg.com/regulatorynews/index.php/2010/08/31/aug-31-eu-rules-about-confidentiality-on-safety-data-sheets/>

Canada - Aerosol Product Crackdown: Recently aerosol products have been recalled by Health Canada for being in non-compliance with consumer label regulations (CCCR, 2001). All manufacturers with product in Canada need to ensure that either their labels are consumer compliant or measures are taken such that consumer cannot easily access their products. The new Canada Consumer Product Safety Act is likely to be passed in the fall, making CCCR compliance that much more important:

[www.nexreg.com/regulatorynews/index.php/category/agency/canada-consumer-product-safety-act/](http://www.nexreg.com/regulatorynews/index.php/category/agency/canada-consumer-product-safety-act/)

Keep up to date at: [www.nexreg.com/regulatorynews/index.php](http://www.nexreg.com/regulatorynews/index.php) and through the video series 'Nexreg on Compliance' at <http://www.youtube.com/user/Nexreg>.

### Innovation a Must for Canadian Automotive Industry, Says Canadian Manufacturing Week/Weld Expo Keynote

Opening address at Canadian Manufacturing Week/Weld Expo 2010 to examine challenges, opportunities ahead for suppliers faced with changing demand

As executive chairman and co-founder of Martinrea International Inc., a leading Canadian auto parts supplier recognized for its leadership in advanced technical systems and program management, Rob Wildeboer knows firsthand just how important innovation can be. Thanks to ongoing technological investment, his company remains a tier-one supplier to the automotive sector despite the recent economic downturn and now he's ready to share his insights with others as he delivers the opening address at Canadian Manufacturing Week (CMW)/WeldExpo 2010.

Speaking on Tuesday, October 5 at 9:00 a.m. at the Toronto Congress Centre, Wildeboer will examine the future of the Canadian automotive sector and its supply base, and the unprecedented chal-

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lenges ahead due to changing demand in key product areas. Extracting from his personal and company experience, he will identify future growth opportunities for manufacturers and share strategies for success.

"Especially after the recent downturn, Canadian manufacturers know that innovation is not some conceptual goal or voluntary calling which to strive towards," said Nick Samain, Event Manager with the Society of Manufacturing Engineers (SME), organizer of CMW/WeldExpo 2010, along with Canadian Manufacturers and Exporters, Canadian Welding Association, Canadian Wind Energy Association, Canadian Fluid Power Association and the Automotive Parts Manufacturers' Association. "It is an essential element to everyday business survival and the foundation of growth."

"We could not ask a more suitable keynote speaker than Mr. Wildeboer to kick off Canada's most significant manufacturing event in 2010," Samain added. "As recovery continues in the automotive industry, Canada's largest manufacturing sector, Mr. Wildeboer will offer a unique perspective as an industry leader on new opportunities, growth strategies and real world examples on how to innovate and succeed."

From October 5-7, CMW/WeldExpo 2010 will transform the Toronto Congress Centre North Hall into a one-of-a-kind meeting place for decision makers from across Canada's manufacturing community. Additional highlights of the three-day event include:

A CMW Interactive Town Hall session, Canada's Wind Energy Supply Chain: Status of the Market and Manufacturers' Success Stories in Transitioning to Wind Energy, jointly presented by SME and the Canadian Wind Energy Association (CanWEA) on Wednesday, October 6, from 9:00 a.m. to 10:00 a.m. The session will recap the findings of a recent report by CanWEA and Canadian Manufacturers and Exporters that looked at growth opportunities in the wind industry supply chain, and will share the experiences of two to three manufacturers who successfully transitioned their business from other sectors to wind manufacturing. It will be followed by a dynamic Q&A period with the audience.

Three days of expert-led seminars on topics that include everything from how to optimize a factory floor layout, realize cost savings by uniting "lean and green" thinking or assure reliability in underground welding, to the latest advances in industrial CT scanning, laser processing, robotic welding, hydrogen fuel cells and more.

Weld Expo, Canada's only welding industry event, co-sponsored by the Canadian Welding Association (CWA/CWB). Attendees will discover new and innovative ways to strengthen sheet metal operations, and learn how to implement lean processes, industry advances and green technology to improve quality, increase efficiency and lessen environmental impact. Weld Expo also features Canada's best welder competition.

Innovations 2010, special recognition of products new to market within the last year; and Green Solutions 2010, a special showcase of energy efficient and environmental products.

CMW/Weld Expo is Canada's largest and most comprehensive manufacturing show, featuring technologies and solutions from a wide range of industry sectors, including: aerospace, automotive, construction, defence, electronics, fabricated metal/stampings, government, industrial machinery/equipment, medical devices/pharmaceuticals,

transportation, steel manufacturing and utilities/energy.

"Manufacturers are looking for real solutions and they will find them at CMW/WeldExpo 2010 with an unprecedented educational program, premier networking opportunities, the latest in new technology and the right partners and suppliers ready to do business," said Samain.

[www.cmwshow.ca](http://www.cmwshow.ca)

### Pricing Updates

#### Evonik Industries Raises Prices for Silica Products

Beginning Oct. 1, Evonik Industries' Inorganic Materials business unit will raise prices for precipitated and fumed silica products, special oxides, and matting agents worldwide by up to eight per cent.

The company says the price increase was needed due to rising costs for regulatory issues, research and development, technical service, logistics and production.

#### Arkema Emulsion Systems Announces Price Increase for Latex Products

Effective September 15, 2010 or as contracts allow, Arkema Emulsion Systems will increase pricing on all latex products. UCAR acrylic, styrene-acrylic, styrene-butadiene and NEOCAR Acrylic latexes will increase by \$0.05 per wet pound. UCAR vinyl-acrylic, EVOCAR vinyl acetate-ethylene and NEOCAR Latexes will increase by \$0.02 per wet pound.

This action is necessary due to continued increases in cost of key raw materials. Also, due to ongoing shortages of acrylic monomers, some acrylic latex products will remain on sales control until further notice. Customers should contact their Arkema Emulsion Systems account representative for additional details.

### People

#### ITW's Marc Fooksman Recognized for Contributions to Powder Coating Industry

ITW's Marc Fooksman was inducted into the Powder Coating Institute's (PCI) Hall of Fame at their

May 2010 annual meeting in Austin, Texas. ITW Gema General Manager, Chris Merritt, had the honor of introducing Marc and recognizing his participation as a PCI Board Member, as well as his significant contribution to ITW Gema and the powder coating industry overall. The PCI Hall of Fame recognizes individuals who have made outstanding contributions to the powder coating

industry and have given a minimum of 15 years in service to the industry.

Fooksman graduated from Purdue University in 1981 with a Bachelor's Degree in Mechanical Engineering. He then attended the University of Michigan and received his Master's in Business Administration in 1983. He began his career in the finishing industry in 1985 as a product specialist

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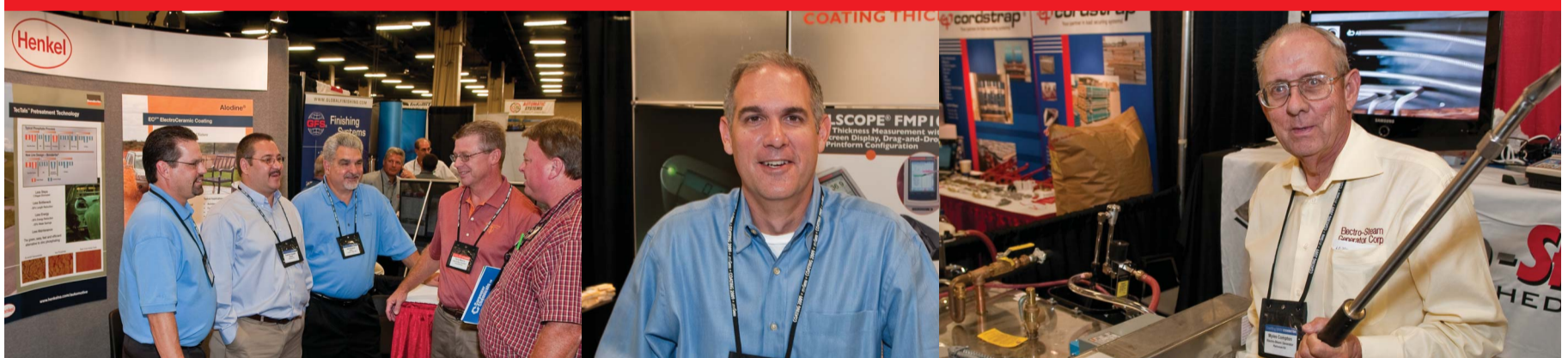
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**Editor:**  
Sandra Anderson  
Tel: 1-519-442-4071  
Fax: 1-519-442-1359  
sandra.anderson@cfcfm.ca

**Accounting, Circulation and Sales**  
Brian Jones  
Tel: 1-905-405-1500  
brian.jones@cfcfm.ca

## IN THE NEWS



Marc Fooksman

in the liquid electrostatic division of Ransburg Corporation. Over the next several years, he gained experience in sales, engineering and product line management. When Ransburg Corporation was acquired by ITW in 1989, Fooksman was promoted to General Manager of Ransburg Gema Industrial Finishing Systems. In 1990, he assumed the General Manager responsibilities for the ITW Gema business unit in North America.

Fooksman began his involvement with the Powder Coating Institute in 1990.

### Georgia-Pacific Chemicals Appoints New Technology and Innovation Scout



Kim Tutin

Georgia-Pacific Chemicals seeks partners within universities, private and federal laboratories, entrepreneurs and corporations that have technologies of interest to leverage its own application and development capabilities.

As part of this effort, the company has appointed Kim Tutin to the newly created role of technology and innovation scout. In this role, Tutin will identify and commercialize diverse technologies and sustainable solutions to address customer needs in Georgia-Pacific Chemicals' various areas of expertise, such as thermosetting resins and innovative materials used in building products, paper, packaging, mining and other industrial fields.

Throughout her 24-year career with Georgia-Pacific Chemicals, Tutin has held various leadership roles and has been recognized for contributions to several innovation projects and the advancement of technology within the company. She holds a master's degree in technology and engineering management from the City University of Seattle and a bachelor's degree in chemistry from the University of Minnesota Morris. She recently furthered her professional development and education by earning the Certified Licensing Professional designation.

For more information on open innovation at Georgia-Pacific Chemicals, call 866-4GP-CHEM or e-mail at gp\_chemical@gapac.com.

## Calendar of Industry events 2010

**September 21-23:** Atlantic Manufacturing Technology Show (AMTS) 2010, Exhibition Park, Halifax, NS. [www.sme.org/amts](http://www.sme.org/amts)

**September 27-29:** CHINACOAT 2010, Guangzhou, China, at the Guangzhou International Convention and Exhibition Center. [www.chinacoat.net](http://www.chinacoat.net)

**October 2-3:** CPCA 2010 Conference in Montreal. [www.cdnpaint.org](http://www.cdnpaint.org)

**October 5-6:** Coatings Trends & Technologies (CTT) Conference, Westin Lombard Yorktown Center in Lombard, IL. [www.coatingsconference.com](http://www.coatingsconference.com)

**October 5-7:** Canadian Manufacturing Week: at the Toronto Congress Center. [www.cmwshow.ca](http://www.cmwshow.ca)

**October 5-7:** 2010 Anodizing Conference & Expo, Marriott Chateau Champlain, Montreal, QC. [www.anodizing.org](http://www.anodizing.org)

**October 12-14:** parts2clean, International Leading Trade Fair for Cleaning within the Production and Maintenance Processes, Exhibition Center Stuttgart, Germany, Organizer: fairXperts GmbH. [www.parts2clean.com](http://www.parts2clean.com)

**October 12-14:** COROSAVE, International Trade Fair for Corrosion Protection, Preservation and Packaging, Exhibition Center Stuttgart, Germany. [www.corosave.com](http://www.corosave.com)

**October 26-29:** NAI (The North American Industrial Coating Show), hosted by The Powder Coating Institute (PCI) and NACE International, The Corrosion Society (NACE), at the Indianapolis Convention Center, IN. [www.thenaicoatingshow.com](http://www.thenaicoatingshow.com)

**November 2-4:** FABTech/Finishing Expo, Atlanta, GA. [www.fmafabtech.com](http://www.fmafabtech.com)

## TRADE SHOWS

### AAC 2010 Anodizing Conference in Canada—Advancing to the Next Level

The Aluminum Anodizers Council (AAC) of Wauconda, IL will be helping anodizing professionals advance to the next level at the 19th Annual International Anodizing Conference and Exposition to be held October 5-7 in Montréal, QC, Canada. The event, which provides education, industry information, and networking opportunities for the anodizing community will feature timely and cutting-edge topics specifically geared toward the anodizing community. The two-day Conference incorporates General Sessions, Focus Sessions in three tracks (Technical, Environmental, and Scientific), the Anodizing Expo featuring exhibits from industry suppliers and networking events. The Conference also includes tours to local manufacturing plants, and the Anodizing Quality Workshop—a new second-level course in the AAC School for Anodizers.

The Anodizing Conference attracts influential decision makers from the anodizing and manufacturing communities and is considered the industry event of the year, highlighting the latest technological advances, industry innovations, and business developments most relevant to anodizers. It is designed to appeal to a wide variety of anodizing industry professionals at every level of production—from the front office to the plant floor.

The educational program highlights anodizing process and troubleshooting techniques, advancing technologies, and sustainability measures to help further the eco-friendly nature of the process. General Sessions on Wednesday and Thursday feature presentations ranging from aerospace anodizing and lean practices to "green" marketing guidelines and aluminum industry market trends. Focus Sessions on Wednesday afternoon will feature concurrent sessions in three tracks, including Technical, Environmental and Scientific. The program also includes the popular Technical Q&A Panel, an interactive forum where anodizing experts share their expertise and answer questions from conference delegates.

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## TRADE SHOWS

Networking opportunities, including the Welcome Reception on Tuesday, October 5, and the Delegate Network Event, sponsored by select anodizing industry suppliers, on Wednesday, October 6 will round out the program to present a valuable and noteworthy event developed specifically by and for anodizing industry professionals.

"The 2010 Anodizing Conference program promises a robust variety of topics, ranging from the latest research using the anodic aluminum oxide (AAO) to new products and environmental insight for the anodizer to sustainable business ideas and lean practices," commented AAC Education Committee Chair Jude Runge, Ph.D., President of CompCote Inc. in Lombard, Illinois. "As always, networking opportunities that every anodizing industry professional can use to improve operations, increase their understanding of anodizing techniques, and expand industry connections are part of the conference. What's new is our Academic Outreach Program; we have actively sought out and continue to search for universities that are working with light metals research and development, surface science, and the technology of anodizing. By engaging our academic colleagues who see a need for connections to our industry and by engaging their students, we demonstrate the connection between the science of the substrate, surface and anodizing and thereby assure our industry's future," Runge noted.

AAC President, Gregory T. Rajskey, CAE, agrees. "This year's educational program, one of the strongest and most diverse to date, covers practical and theoretical topics to provide industry professionals with a well-rounded understanding of the anodizing process—with implications for process improvement, as well as glimpses of new applications that could reveal the future of anodizing."

### Exhibitor List

The Anodizing Expo, which is held during non-conference hours of the meeting, provides an opportunity for the anodizing community to connect while suppliers to the industry display their products, services, and innovations to a wide array of anodizing company representatives.

The displays will feature a mix of full booths and tabletop exhibits. The following companies will be exhibiting at the 2010 Anodizing Expo.

<i>American Plating</i>	
<i>Power/Munk GmbH</i>	Table Top 5
<i>Burlingham International</i>	Table Top 4
<i>Canadian Finishing &amp; Coatings</i>	
<i>Manufacturing (CFM) Magazine</i>	Table Top 7
<i>Dynapower Corporation</i>	Table Top 1
<i>Eco-Tec, Inc.</i>	Booth 2
<i>Houghton Metal Finishing</i>	Booth 10
<i>JBC Limited</i>	Booth 9
<i>Metalast International</i>	Booth 1
<i>Novelis Corporation</i>	Table Top 8
<i>Northern Technical Solutions</i>	Booth 8
<i>PCS Sales (USA), Inc.</i>	Booth 3
<i>Products Finishing Magazine</i>	Table Top 2
<i>Reliant Aluminum Products</i>	Booth 7
<i>Servi-Sure Corp.</i>	Table Top 3
<i>Technic Inc.</i>	Table Top 6
<i>Walgren Company</i>	Booth 6
<a href="http://www.anodizing.org">www.anodizing.org</a>	

### Partnering for Success CPCA Industry Conference 2010

Accurate forecasting, business analysis and effective partnerships take centre stage at CPCA Industry Conference 2010 held at the Hyatt Regency Montréal, Montréal, Québec Saturday, October 2 to Monday, October 4, 2010.

### The Program

The Conference begins with the trends that influence our sector, to reveal the prospects for growth and prosperity. A study of the economic recovery, in Canada and worldwide, will help put these trends in context—as will a review of the competitive dynamics affecting the global chemistry industry. The Monday morning presentations help sector companies prepare for tomorrow and offer insight into the interplay of the economy, regulation and technology.

After lunch, partnerships are on the agenda, beginning with a session on how industry and government can work together to implement effective growth strategies. A close look at supplier–manufacturer relationships will yield insights into supply chain issues and some realistic solu-

tions. Next, analysis of business–customer relationships will show how to reach and satisfy customers when your product is complex.

After the break, the Conference turns to paint industry and paint product branding before concluding with surveys of critical interest to industry marketers and their colleagues. Consumer behaviour and buying patterns will be revealed, as will business investment intentions, and collective viewpoints on the economy and Canadian politics.

The After-hours Program begins Saturday night with the Welcoming Reception, an annual favourite that is always well-attended.

On Sunday, there is a walking tour of the cultural highlights of Old Montréal. A bus tour of the city's business and cultural sites will follow, highlighted by stops at famous landmarks, such as St. Joseph's Oratory and Mount Royal Park.

You will return to the hotel to enjoy the Chair's Dinner—a celebration of our industry and its leaders. Sunday winds down with an invitation to join in at the CPCA Hospitality Suite.

Knowledge of today's trends can tell you a great deal about tomorrow. This presentation examines the trends driving the paint and coatings sector, to reveal its prospects for growth and prosperity.

The conference program includes: Full Breakfast Greeting and Welcome Paint and Coatings Sector Outlook; State of the Economy Present and Future; Networking Break Regaining Profitable Growth in the Chemical Industry The Next Decade; Annual General Meeting Luncheon Keynote Speaker Industry–Government Relations; Supplier–Manufacturer Relations; Business–Customer Relations; Branding Paint and Everything You Wanted To Know about the Consumer But Were Afraid To Ask.

### CPCA Industry Conference 2010 Committee

*Richard Tremblay, Benjamin Moore & Co. Ltd. (Chair)*  
*André Buisson, Société Laurentide Inc.*  
*Roula Hanna, KronosWorldwide, Inc.*  
*Doug Parsons, HomeHardware Stores Ltd.*  
*Genevieve Savary, BayerInc.*  
[www.cdnpaint.org](http://www.cdnpaint.org)

### CCAI's Finishing Technologies Pavilion & Conference Debuts at FABTECH in Atlanta

It's been a year since CCAI made the decision to partner with FABTECH, Nov. 2 – 4 at the Georgia World Congress Center in downtown Atlanta, GA, to bring a FINISHING TECHNOLOGIES Pavilion and Conference to the show that has traditionally showcased fabricating, welding and metal forming. In this age of tighter budgets, fewer staff, and less time, it was a natural progression for both FABTECH and CCAI to offer finishing as a part of FABTECH. Metal products that are fabricated, welded and formed are ultimately finished. CCAI's FINISHING TECHNOLOGIES Pavilion and Conference now provides the missing link that completes the manufacturing process at North America's largest show and conference for fabricators, welders, metal formers and finishers.

For the finishing industry, this provides an opportunity to review and learn about many of the manufacturing processes used in facilities around the world all in one convenient location.

CCAI is offering more than 48 hours of timely and valuable conference programming. Everything from emerging technologies, introduction to finishing processes, right sizing your finishing system to the future of coatings technologies, modern pretreatment, understanding and lowering your finishing costs and more. Likewise, the companies that supply our industry have enthusiastically decided to support CCAI's FINISHING TECHNOLOGIES Pavilion & Conference at FABTECH.

"I'm extremely excited about FABTECH," says CCAI Vice-President, Sam Woehler of George Koch Sons. "It has the potential for all of us to meet with a much wider market than a lot of our more recent shows have offered. It's geared toward the entire manufacturing process stream. I think with CCAI's involvement in the finishing aspect of the show and conference, not only do we bring a much needed element to FABTECH but we are also going to gain so much from the show as well."

Show attendees can register for FREE until October 29 by using Priority Code CCAI2 during the on-line registration process. Thereafter, a \$50 registration fee applies for the show. Finishing exhibitors can also provide you with a show ticket that will provide FREE on-site show registration, saving you the \$50 registration fee. Contact any Finishing exhibitor for a show ticket to use on-site if you cannot pre-register by October 29. CCAI members receive discounted fees to attend the FABTECH & FINISHING Conference. Follow the member discount instructions during the registration process.

### Finishing Pavilion Exhibitors

As of August 18, 2010  
 For a complete list of the more than 1,000 exhibitors at FABTECH, visit:  
[www.fabtechexpo.com](http://www.fabtechexpo.com)

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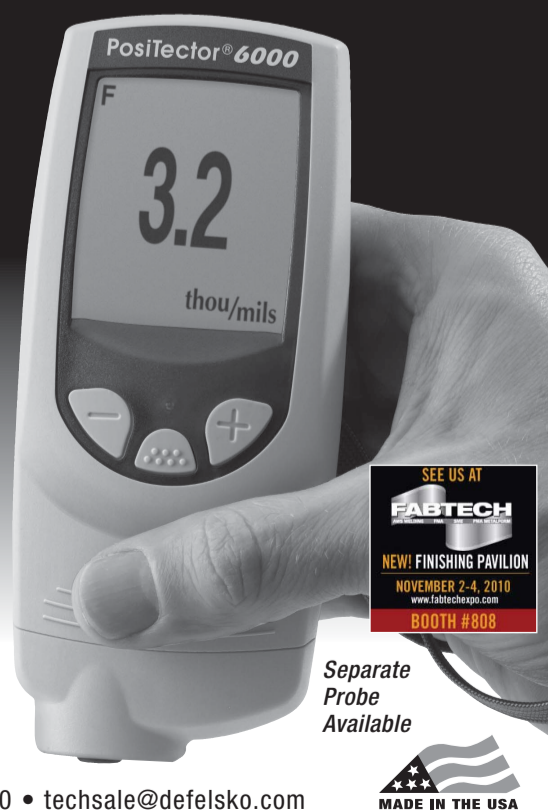
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**Strong Attendance Expected at Canada's Major Manufacturing Event as Manufacturing Sales Continue to Rise**  
*Canadian Manufacturing Week/WeldExpo 2010 to deliver unprecedented, comprehensive education program and creative solutions to help manufacturers compete*

With a steady increase in manufacturing sales 8 out of the last 10 months and a predicted upward trend, Canadian manufacturers are gearing up for better times ahead.

According to organizers of the upcoming Canadian Manufacturing Week (CMW)/Weld Expo 2010, this renewed sense of optimism is translating into strong interest in Canada's preeminent manufacturing event, which will feature new industry realities and solutions as a central theme.

CMW/WeldExpo 2010 – which will take place from October 5 to 7 at the Toronto Congress Centre – is being presented by the Society of Manufacturing Engineers in partnership with Canadian Manufacturers and Exporters, Canadian Welding Association, Canadian Wind Energy Association, Canadian Fluid Power Association and the Autoparts Manufacturers Association.

"Coming out of a difficult economy, Canadian manufacturers know that business as usual is not an option anymore," said Nick Samain, Event Manager, emphasizing that this year's event will focus on new challenges and new opportunities.

"Manufacturers are looking for solutions to such issues as a high dollar, credit challenges, increased regulation and stiff global competition," Samain said. "They're looking for knowledge and education to be leaner, more innovative and competitive, and CMW/WeldExpo 2010 will offer direct solutions to meet these challenges."

A comprehensive education program will be presented, including keynote presentations, interactive Town Hall meetings, technical programs, one-on-one matchmaking opportunities, Canada's Best Welder Competition, a networking reception and much more.

Organizers expect CMW/WeldExpo 2010 to draw more than 5,000 manufacturers. Samain explained that the show floor will be packed with the latest innovations in advanced manufacturing, fabricating, welding, design engineering, metal forming rapid prototyping, automation, enabling attendees to source the tools and equipment they need to compete and grow their operations.

Held every two years, the event has a 20-year history of serving key manufacturing sectors across Canada including the automotive, energy, aerospace, custom fabricators, transportation and medical industries. New for 2010 is a move to the Toronto Congress Centre, to better serve exhibitors and attendees in an upgraded and more modern facility, close to all major highways, Pearson International Airport and, most importantly, thousands of manufacturing facilities, Samain said.

"We are very excited with the change in venue and the significant upgrades to almost every aspect of the customer experience at CMW/WeldExpo 2010 this year," he said. "Planned for more than two years, the event is taking place at an ideal time and location for the manufacturing industry."

"With the recovery full steam ahead in the automotive and energy sectors here in Ontario and manufacturing sales on the rise month after month across Canada, we are looking at what could be the best edition of this event ever," he said.

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continued from front cover

(UV), thus dramatically reducing VOC's, says Steve Bosley, Vice President of Supervi America, Inc. "They have also dramatically increased their capacity, and have been able to reduce the total time manufacturing their product, as they are not waiting for the coatings to dry." Bosley added, "They have also reduced the number of rejects that typically come from open air drying, and handling of wet parts."

Superfici is the supplier of Laurysen's newest Flatline Finishing Machine, purchased last year.

This is the second line for Laurysen, the first purchased nine years ago also being a Superfici model. Laurysen has been running the new line since Oct. 09, 2009, with a lot of success.

Vice president Bill Laurysen says the

company spent 14 months researching and investigating to find the ideal flatline finishing system to best meet their needs. "It took awhile, but we did our homework."

"We needed to increase capacity," says Laurysen. "With the old line everything had to naturally dry. We were handling things too much, parts were falling and getting damaged."

"We wanted the product to come out at the end finished and dry and stackable." He adds, "We wanted to control every part of the process."

## A LEAP OF FAITH

"We decided to take a leap of faith and jump into waterbased," says Laurysen. Valspar supplies all of the stains Laurysen uses including the new waterbased UV. In their hunt for the perfect line Laurysen and his Valspar representative personally



Bill Laurysen and Chris Munro inspect door panels.

went to every flatline machine manufacturer with the product in tow and conducted tests.

"We looked at everything," says Laurysen. "We didn't want a stack oven, we wanted a continuous line so it is always running providing better efficiency."

we wouldn't make a mistake, and to get information too."

Laurysen ended up returning to Superfici due to the fact that his staff was familiar with the machinery and they already had a good business relationship.

"Superfici put a line together that met

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Ted Narezny monitors the spray assembly on the Superfici Compact Spray.

"It was a big investment and we wanted to be sure that this is the right one, so we tried everyone out there so

all our demands," says Laurysen. Basically the cabinet door to be finished goes in on the feed table through the air vacuum, sweeper, blower which gets rid of any particles on the product, and after that a red light heats the core, preheating the board just before it goes into the stain applicator, which is a waterbased UV. It then heads into the oven's IR lights then low density flow area with low velocity air movement. Airflow increases as it goes through the line, then hot air is blown onto product, UV flashes it and then it is secure and stackable.

The machine is 91 feet long with a 15 feet infeed area plus a 15 feet outfeed zone. The machine takes up 2,420 square feet with enough room to move material around. The overall plant size is 55,000 square feet. They are pleased with the amount of space the line occupies.

"Floor space is always a concern," says Laurysen.

When it came to start up day last October, Laurysen made sure that his representatives from Superfici, Valspar and the gun line Binks were all there. He says this way problems were spotted right away, adjustments were made on the fly and it

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The paint kitchen.



Rick Nunny inspects and stacks the finished door panels.

was impossible for one to blame the other for something that didn't work in the overall system. They problem solved as a team on the spot. As a result, the new line was up and running that afternoon and the suppliers remarked that it was one of the most successful startups that they ever took part in.

### THE NEWEST IN WATERBASED STAIN

The line has an automatic five-stain colour changer. Laurysen carries five of the most popular colours of the new waterbased product loaded in its line.

"In the past when I looked at water-based, I always found the finish looked starved, not enough left on the door," says Laurysen. "They are improved now. The quality is just as good if not better. You can't tell the two apart anymore." He adds, "It is a much nicer finish. We figured if we are going to spend this money we should take a step toward the 'green' side."

He says he felt the pressure to go green and be environmentally friendly from customers.

"There is definitely a trend toward green products."

Laurysen Kitchens has begun using the "green" aspect in its marketing.

"We have five different colours that are truly green and more colours every day." He adds, "About 57 per cent of our product line is green." The company provides 35 colours in all.

"We have always dealt with Valspar," says Laurysen. He says with drying times being a concern, he always had success with their products.

Customers have not been able to tell the difference between the solvent stain and the waterbased stain. Laurysen is promoting the green products in their brochures.

The new line has now gone through all the different seasons and climates since it

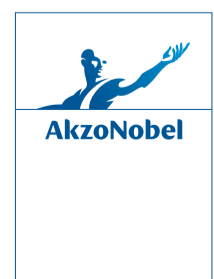


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Kyle Gilmore sets up for manual spray.

was installed last fall. Bill Laurysen said they were concerned about summer heat and humidity and how the waterbased stain would hold up, but it did.

"No problem," he says.

Laurysen Kitchens does 99 per cent of its business in Canada. The US cus-

tomers they have are demanding "green" product.

Laurysen considers itself a medium to high-end manufacturer. They have done kitchens for Ontario housing projects up to high profile \$150,000 kitchens.

"Laurysen's have always found it



Owners Caroline Castrucci and Bill Laurysen in their show room.

important to share knowledge. We have had many tours, arranged through suppliers and trade associations, through the plant to view equipment and processes. We have an open door policy to the industry."

*Laurysen Kitchens is a member of the Canadian Kitchen Cabinet Association.*

*Bill Laurysen describes the company's policy, "We provide good product at a good price. Not the cheapest, but not the most expensive. Good value."*


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# New Lab for Cefla

On June 10, 2010, Cefla Finishing America Ltd and Cefla Finishing Canada, part of Cefla Finishing Group of Imola, Italy, opened its new North American headquarters in Charlotte, N.C.

The 150,000-square-foot facility is Cefla's largest investment outside of Italy. The company says that the new building comes in response to growing demand in the North American market. All Cefla operations in the U.S. and Canada will be consolidated into the new facility, which includes 75,000

square feet of manufacturing space and 15,000 square feet for an application laboratory and machine showroom.

The group consists of Cefla Finishing, Delle Vedove, Düspohl, Falcioni, and Sorbini.

The address for the new facility is:  
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## Target: New Robot for Spraying Glue or Coatings on Panels

The Target robot, processed by one axis unit, is the ideal solution for the spray application on flat and moulded panels with different and complex shapes guaranteeing absolute precision and perfect finishing quality whether applying glue or coatings.

The new gantry design provides superior rigidity and this new robotic spray machine is equipped with a paper belt transport. The axis is specifically designed for application accuracy, ensuring optimization and reduction of waste. Cefla Finishing, to assure a high degree of functionality and performance, specifically develops CN software and interface. Target has been designed by Cefla Finishing to meet the need of a high performance machine at an affordable budget. The machine is in compliance with the new environmental and energy standards.



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# Innovations the Key in Kitchen Finishing

Companies who manufacture finish for kitchen cabinets are focusing on the trend of water base and meeting customers' needs.

Regarding innovations, Ron Wilson of Canlak Inc. says, "This relates to both the green movement and customization of coatings to fit the Kitchen Cabinet manufacturers needs. Canlak's focus is on both of these areas, and has a large market share to prove it."

Canlak's MX 1225 waterborne UV is perfect for manufacturers of Kitchen Cabinets, Furniture, Millwork, and Store fixtures who want to go to the next level in efficiency and environmental compliance.

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competition for its functionality and ease of use.

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Two new innovative products from Superior Finishes Inc that have solved customer needs include UV cure water base for flat lines. How about large components that don't fit down the U.V. line? They still need all the physical properties and in some cases must pass Green Guard.

The second new innovative product is solving solvent emissions and disposal of

flush solvent. A customer was spending half of his colored texture solvent base post cat purchases in disposal of the flush solvent. Superior Finishes Inc. worked 18 months developing a water base texture for MDF. The cost of water base disposal wasn't near the \$200,000 a year that was spent on solvent disposal. In fact the customer didn't worry about scheduling their 23 custom colors down their flat line due to cost of flushing any longer. The water base texture surpassed their specifications in every category while the solvent base never had.

Both products offer low to no post emissions from the painted products. They offer low grain raise and the ability to be applied by either vertical or flat lines. ■

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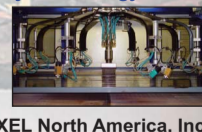
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# A Respectful Partnership—Superior Cabinets and Sherwin Williams



**Superior Cabinets**, a leader in the market for kitchen cabinetry in Western Canada, in a thorough and strategic search for a long-term finishing partner in a process, driven by a cross-functional team including representation from manufacturing, supply chain, sales and marketing, finance and executive leadership, decided to partner with The Sherwin-Williams Company.



"We have a lot of respect for our customers, our employees, our dealers and the installers of our kitchens," finishing manager Cameron Friedrich says. "We realized that to meet our commitments to them, we needed more than a vendor. We needed a true partner who shares our values, fits with our business model and is committed to process improvements."

He adds, "It's all about people who embrace change and work collaboratively with a high-level of respect for each other. That's the heart of how we operate here."

## Theory in Action

Over its nearly 30-year history, Superior Cabinets has grown from a handful of workers to approximately 225 employees in Edmonton, Calgary and Saskatoon. The kitchen cabinetry company has cultivated a large dealer

network, along with corporate sales and distribution centers strategically-located throughout Western Canada.

Superior Cabinet's product portfolio is trend-forward, while 3-D computerized design allows customers to see their kitchens before ordering. The company offers 89 finishes and 52 different door styles, a large selection of standard products and the capability to offer a high level of customization. This allows customers an opportunity to have a kitchen that fulfills their personal needs for functionality and design. Not only that, Superior Cabinets delivers in just four weeks while industry lead times are typically six to eight weeks.

"We are a true, just-in-time facility," Friedrich says. "We make everything to order, producing more than 5,000 kitchens a year with an average of 18 cabinets each, and turning our inventory probably more than 30 times annually. We are 100 per cent committed to meeting our promise to our customers of delivery in just four weeks."

Meeting Superior Cabinet's supply needs requires close, on-going collaboration. The company receives daily deliveries, usually in small batch sizes, from Sherwin-Williams' new dedicated chemical coatings facility in Winnipeg.

Sherwin-Williams has supported Superior Cabinets is by shepherding them through the process of changing finishing suppliers. Sherwin-Williams Business Development Representative David Powers, notes, "Companies that run large finishing operations have told us, 'We don't know how to change finishing suppliers.' We recognize that making changes to finishing operations can be daunting, so we supported Superior Cabinets through this process with a dedicated transition team that is knowledgeable and experienced at smoothing the process."

The team, consisting of Sherwin-Williams experts accessed from all across North America, provided support "beyond our wildest dreams," Friedrich says. "They actually set up a Paint Service Room here where they developed the stain base and formulated all the stain colors."

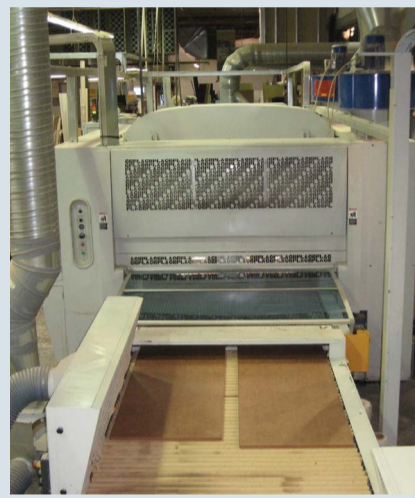
"It was terrific to have them here during the color-matching phase," Friedrich says. "They taught us how to understand the formulas and how to replicate them ourselves. At the end of the transition, I've ended up with staff that is better educated and better prepared to handle any situation that might arise."

As its exclusive supplier, Sherwin-Williams supplies Superior Cabinets with everything from primers and wiping stains to a new High Solids Pigmented Primer Sealer and topcoat. The finishing supplier also provides the touch-up kits customers receive with their kitchens.

## Strong Safety Focus

Superior Cabinet's facilities, featuring 60,000-sq. ft. of manufacturing space, typically operate one shift per day, five to six days per week. Departments include cutting, finishing and custom (where wine racks, wood stove hoods, mantels and other accessories are created), assembly and distribution.

"Each department has its own key performance indicators such as safety, quality, efficiency, and OK on-time," Friedrich says, "but everything starts with safety. We believe that safety and quality breed productivity; not the other way around."



Thirty-five employees work in the 30,000-sq. ft. finishing shop, which features a six-lap Cefla flat line system. "Once you load the production line with wood or premium MDF, it completes every process," Friedrich says. "It tones, stains, seals, topcoats, and kicks out finished product."

Another Cefla flat-line system is used to apply textured pigmented conversion coating to MDF, while wiping stains, glazes and smooth pigmented conversion coating are applied by hand in nine different spray booths.

The manufacturing facility incorporates environmentally-conscious practices into its process. Energy efficient lighting systems and the redistribution of heat discharged from compressors into other areas of the manufacturing facility cut operating costs while reducing energy use. Superior Cabinets also reduces its environmental footprint

by recycling paper and cardboard, and donating sawdust and wood chips to a local business for use in compost mix.

These practices extend to the finishing process. Solvents used in finishing are reclaimed and reused, which reduces solvent consumption by 50 per cent and hazardous waste output by 75 per cent. Superior Cabinets has received quality certifications through the Kitchen Cabinet Manufacturers' of America (KCMA) Environmental Stewardship Program (ESP) and the Wood Products Quality Council's (WPQC) Woodmark Quality System.

## Long-Term Commitment

In searching for a partner, Superior Cabinets challenged finishing suppliers to support them in helping to reduce and stabilize prices, partner in quality and process improvements, innovate with a broad range of products and through use of color, improve inventory investment through supply chain improvements and provide superior technical expertise.

Friedrich says Sherwin-Williams has met those needs, from providing and meeting quality guarantees with exceptional product consistency, through on-site technical support, and by taking a "very unique" approach to process improvement.

New color development is underway with input from Sherwin-Williams Color Marketing & Design team, a group of color experts who are skilled in identifying emerging trends and creating desired finish looks. "They send experts in various areas through here regularly so we have access to a wide range of perspectives," Friedrich says. "The support is world-class."

So how successful was the finishing transition? "Let me put it this way," Friedrich says. "We're aggressively pursuing quality and process improvements, throughout the transition we've not missed a deadline, and nobody has called saying they've noticed a shift in finish color or appearance. We've laid down a strong cornerstone and are well-positioned for future growth in Western Canada." ■



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# Environmental Pretreatments

**A**s environmental concerns continue to be at the forefront when it comes to Industrial Finishing, many finishers are opting for advanced pretreatments and washing using phosphate replacements.

Phosphate replacements meanwhile, are currently being used in automotive and military and chemical suppliers are on their third generation of products.

Zirconium is used as a replacement for chromium coatings on aluminum and in the past few years on steel.

Concerns with past zirconium-only pretreatments have been flash rust and poor paint performance. Adding organic ingredients, such as silanes or phosphonates avoids this.

New advanced pretreatments are considered “green” because they have no zinc or low to no phosphorous. They are simple to operate because they have wide operating windows, produce almost no sludge and no scale, and have simple waste treatment. They are versatile since they work with most substrates and paints, and they match the paint performance of the phosphate process they replace.

## DESIGN OF A PRETREATMENT AND WASHING SYSTEM

Using phosphate replacements provide energy savings because they operate at ambient temperature needing less capital investment and fewer stages in the design of the pretreatment and washing system. Smaller tanks can be used.

Fewer chemical stages are needed with



advanced pretreatments, since a final seal is not used. First, thoroughly remove organic soils, mill oils, metalworking fluids and inorganic contaminants such as smut, rust, mill scale, laser scale, and weld scale. Next, thoroughly rinse such as with double counterflowing rinsing with good quality water in order to prevent contamination of the pretreatment bath. Next, the pretreatment is applied to the clean substrate, and finally rinsed with good quality water, such as reverse osmosis, (RO) water. It is possible, through the use of fresh water exit risers, to use advanced pretreatments in a conventional, five-stage spray washer or immersion line. In this case, it makes sense to put the advanced pretreatment in the fourth stage.

Advanced pretreatments can be applied by either spray or immersion in a line constructed of stainless steel alloy

304L or 316L or polypropylene. Mild steel is less desirable, because these pretreatments operate at a pH of approximately 4–5 and are reactive with mild steel. Bath life stability could be reduced if exposed to a mild steel tank over a long shutdown.

Phosphate pretreatments, however, can be successfully operated in mild steel spray washers if the bath chemistry is closely controlled.

Conventional iron and zinc phosphate pretreatments operate at a high acid content (total acid titration) and elevated temperature, leading to significant dissolution of the substrate. Iron dissolved into the phosphate bath is oxidized from the ferrous state to the ferric state and because of its low solubility, precipitates as ferric phosphate sludge. This is the heavy sludge commonly seen inside the pretreatment system. Because ferric phosphate has lower solubility at high temperature, it also forms scale on heating surfaces. This can lead to maintenance headaches and a loss of heating efficiency. Meanwhile, advanced pretreatments, operate at about one-tenth the total acid value of a zinc phosphate, or about one-half the total acid of an iron phosphate. They also operate at ambient temperature, which may be as much as 32 degrees Celcius (60°F) cooler than a phosphate. The low total acid and ambient temperature operation of advanced pretreatments do not form scale on heaters and result in almost no sludge formation due to the absence of inorganic phosphate.

For rinse water, most finishers can simply adjust the pH to limits set by local authorities. If in-house treatment is needed, lime to a pH of 8–10 will precipitate virtually all of the ingredients. Rinse water can even be recycled after precipitation with lime, filtration and ion exchange, leading to a closed-loop pretreatment.

Advanced pretreatments have been

extensively tested by numerous major manufacturers to see how they perform under organic coatings. Silane pretreatments have been tested by major North American and European automotive manufacturers and proven to meet virtually all of their requirements.

It has also been proven under various paint systems that both silane and phosphonate pretreatments on steel substrates match the performance of a zinc phosphate.

## SILANE

A silane molecule consists of a silicon atom combined with an organic molecule. For paint pretreatment, however, more complex silanes described as “organofunctional” are used. Through proper selection of the organic constituents used in the silane molecule, the chemist creates an organofunctional silane molecule that reacts and forms stable bonds with both metal hydroxides on the substrate and organic groups on paint resins. When these organofunctional silanes are reacted with water during the pretreatment process, they form polycondensates, which retain the paint and metal-bonding properties of the silane, but in a user-friendly form. The polycondensate is the safe chemical form of silane products made commercially available to metal finishers. In use, as the silane film dries on the pretreated substrate, neighboring hydroxyl groups on the silane molecule react with each other to form a dense cross-linked network. Finally, in order to further enhance performance, non-regulated group IV-B metals, such as zirconium, are used to selectively and preferentially bond to the metal substrate, providing improved corrosion-resistance compared to a silane-only process.

Many manufacturers supply advanced pretreatments. For example, Chemetall’s family of “green” Advanced Pretreatments are easy on the environment, save water and energy, produce almost no sludge, and cut costs. They use what’s called the “dual coating” principle. In a single pretreatment stage, they apply not only a zirconium coating, but also an organic silane or phosphonate layer, for more robust paint performance. Chemetall’s OXSILAN and Gardobond EPP products are replacing conventional iron and zinc phosphate processes throughout the world. ■

*Much of the information for this story was provided by Gary C Nelson, Product Manager, Surface Treatment Chemetall. chemetall.americas@chemetall.com*

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# BOUNCING BACK

**W**ith many Canadian E-Coaters being hit hard by the economy, those remaining have been forced to be resourceful and more productive.

They are choosing products that will save them time and money. It comes down to efficiency.

"Electrocoating is the most efficient, productive, automated, cost effective method of applying a protective corrosion resistant and/or decorative coating available," says Mike Perrone, General Industrial Coatings, Electrocoat Product Specialist Canada for PPG Canada Inc.

Part of being innovative and resourceful has E-Coaters investigating a "green" outlook. In a paper presented by Rob Schiller, electrocoat development manager for BASF's electrocoat group, at the Electrocoat 2010 Conference in May, in Kentucky, titled Cathodic Acrylic Electrocoat – A "Green" Approach To A Better Performance, he spoke about how Acrylic Electrocoats have been used in the coatings industry for many years for a variety of applications. "With the industry seeking a better performance than anodic acrylic electrocoat, the cathodic acrylic electrocoat has found a number of applications where it is currently used as a coating for agricultural equipment, automotive wheels, appliances, lawn and garden equipment and furniture just to name a few. Although cathodic acrylic technologies have made great strides over the years with respect to enhanced performance properties such as corrosion protection and UV durability, there is still a weakness in overall performance that needs to be addressed.



Recent advancements in cathodic acrylic electrocoat technology have afforded an electrocoat with not only improved performance properties, but that is environmentally friendly with lower VOC's and no HAPs."

"Cathodic epoxy coatings offer the ultimate corrosion and chemical resistance," says Perrone.

The company supplies more than 500 industrial electrocoat systems in North America, with 400 industrial tanks utilizing cationic epoxy technology. PPG has been a supplier with over 40 years of experience in the industrial marketplace.

"Canadian Industrial electrocoat customers require products that are robust, offering a margin of operational latitude in daily operation, while consistently providing superior corrosion protection,"

says Perrone.

"Many of our Canadian Industrial electrocoat customers were hit hard in the most recent economic recession," says Perrone. "As the North American OEM market contracted, our customers faced layoffs, downsizing, and permanent plant closures, all while cost concessions were forced upon them." Perrone continues, "In order to remain competitive in a global economy, our surviving customers needed to become self-sufficient, resourceful, innovative, and more productive. PPG supported their customers with Business Productivity Improvement (BPI) projects, Continuous Improvement initiatives, and customer training to educate e-coat operators and technicians, to help sustain their business."

E-coaters need to be creative and inno-

ELECTROCLEAR is a new electrocoat system for decorative finishing.

valent in their rack designs for best system performance. High density paint racks that optimize the high square footage of parts to e-coat, requires unique and innovative rack designs to improve quality and increase throughput.

E-coat manufacturers work closely with customers in rack design and launching a new line.

"Canadian industrial electrocoat customers consistently produce the highest quality defect free e-coat painted parts that meet the ever increasing industry's performance standards," says Perrone. Manufacturers are coming up with ways to keep their customers competitive through the introduction of new products. For example, PPG has a new acrylic e-coat product

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series, POWERCRON 840. The 840 series acrylic e-coat offers superior weathering & corrosion, is top-coat friendly, cures at 300°F, and is our most operationally robust product to date. POWERCRON 840 allows e-coat shops to use acrylic as a one coat system or be used as a primer while meeting most coating requirements...thus one coating system replacing the need for two. Another benefit is utility and manpower savings.

One trend the industry is seeing is a switch to single-component products.

An example is PPG's recently commercialized single-component cationic epoxy electrocoat product, POWERCRON 6000CX. This product offers excellent corrosion resistance, good protective throwpower, smooth film appearance, and good topcoatability. POWERCRON 6000CX is supplied in an environmentally friendly package - very little solvent content, lead-free and HAPs (Hazardous Air Pollutants)-free. This product is offered in a one-component feed system to improve quality and consistency, reduce lab testing, and minimize material handling. "Several customers in Canada have moved to this product, finding it to be a simple-to-use, yet robust, high performance product offering," says Perrone.

Additional savings are realized through operational benefits with utility and manpower savings.



POWERCRON Cationic Acrylic Electrocoat replaces a two-step coating process for the appliance industry.

**POWERCRON** Cationic Acrylic Electrocoat replaces a two-step coating process for the appliance industry.

Home laundry appliances required a high performance coating system using a two-coat application. In the past, a cationic epoxy primer was used for corrosion and detergent resistance. This required a liquid or powder topcoat for appearance consistency. Today, through extensive development, a detergent resistant cationic acrylic electrocoat supplies all of the requirements of the previous two-coat system. With this improvement, performance and appearance are at all time high levels. The advantages on cost, through automation and simplification, have kept this industry competitive in a price conscious

marketplace.

FrameCoat Electrocoating replaces hot wax on chassis components of cars and light trucks.

The automotive industry standard for 20 years has been to coat the chassis components of cars and light trucks with hot wax, providing corrosion protection for only one to three years. Hot wax required shielding from hot exhaust pipes and catalytic converters. The elimination of this shielding helped reduce weight and unwanted noise. FrameCoat electrocoating meets original equipment manufacturers' requirements for 10-year corrosion protection, provides superior corrosion resistance on edges, demonstrates superior heat resistance, and lowers applied cost. FrameCoat coatings are utilized where high performance is demanded: truck & trailer frames, engine cradles, trailer hitches and tow hooks, suspension components, and underbody components.



POWERSEAL Cationic Epoxy Electrocoat replaces conventional dip/spin technology for coating fasteners.

**ELECTROCLEAR** proves to be the innovative choice for the decorative metal finishing market.

The decorative metal finishing market has traditionally utilized spray and dip lacquer to achieve decorative clear finishes. Customer demand for a more efficient higher quality process has led to the development of ELECTROCLEAR. The key benefits of this electrocoat system are transfer efficiency, reduced manual handling, and fewer rejects. Future product developments have expanded the original product offering from a pure decorative finish to include added corrosion, scratch, and UV resistance properties. The products are formulated for application over a wide range of substrates including plated gold, silver, and brass; as well as copper, aluminum, and steel base metals. Typical applications range from small components (cigarette lighters and jewelry) to larger household items (furniture and lighting fixtures).

**POWERCRON 8000HE** Cationic Epoxy Electrocoat replaces low performance spray applied coatings on radiators. Radiators have historically been coated with a low cost, low performance, spray-applied black coating for cosmetic purposes. This poses several significant problems for heat exchangers. The lack of complete coverage leads to corrosion failure and core replacement. Cathodic epoxy electrocoat offered a promising solution to the corrosion problems encountered with



POWERCRON 8000HE Cationic Epoxy Electrocoat replaces low performance spray applied coatings on radiators.

heat exchangers. One of the advantages of electrocoat is its ability to provide complete surface coverage with unsurpassed film uniformity due to throwpower. Throwpower is the ability to throw paint into recessed areas. By being able to coat the entire core, corrosion resistance is greatly enhanced. Special epoxy electrocoats, which have the ability to cover very sharp metal edges with a substantial film thickness of coating, further enhance corrosion performance over the fins in heat exchangers. Precise control of the applied electrocoat film over the entire surface area results in little or no coating bridging between the fins and negligible effect on thermal performance. The environmental impact and enhanced performance of electrocoat for this end use is also very positive when compared to other coating methods.

**POWERSEAL** Cationic Epoxy Electrocoat replaces conventional dip/spin technology for coating fasteners.

Fasteners were traditionally coated by a liquid dip/spin process. The fasteners were dipped into a small basket and coated with a solvent-based liquid paint. The basket was then raised and spun to remove excess paint on the parts. Next the fasteners were emptied onto a conveyor for curing. The basket was then reloaded and the process repeated two to three times until the entire surface of the fasteners was completely coated. POWERSEAL is a cationic epoxy electrocoat representing the latest technology for coating fasteners. The fasteners are loaded into a large barrel or basket and dipped into the electrocoat bath. Post rinses capture the residual paint solids, or "drag out," and return them back into the paint tank leading to very high transfer efficiencies (95-98 per cent) and very little waste. The parts are then cured. Subsequent coating is not required. The advantages of the POWERSEAL process are higher throughput, environmentally friendly technology, and cost savings due to the efficiency to complete coating in one pass. Finally, POWERSEAL performance results in excellent corrosion resistance, a non-sticking coating formulation, no recess or thread fill issues, and an optional torque modifier.

These are just a few innovations offered by one supplier. Many other E-coat manufacturers are coming up with new products. They will work with you to meet your every E-coat need. ■

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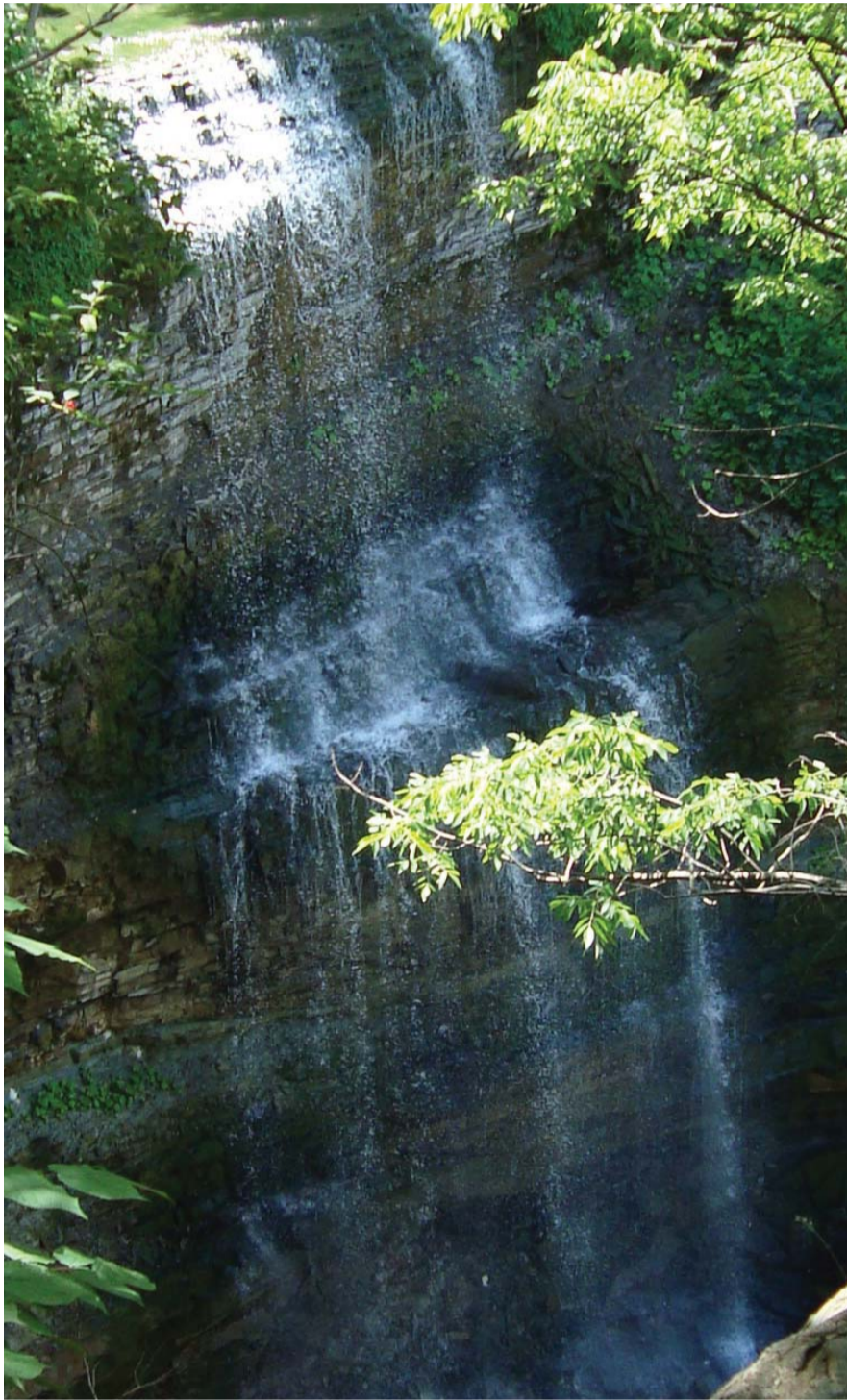


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# WATER WASTED:

## A 3-Year Retrospective: What Changes Have You Made?

BY JOHN SELDON



“Good P.R. may only ‘get people to hate them less<sup>1</sup>.’

Forgive an old operator a look back to my writing in this magazine three years ago this September about “Wastewater as an Information System”<sup>2</sup>.

“Try living without it<sup>3</sup>.” and “... the water level of Lake Superior is at its lowest point in 80 years<sup>4</sup> ...” Additionally, “... have (you) heard public speculation that the next world war(s) will be fought over water (fresh water) rather than oil?”

And also, “The hydrogen and oxygen components (which make up water) aren’t degraded, but as an almost universal solvent, water can carry many impurities long distances, especially in dissolved forms<sup>5</sup>.”

I suggested that an industrial waste stream be called a “Transient Information Fluid Stream<sup>6</sup>” (TIFS). And wrote, in part:

“... water tends to travel and just like a virus that spreads its noxious characteristics, poor quality water may cycle right back to us if not simply from the discharger working upstream<sup>7</sup>.”

You can see where I am heading and in spite of all that has been written about the massive oil spill in the Gulf of Mexico, and its eternal association with British Petroleum (BP), I would like to put in my two cents worth as well.

According to Peter S. Goodman in the New York Times of August 22nd, 2010<sup>8</sup>

“For BP, any spill threatened to undermine its image as a new breed of energy company, one sensitive to the environment ... BP made a decision years ago to hold themselves up as a paragon in a pretty controversial industry.” (quoting Mr. Eddie Reeves, former vice president for media relations at Merrill Lynch.)

And  
“Yeah, that’ll work until they have their own plant explosion.” (unattributed).

Well, BP had its own “explosion” followed by estimates of a “... total volume close to 5 million barrels<sup>9</sup>” of oil gushing into the Gulf of Mexico.

I suspect for those of us who have worked in wastewater treatment as a career, the daily spectacle of oil spewing out into the Gulf, a mile below the surface, acted as an example of careers spent in futility. This may sound a little melodramatic (although with the volumes of oil, enormous loss of wildlife habitat, massive negative impact on the seafood industry and the speculation of long term harm to the environment, I may be not melodramatic ENOUGH), but often we work very hard to optimize wastewater systems that

deal with contaminant levels on the order of hundreds of times less than what the oil was doing to the Gulf. It seemed at times that much of our life’s work was being undone by a single catastrophe.

### WALK THE TALK

In most reception areas of plants that call me in to aid in optimizing a wastewater system, you find a plaque on the wall, most often signed by a chief operating officer (or several senior managers), announcing to anyone who will read it, the firm’s intention to work in an environmentally safe manner. And, in spite of the cynicism that any age may engender, including today’s, I believe them.

But too often there is a disconnection between their desire to be good environmental citizens and the intrinsic

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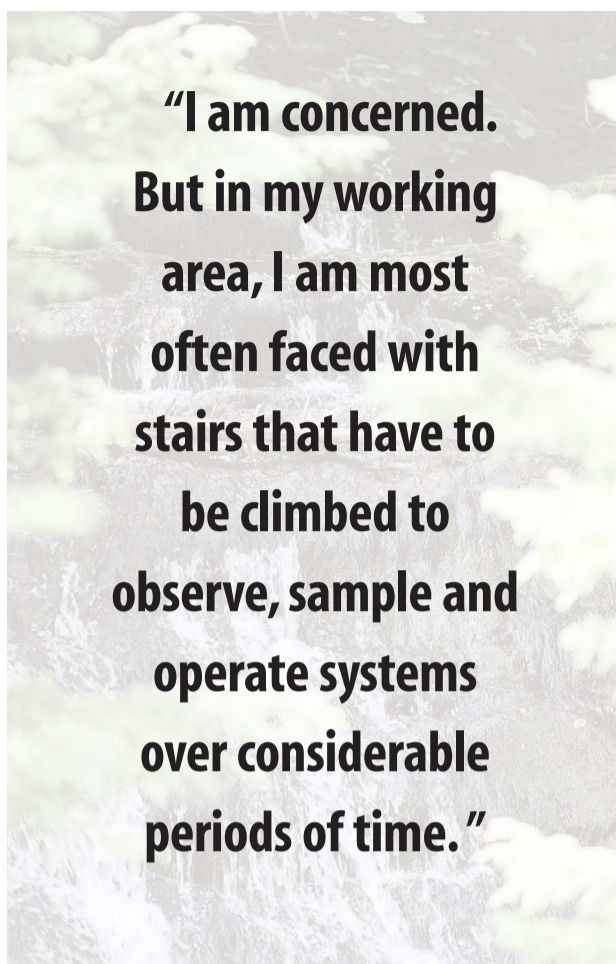
knowledge of just how to do that when their wastewater treatment systems are in question.

Often, in my opinion, a major cause of this is a lack of trained personnel to do the work; this can be seen in both the public and private sector. Focusing on the private sector for this article, this absence of expertise is, in my view, worse than found in the public sector. At least in the public sector, regulations require minimum standards of manpower training for municipal wastewater treatment systems. In the private sector the ever increasing demand of fewer people to any job, let alone a wastewater job, typically results in few operators directly and solely responsible for a wastewater treatment system.

Like sheep being led to the abattoir, firms are regularly led to the "automation" trough at least in part with promises of personnel being eliminated and costs reduced. I am not a luddite. Automation has its place. I am an older person and struggle with being over weight; escalators and elevators are heaven sent as far as I am concerned. But in my working area, I am most often faced with stairs that have to be climbed to observe, sample and operate systems over considerable peri-

ods of time. When those systems are automated you can bet there is little Basis of Design (BOD) data available that usefully or accurately aids in evaluating the system's performance – even if information is being recorded automatically.

I was told anecdotally of a waste solids underflow stream that had been fitted with a meter that provided a total solids (%TS) value for the underflow as a waste slurry was pumped from a clarifier to a holding tank. At least part of the objective was to stop the flow when the meter detected a %TS value that was below a set point. A pump would be signaled via the meter to shut down. When I was asked about the meter's accuracy, it was claimed that it was within a couple of percentages (unacceptable in my opinion) either way of an actual value – although as far as I know, no samples were being taken on a regular basis for a standardized gravimetric analysis in order to qualify the results from the meter. I knew this system well



**"I am concerned. But in my working area, I am most often faced with stairs that have to be climbed to observe, sample and operate systems over considerable periods of time."**

also needs a solid working knowledge of the operator's responsibilities so that when properly acquired data and observations reveal unacceptable trends in the wastewater system, knowledgeable decisions can be made to correct the operation. Too often we have confidence in theory without the hard facts associated with real time operation to demonstrate – or not – that theory fits practice.

### TIME AND TIDE: CHANGE IS ALWAYS WITH US

Still, this is not enough. Those experienced operators can also get isolated from the treatment field where they work – lose out on new developments (yes, even automation) in treatment approaches that could help save time and money while providing for better treatment. Ensure that the personnel that are responsible for your environmental treatment

systems are updated in their discipline. Better yet – that they contribute to their area of expertise.

What have you done in the last three years since I wrote my first article on wastewater treatment to improve how your system works? What have I done, you ask? Fair enough:

1. Established a new sludge dewatering mobile treatment firm with a colleague; our first work was performed in the fall of 2009.
2. Wrote and presented a technical paper for a national conference on biosolids (held in beautiful Niagara Falls) for September 2009. And I am currently working on another technical paper – this one on phosphorus removal across a wastewater system.
3. I now contract through a third party to teach courses to water and wastewater treatment plant operators on various aspects of wastewater treatment.

Oh, and one more thing. I am 61 and am seeking to improve my accreditation for working in this field through a new technical certification. I plan on working until I am 70. You are never too old to learn and improve in your field of choice.

Lecture over. Buy some seafood. ■

*John Seldon is president of Temporary Operations & Maintenance Inc., Port Burwell, ON, and has 35 years experience in the industry.*

*References 1 and 8 to 9 are from In Case of Emergency: What Not To Do by Peter S. Goodman. The New York Times, Sunday Business, pages 1 and 6 to 7.*

*References 2 to 7 are from the September 2007 article in CFCM.*



and had worked on it many years before – requesting %TS values to be obtained via direct sampling of the underflow followed by an appropriate analysis.

No one person was undertaking the work; everyone was relying on a number from a meter that was not validated.

The immediate and long term consequences of this type of operation is failed operation; costs saved by automating can be readily lost when a clean up is required – too often under public scrutiny and generally under press scrutiny – even a mile below the surface of the Gulf of Mexico.

Walk the talk. If you are going to ensure an environmentally safe operation, nothing can replace an experienced operator. But it has to go further than that – the supervisor responsible for that operator

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# A Look at What the Industry **OFFERS**

**Dynapower and Rapid Power** have in excess of 100 years of experience in the design and manufacture of AC and DC power supplies. In addition to their extensive SCR product line, Dynapower offers a full range of air & water-cooled Switch-mode style rectifiers. The NEMA 4X rated, high efficiency water-cooled system has recently expanded with standard offerings to 12000A. The fully sealed air-cooled product lines range in size from 12V, 10A to 1000A systems. All systems are digital microprocessor controlled and feature a standard analog interface for remote control. Dynapower and Rapid Power products are designed and manufactured in the USA.

**American Plating Power** has the MT-SERIES Rectifiers with are compact and service-friendly designs which comply with high industrial requirements and guaranty excellent operational reliability. MT stands for Thyristor Technology.

The MT-SERIES rectifiers are categorized in four groups, depending on the type of cooling used:

**Convection Cooled:** The versatile MTC series allows the possibility of placing the rectifier in harsh environments without the need for cooling fans.

**Air Cooled Rectifiers:** The MTA-Series models utilize fans to create a beneficial air flow to minimize harm from surrounding environmental conditions.

**Water Cooled Rectifiers:** The powerful MTW-Series models are designed for the harshest environments.

**Oil & Oil-Water Cooled Rectifiers:** The enduring solution giving the best protection possible in all environments without the need for an external cooling source.

Established in 1968 as Thyristor Devices Ltd., **North American Rectifier** is now a division of **JBC Limited**. The company designs and produces an array of high current ac/dc power supplies for industries such as electrofinishing and electrowinning.

The company has electronic reversible rectifiers for hardchrome, standard rectifiers for decorative plating, crossover control for anodizing rectifiers, AC power supplies for anodic hard colour of anodized aluminum, High Voltage rectifiers for e-coat paint systems, High current, medium voltage power supplies for electrowinning, low ripple switchmode power supplies, programmable pulsing switchmode power supplies and pro-



grammable reverse pulse switchmode power supplies.

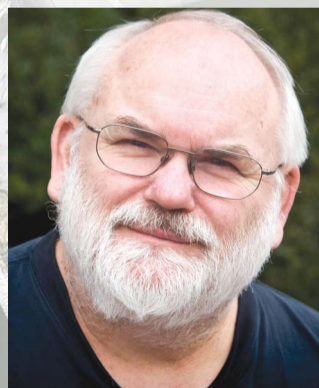
**Process Electronic Corporation (PEC)** offers SASSC liquid-cooled D.C. power conversion systems are designed for a broad range of surface finishing applications. These include electroplating, anodizing and galvanizing.

Because all circuitry and components used in SASSC rectifiers are environmentally protected in sealed cabinets, these units are ideal for corrosive environments.

SASSC D.C. power supplies feature a unique two stage cooling system designed to prolong the life of all sub-assemblies and components. In the first stage, a coolant continuously bathes components in a closed-loop system. The second stage maintains the temperature of the coolant automatically. A liquid-to-water heat exchanger removes heat from the coolant solution using an outside fresh water source. This technology prevents the fresh water from coming in contact with electrical components and minimizes consumption and maintenance requirements.

PEC designs and manufactures all SASSC rectifiers completely in-house. Our transformers have the lowest failure rate in the industry because of our attention to detail. Circuit boards are tested at elevated temperatures. Complete systems are run at full output to verify performance. ■

## Temporary Operations & Maintenance Inc.



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# Passing the TEST

**CFCM** asked manufacturers and distributors of testing instruments used in the manufacturing of paint and coatings to showcase their newest innovations.

Aivars U. Freidenfelds, Vice President, **ElektroPhysik USA Inc.** says, "When it comes to coatings, the requirements manufacturers are facing today are really challenging." He explains that there are so many factors to consider when developing paint and coating products than there were years ago. "Seldom does the customer who is choosing a product under-

stand all that went into developing that aesthetically pleasing color that may be heavily swaying the purchase decision."

"Competition is tough and a company's reputation can easily be damaged over the smallest detail," says Freidenfelds. "The appearance of a product is so important, not only at the time of purchase but throughout its' life. For that reason paint manufacturers carry out numerous tests."

Testing deals not only with colour and gloss but also durability, wear ability, affects of weather, resistance to chemicals, how a coating holds up to washing, impact

resistance and elasticity. "The list of concerns goes on and on and grows daily," says Freidenfelds.

ElektroPhysik as the North American exclusive distributor for Sheen Instruments LTD of England offers a broad range of proven testing devices addressing paint manufacturers needs. Many are based on existing ASTM and International Standards while many more are still under development. In many cases what ElektroPhysik has experienced are requests for modification to existing devices and systems to meet new requirements. With the

vast experience from ElektroPhysik and Sheen Instruments, new solutions are quickly developed often from existing platforms, says Freidenfelds.

"The outcome of many of these test are predicated on a precise amount of coating thickness that will be applied." Freidenfelds continues, "ElektroPhysik recently developed a new measuring approach based on existing measuring technology that yields higher repeatability and reliability through SIDSP Digital Sensor Technology." Whereas previous to SIDSP, coating thickness testing gauges, would create an analog signal. This signal comes from the sensor or probe when a coating thickness measurement is taken. That analog signal is then sent to a host gauge ("the gauge") to be converted to a unit of measurement and displayed on the gauge.

**Historically, this signal could get influenced by existing electromagnetic fields and other factors thus altering the original analog signal that was created at the point of measurement as it travels to the gauge.**

Historically, this signal could get influenced by existing electromagnetic fields and other factors thus altering the original analog signal that was created at the point of measurement as it travels to the gauge. The result could be a coating thickness value that does not truly represent the precise thickness of the coating.

This was the driving force behind ElektroPhysik developing SIDSP (Sensor Integrated Digital Signal Processing). With SIDSP the entire signal is processed at the point of measurement, the "gauge" is in the probe so to speak. The coating thickness value is processed at the point of measurement and only the completely processed coating thickness value is sent to the gauge digitally transmitted.

ElektroPhysik's SIDSP Digital Sensor Technology offer greater accuracy, repeatability, resolution and overall performance and control over coating thickness testing.

Other products in the company's line include:

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Ref 903 Scrub Tester designed to test the wearability of a coating can be used for a variety of applications. This unit has been configured to test detergents, polishes, various cleaning solvents, anything you can imagine a coating might be exposed to. It cycles at predetermined speeds and cycles.

4800N Pneumatic Panel Sprayer designed to automatically apply paint on test panels for further testing. It is totally pneumatic and provides highly repeatable test samples.

MMFT – Minimum Film Forming Temperature Bar is designed for determining the temperature where clear thin film of emulsion or water-borne latex will coalesce and forms below this point a powdered, cracked film.

Cone & Plate Viscometer used for the standard test for dynamic viscosity measurements and now faster and more accurate by use of new high precision microprocessor controls.

As most viscosity measurements are highly temperature sensitive, the samples are placed on a temperature controlled plate which can be set from 5 to 65°C.

MiniTest 700 Series with SIDSP Digital Sensor Technology used for precise accu-

rate measurements of the thickness of coatings applied over ferrous and non-ferrous metals.

**Folio Instruments** offers Konica Minolta's new innovative Bench Top spectrophotometer that makes measuring colour easy for any operator. Its large full colour built in LCD display means that it can run independent without a need for an additional computer. Information can be saved on any USB jump drive inserted into its front port. Data can be saved in native Spectra Magic NX file format for further evaluation or saved as CSV 1 and CSV 2 for importation into Microsoft Excel.

To assist operators in setting up the CM-5, Konica Minolta has included a simple wizard that allows you to select from reflectance, transmittance, and Petri dish mode. It will guide you through each step ensuring proper setup.

Unlike other bench top models this model was designed to be less bulky and capable of being transported around a lab or production environment weighing only 12 lbs. For large samples that need to be measured in transmittance mode you no longer have to cut or destroy your sample to fit in a small space. The CM-5's transmittance chamber slides open to allow for



large samples to be measured.

For a quick video on the CM-5 follow the following link below:

Konica Minolta has become the premier distributor for COLIBRI in North & South America. COLIBRI is a powerful formulation program used in the paints/coatings, inks and plastics industry.

It is modular based software that allows you to configure the system that best fits your application. It is optimized to support all bench top and portable spectrophotometers from Konica Minolta as well as many other colour instrument manufactures.

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work capability allowing unlimited number of users through web sharing a central database. It is also ready to connect to Enterprise Resource Planning (ERP) systems. The software is compliant with current IT infrastructure requirements allowing user management, access rights and permission.

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complement our already existing line of products,” says Rhett Barriere at Folio Instruments. The TEC 1000 is designed and built by Folio Instruments for the quantization of surface energy.

This low cost model is USB powered and is capable of connecting to a laptop for ultimate portability. It features a 2cc micrometer syringe, drop size of 0.5-40µl, a large specimen table, a camera capable of capturing 15fps at a resolution of 640 x 480. [www.folioinstruments.com](http://www.folioinstruments.com)

**Fischer Technology, Inc.** has coating thickness measurement solutions for common and complex applications. Fischer’s handheld coating thickness gauges with integrated probes as well as a wide selection of separate probes for various part geometries such as, curvature, edge effect, substrate thickness, surface roughness, permeability and conductivity and even underwater measurement. Addressing each factor is critical to providing accurate results for complex challenges faced by contractors and inspectors each day.

In addition, Fischer’s FMP Series instruments include built-in measurement specifications in accordance with industry standards, such as SSPC-PA2 and IMO

PSPC for the steel, automotive, anodizing and shipbuilding industries. Each measurement can be specified to the location on the part where the measurement was taken. Users can define the number of readings per spot and number of spots per area.

Data communication is via USB port, RS-232, or Bluetooth. Fischer units measure thin or thick coatings, soft coatings, duplex coatings, marine coatings, fire-proof coatings, coatings applied to bridges, water tanks, vessels and other steel structures.

The FMP100 coating thickness gauge has a touchscreen, drag and drop configuration, automatic data backup and print forms in pdf.

**DeFelsko Corporation** has available the American made PosiTector 6000 widely used for measuring the dry film thickness of paint and other protective coatings on all metal substrates. With the addition of a Removable Built-in Probe, now ALL PosiTector 6000 probes can be detached and replaced with any of a wide variety of probes including separate probes and microprobes. All probes are fully interchangeable – ferrous, non-ferrous, combination, thick, thin, etc. and



are compatible with ALL gage bodies providing maximum versatility.

Other features include Flip Display for right-side-up viewing, shock-absorbing protective rubber holster, USB port for downloading readings from your gage to a PC, and a Certificate of Calibration showing traceability to NIST.

As always, onsite manufacturing provides the ability to service instruments quickly and ship most instruments within one day anywhere in the world.

The PosiTector AT-A Automatic Adhesion Tester measures adhesion of coatings to concrete, metal and other rigid substrates and now features an electronically controlled hydraulic pump to apply smooth and continuous pull-off pressure at user-selectable rates.

Each PosiTector AT compensates for misalignment with a self-aligning actuator enabling evenly distributed pull-off force on both smooth and uneven coating surfaces. Conforms to national and international standards including ASTM D4541 and ISO 4624.

DeFelsko, a US manufacturer of coating thickness gages and inspection instruments, is pleased to introduce the next generation of non-contact powder thick-

ness gages. The PosiTector PC Powder Checker measures uncured powder coatings using ultrasonic technology to automatically calculate and display a predicted cured thickness.

With no wires or cables to risk disturbing the powder, now you can affordably measure powder thickness before curing. The PosiTector PC Powder Checker helps control powder consumption to ensure adequate coverage and reduce waste. Advanced new technology allows measurement on small tubes, odd shapes and moving parts.

The American made PosiTector PC Powder Checker features an internal memory of up to 1,000 readings with no software required for downloading. The gage continually displays/updates basic statistics and automatically generates formatted reports with measurement summaries and charts.

*The companies mentioned in this article may be contacted at the following:*

- [www.konicaminolta.com](http://www.konicaminolta.com)
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continued from front cover

higher high-shear viscosity, which enables the formulator to control spattering under roller application.

**D. The Thixotropic behaviour** describes a rheological phenomenon of great industrial importance. It refers to a pseudo-plastic liquid with the potential to have its structure reformed after the substance is allowed to rest for a certain period of time."

"BYK has pioneered the development of liquid rheological additives that allow for easy incorporation into the system," says Vignini.

In waterborne coatings they offer:

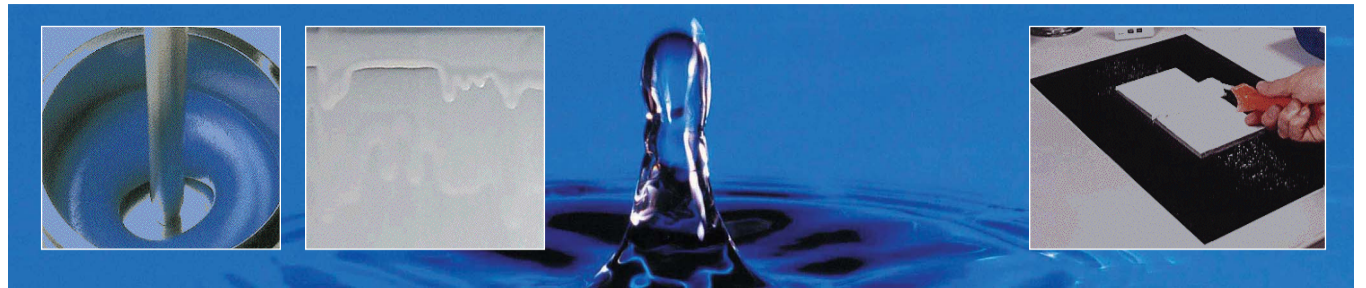
BYK-420 is an additive based on a modified urea dissolved in N-methyl pyrrolidone and, in this case, the modifying end-groups have a high polarity so that the additive is compatible with water. It strongly increases the low-shear viscosity and creates a strong thixotropic effect. (Thixotropic flow behavior)

BYK-425 is a liquid rheology additive that creates a pronounced pseudoplastic flow behavior in adhesives. It creates no or only minimal thixotropy. This material is ideal to avoid sagging when higher film thicknesses are required on inclined or vertical surfaces. It also provides anti-settling properties in the container during storage. (Pseudo-plastic flow behavior)

BYK-428 is a rheology modifier to control the high-shear viscosity in aqueous systems. It can be combined with any suitable low-shear thickener and therefore with BYK-425. Furthermore, the additive is easy-to-handle and VOC- and APEO-free. (High shear thickening)

In solvent borne or solvent-free coating the company offers:

BYK-410 and BYK-411 are two liquid rheology additives for solvent-borne and solvent-free systems that are easy to use in



a wide range of applications. These products are solutions of modified ureas that provide a significant thixotropic flow behavior. They are soluble in NMP. BYK-E 410 and BYK-E 411 are soluble in NEP.

The rheological additives BYK-605 and BYK-606 can best be described as a thixotropy booster. They stabilize and increase the thixotropic behavior of formulations containing hydrophilic silica resulting in a reduced thixotropy drift during storage of the system. They should be added under stirring before dispersing the silica. Post-addition is possible.

BYK-430 and BYK-431 are liquid rheological additives used in systems where a more pseudo-plastic behavior is required, i.e. Thixotropy is not present or weakly developed. Therefore, these additives are perfectly suited to reduce sagging on raked or upright surfaces when applied at higher film thicknesses. Settling of filled systems during storage is drastically reduced. (Pseudoplastic flow behavior)

Cognis Corporation, when it comes to innovations, is focusing on DSX 3121 and DSX 3291. DSX 3121 is a VOC-free, Newtonian (ICI) associative thickener exceeding benchmark HEUR technology in performance and efficiency. It is designed for a new class of latexes used in very low VOC paints. Excellent for high shear viscosity build for one-coat coverage while enhancing low shear performance for superior sag resistance.

DSX 3291 is an ultra-efficient associative thickener that imparts strongly pseudo-plastic viscosity profile in "green" water-based coatings. It is free of VOCs,

APEO, solvents, heavy metals and odor while exceeding benchmark HEUR technology in terms of efficiency by 2-5 times.

It allows thick coatings to be easily sprayed. Performance highlights include: excellent low shear viscosity build, easy handling, easy incorporation without high shear mixing and improved viscosity-drop-on-tinting. DSX 3291 offers excellent sag resistance in thick coatings and improves pigment settling which allows for replacement of organo-clays.

Jeff Morehouse, Elementis Specialties, Market Manager, Architectural Coatings says new rheology chemistries have not really been introduced to address VOC and Green concerns.

"The big differences are in the carriers for the thickening polymers in associative urethanes." He adds, "They're supplied at 15-30 per cent solids and are traditionally cut in solvent to make them easily pumpable. That solvent must either be exempt (unlikely) or replaced with an alternative technology to meet VOC requirements." He says, "alternative technology" may take a few different forms. "Other no-VOC technologies can be difficult to handle or negatively impact the dry film properties."

Morehouse says, "The real challenge is developing next generation thickeners that incorporate these no-VOC principles and still perform well." He explains that new chemistries and new polymer architectures are developed primarily to improve performance, "then we apply our patented no-VOC technology to allow them to be easily handled and still meet

VOC regulations without negative effects on dry film properties."

"Other major types of waterborne rheology modifiers include cellulose ethers, alkali swellable emulsions (ASE), and hydrophobically modified alkali swellable emulsions (HASE). Other types do exist although they are marginal." He adds, "The ASE and HASE thickeners are also cut with VOC containing solvents and may take the same approach to VOC reduction as associative urethanes (described above). Performance of these types is not the best. Cellulose ethers are supplied as a dry powder and do not contain VOC, although this technology is more than half a century old and suffers from drawbacks in performance and handling."

Morehouse says, "Some customers have also expressed concerns about deforestation as cellulose ethers are largely based on wood pulp."

In late 2010 Elementis plans to launch its next generation RHEOLATE CVS associative thickener. This mid-shear KU-builder reduces total thickener demand up to 30 per cent, has great sag and leveling, and provides best-in-class color acceptance, rub-up, and resistance to viscosity loss on tinting. This no-VOC, APE-free associative thickener is easy to use in all binder types and requires no additional handling or formulation constraints.

The company's newest RHEOLATE CVS associative thickener complements their other environmentally compliant, sustainable technologies including no-VOC and APE-free coalescents, thickeners, dispersants, and wetting agents.



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Roger Mouhanna, Technical Manager, Inortech Chimie Inc. says, "Rheological additives such as associative urethane thickeners have a significant influence on shelf life and application properties of liquid systems. Even during the production process, they improve the introduction of pigment and filler pigment into the mill base and thus help with dispersion." He adds, "At the same time, rheological additives improve shelf life by reducing the sedimentation tendency of the coating formulation. Without adequate rheological control, some systems tend to settle or hard pack."

In industrial applications, he says rheological additives ensure optimal flow and leveling properties combined with minimum sagging tendency.

"The lack of rheological control may be the reason for the coating to run which strongly affects the finish of the paint."

Mouhanna explains that proper use of PUR thickeners will give the coating enough cohesiveness to withstand high mechanical stresses. "This will inhibit the coating particles from being very easily flung away from the brush or roller due to centrifugal forces during application."

He adds, "This significantly decreases the spattering tendency of the coating. The viscosity of a liquid phase that undergoes high shear plays a decisive part in film formation, hiding power, spattering, brush and roll resistance. When brushing or rolling, good results can only be achieved if the viscosity of the applied surface coating remains high even at a high shear rate (brush drag).

Mouhanna says, "If the brush drag is inadequate, a considerable portion of the coating material applied to the surface is pushed along in front of the brush or roller without adhering to the substrate." He adds, "This results in poor coverage, uneven application and poor leveling, leading to edge marks and wetting defects."

Associative thickeners are mainly PUR based compounds with hydrophilic and hydrophobic segments, and because of their segmented structure they are able to form fairly stable associates with each other and/or with the other components of the coating formulation (binders, pigments, fillers etc.). Unlike cellulose ethers or polyacrylate thickeners, these polyurethane thickeners affect neither the water sensitivity nor the light fastness of a formulation and, depending on the type, provide pseudoplastic or Newtonian flow properties.

Mouhanna says the large selection of binders commercially available have different properties and thus make it difficult to select the most suitable polyurethane thickener. "It is therefore important to have a sufficiently wide range of PUR thickeners available, which provide the desired rheological profile, either individually or in combination.

Today, waterborne coating systems are formulated as low-VOC or VOC-free (VOC

= volatile organic compound)."

"This means that the rheological additives must comply with the strict, modern-day requirements on environmental compatibility," says Mouhanna.

Some rheology modifiers contain certain levels of glycol derivatives, such as ethylene glycol, butyl glycol, and certain emulsifier types such as APEOs = alkylphenol ethoxylates. These are regarded as HAPs (Hazardous Air Pollutants), which are known or suspected to cause serious health damage and their use is restricted under the revised version of 1990, Clean Air Act.

"Such critical substances must be avoided in today's polyurethane thickeners without compromising the products' performance. Formulators are choosing to switch to products that are cleaner and greener," says Mouhanna.

Inortech's innovations include the following products:

Hiresol 180 – nonionic, solvent free, urethane associative thickener (HEUR) designed for thickening of water base paints and coatings. As it is free of solvent it is suitable for formulating low VOC water base paints. It provides high shear viscosity and allows good film build.

Hiresol 80 – non-ionic, solvent-free, urethane rheology modifier that provides a balance of low and high shear viscosities.

Hisol D108 – a hydrophobically modified alkali-swelling emulsion (HASE) for medium viscosity. It shows excellent flow and leveling and has the advantage of being highly resistant to attack by microbes and their enzymes providing a more stable paint."

Terry Brennan, Sales Development Manager, Southern Clay Products, Inc. says, "There are indeed a lot of new products that are being developed and used in response to market demands in the areas of VOC compliance and the ongoing green and sustainability movements." He says Southern Clay Products' key challenges are to deliver products to customers that will not negatively impact VOC compliance by either adding additional VOCs to a customer's formulations or impacting the rheology profile in such a manner as to cause the customer additional difficulty in achieving VOC compliance." He explains, "We use a philosophy of 'focused performance' to bring to market additives that impact only the performance properties desired by the customer and do not impact areas outside of those desired."

Increasingly strict VOC regulations can cause significant headaches for the formulator as they try to meet their challenges in the realm of rheology. In high solids and low VOC solvent based coatings the removal and restriction of solvents continues to push the viscosity of the coatings higher resulting in significant application challenges. Products such as Southern Clay Products' Mixed Mineral Thixotropes<sup>®</sup> allow the formulator of high and 100 per cent solids coat-

ings to focus on the low shear portion of the rheology profile, gaining performance in areas such as anti-settling and sag resistance with minimal impact on application properties.

"Certainly the changes we have seen in paint formulation have caused formulators to use different rheology modifiers and in many cases, particularly in water based coatings, the challenges have forced formulators to use higher amounts of traditional rheology modifiers to generate appropriate rheology in some lower response systems, says Brennan. "We have endeavored to develop new water based rheology modifiers that are particularly responsive in these new formulations that may not respond efficiently to existing rheology modifiers."

Southern Clay continues to expend a significant portion of product development efforts on water based rheology modifiers that are focused on the high shear portion of the rheology profile, thus minimizing the likelihood that customers will encounter undesirable brush strokes or roller stipple. In the solvent borne arena, the focus is on the low shear portion of the rheology profile for spray and rotary atomized coatings to allow the highest degree of atomization, reducing the chance for unattractive orange peel and other texturing in these coatings.

The most recent products and innovations for Southern Clay are as follows.

Southern Clay's rheology modifier for water based systems, Optiflo TVS-VF is VOC-free, and helps to mitigate viscosity drop and instability that is caused by solvents and surfactants that are present in colorants and tints that are used in many formulations.

Optiflo L1400 is a non-ionic associative rheology modifier for water based systems. It has a near-Newtonian rheology profile enabling it to be a very efficient ICI driver, particularly in small particle size, more hydrophobic resin systems. Optiflo L1400 is more resistant to syneresis than other ICI drivers.

Optiflo H3300 is a non-ionic associative rheology modifier for water based systems. It is designed to perform in the KU range of the rheology profile. Optiflo H3300 performs quite efficiently across a wide range of resin chemistries.

Optiflo TVS-VF is a non-ionic associative rheology modifier designed to offset viscosity decrease and instability in water based coatings that use commercially available colorants and tints. The use of Optiflo TVS-VF will allow coatings manufacturers to either decrease the use of other rheology modifiers or to market products that do not suffer viscosity loss as colorants are added to the paint.

Garamite 1958 and Garamite 2578 represent patented Mixed Mineral Thixotrope rheology modifiers for solvent based, high solids, and 100 per cent solids non-aqueous systems. These products focus on the low shear portion of the rheology profile, generating anti-settling

and anti-sag resistance, while controlling orientation of metallic and coated mica pigments. Both products perform very efficiently in oxygenated and halogenated solvent systems, including acetone-containing coatings.

Larry Ham, Manager, Supplier Relations, Univar CASE Specialties says, "Formulators are mainly concerned with the ingredients that form the highest percentage of the formulation, such as solvents and polymers/resins." He adds, "When it comes to rheology control, you are not really concerned too much about their VOC contribution because these are 'additives' and used at low levels.

There are only a few different types and most have been around for a long time.

Solvent based systems have traditionally used things like organo clays, castor oil based derivatives, and polyamide type waxes. Waterborne systems (architectural) use various alkali soluble polyacrylics, cellulosic materials, associative thickeners and attapulgite clays.

Lynn Lavoie, UNIVAR CASE Specialties, Univar Canada Ltd. says, "Paint technology in North America has been shifting from conventional solvent-borne systems towards lower or zero VOC technologies such as water-borne, high solids and solvent-free systems. Rheology modifiers play an important role in these technologies e.g flow, leveling, sagging, spattering and settling. The key challenge for suppliers is to develop high-performing products that meet the requirements of the new paint technologies." She adds, "These products need to be free from odors, VOCs, APEOs and heavy metals as well as having greater efficiency and easy handling."

"In general suppliers are modifying the same basic chemistry for newer generation products. More could be done in the field of rheology modifiers to meet current requirements, but there have been some notable advances with associative thickeners."

She explains that in architectural paints, deep and vibrant colors are a growing market and with significant use of colorant to achieve these deep colours, good colorant acceptance is critical.

"Lack of stability after color addition can lead to in-can pigment separation or flooding. Colorant addition can also lead to significant drops in viscosity, which affects application properties. Earlier types of polyurethane (HEUR) rheology modifiers were often adversely affected by the addition of colourant. Newer generation HEUR rheology modifiers are more compatible with colorants, and viscosity change is minimized." Lavoie adds, "There are new HEUR rheology modifiers which are up to five times more efficient than conventional associative thickeners."

She sums up the challenge that rheology modifier manufacturers face and are overcoming, "Achieving good flow and leveling in low VOC coatings formulations is a major hurdle to overcome and there is always room for improvement in this area." ■

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# Getting Physical

When it comes to physical characteristics in paint and coatings, fillers and extenders provide answers to chemists' needs. The most current need is finding minerals that enhance the qualities of low volatile organic compound (VOC) paint and coating technologies. Here is a sampling of significant minerals that have a tremendous impact on paint and coatings

## WOLLASTONITE

Michael Wolfe, General Manager Sales, Coatings, NYCO Minerals, Inc. says, "One of the greatest challenges coatings formulators face is the ability to work with chemistry that is environmentally friendly, and provides value in the way of physical characteristics to paint." He adds, "Wollastonite from NYCO is environmentally safe, poses no health risk, and due to its very unique make up in size, morphology and physical characteristics, it provides many important characteristics to a paint chemist."

Here is a profile of the extender Wollastonite. NYCO's untreated extender grades and unique surface-modified Wollastonite have become industry-leading additives in varied liquid and powder coatings as well as paint formulations.

### Common applications include:

- Industrial and Marine
- Powder Coatings
- Architectural Coatings
- Block Fillers/Textured
- Roof and Underbody

Wollastonite is the only pure white extender that is acicular in shape. This, in combination with its unique chemistry including an alkaline pH of 9.9, offers coatings many benefits.

Surface modified Wollastonite products, WOLLASTOCOAT pigments, are designed specially for the coatings industry. These high tech materials offer enhanced performance through barrier properties.

The company says benefits to using Wollastonite in the following coating applications:

### Industrial and Marine:

- reinforces film integrity and cohesion
- improved adhesion to metal substrates
- excellent corrosion and blister resistance
- good stability in most water-based systems
- enhances resistance to brittle failure and film degradation
- synergism with anti-corrosion inhibitors



- surface treatment improves homogeneity and engineered reactivity
- lowers film transmission properties
- reduces cracking, checking

### Powder:

- cost-effective gloss reduction
- increased crack and chip resistance
- enhanced colour-fastness and moisture/corrosion resistance
- superior reinforcing performance
- lower specific gravity than competing

- materials
- least stable, resistant to ultra-violet degradation and chemical attack
- lowers film transmission properties

### Architectural:

- pH buffer – prevents downward pH drift
- burnish resistance
- improved tintability
- in-can and nail head corrosion protection

- reduced drying times
- stain blocking
- maintains wet edge
- improved color acceptance/development

### Block Fillers and Textured Coatings:

- improved reinforcement
- asbestos replacement
- mud crack resistance
- low water demand
- ease of application

### Roof and Underbody:

- key ingredient in the replacement of asbestos
- high G.E. Brightness
- improved strength and sag control
- reduced susceptibility to UV related cracking

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### MINEX AND MORE

Frank Cangelosi of Unimin Corporation says, "Unimin Corporation is committed to the development of new functional fillers which help formulators satisfy increasingly demanding performance, economics, and green objectives."

### Recent examples include:

**MINEX®12** Functional Fillers and Extenders: With an ultrafine particle size and unique light transmission properties, MINEX 12 is particularly well suited for clears, UV and powder coating systems

## SOUTHERN CLAY PRODUCTS, INC.

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Southern Clay Products, Inc. is committed to developing the highest performing rheology modifiers for the coatings marketplace. Our dedication to this goal has caused us to embrace "focused performance" - developing products which minimize or eliminate unwanted secondary properties. We do not believe that your rheology modifiers should negatively impact your efforts to achieve VOC compliance; in fact we try to assist you. We also do not believe that efficient performance at one end of your rheology profile must force a change at the other end. Please contact Southern Clay Products to discuss your rheology needs.

- 0 VOC rheology modifiers
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## Historic Canada Talc Mine Closes

Historic Canada Talc mine in Madoc, ON, has closed after more than a century of excavating one of the world's highest grade minerals.

Local media has reported that excavation has ceased and the mine will be covered up.

Excavation has ceased and the mine will be covered up.

Canada Talc has been a continuing world resource for pure white high-grade talc. It also offers various shades of grey and green, to the red and brown of impure specimens, including translucent to opaque.

Bruce Lambert, general manager of the mine for Sherritt International, explained that the company analyzed and explored all reasonable alternatives, but determined the Talc operation was not economically viable for Sherritt and would not become so in the foreseeable future.

High production costs and foreign competition have been speculated as reasons for the closure.

There is a closure plan on file with the government outlining the reclamation process and specifics with regard as how the site will be secured, capping of the mine shafts, contouring of the land, ongoing water monitoring and soil testing etc.

Although the mine and plant ceased all operations the end of August, the formal closure and reclamation process will take up to two years to complete.

The miners get a buy-out package with severance pay.

The shutdown also affects 27 employees at a milling operation in nearby Marmora, which grinds raw talc into the finished product.

Canada Talc was acquired by Sherritt International in 2007 as part of the assets of Dynatec. Sherritt International Corp. is a natural resource company producing nickel, cobalt, thermal coal, oil, gas and electricity.



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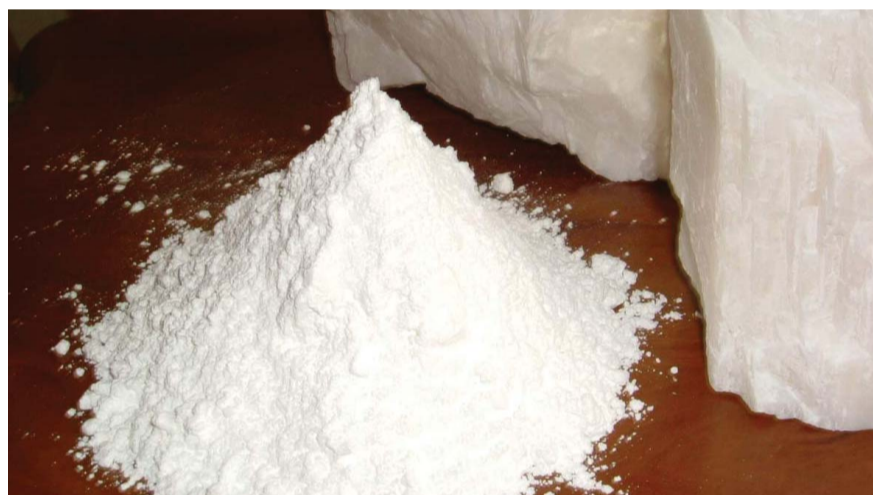
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### THE VIRTUES OF TALC

Talc is a magnesium silicate mineral and its products have been used by the coatings industry for several decades. Most coatings contain the mineral talc, but also



chlorite, serpentine, quartz, tremolite, anthophyllite and carbonates such as magnesite, dolomite, and calcite.

Talc products are described as platy talc, containing predominately (>90 percent) the mineral talc, or tremolitic talc, most often a natural blend of talc, tremolite, serpentine and anthophyllite. Platy talcs can be further classified as microcrystalline or macrocrystalline. Microcrystalline varieties are naturally small in plate size and comprise compact, dense ores. Macrocrystalline varieties contain relatively large, higher aspect ratio plates. The term fibrous talc has in the past been used in reference to tremolitic talc, but this is a distinct misrepresentation.

Talc products are also categorized by geographic origin, which reflects characteristic mineralogy. The so-called western platy talcs, from Montana and Texas, are microcrystalline, with chlorite as a characteristic accessory mineral. Eastern platy talcs, from Vermont and Canada, are macrocrystalline, with carbonates as characteristic accessory minerals, as is the Chinese talc that is readily available in North America.

Because talc is a very soft, platy mineral, the residual minerals in platy talc products can have a subtle effect on properties. Carbonates, for example, being nodular and relatively hard, may need more grinding than the softer, platy chlorite. ■

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# Ultrasonic Coating Thickness Measurement on Masonry

BY ROBERT TUCKER,  
STONE TUCKER INSTRUMENTS

One of the questions I am frequently asked as a Canadian supplier of Coating Inspection Equipment: "Is it possible to measure non-destructively the coating thickness on concrete or dry-wall, or other non-metallic substrates". The short answer to the question is "yes".

The purpose of this article is to look at the technology used for the method. Originally, measurement of coating thicknesses on concrete required either volumetric calculation of thickness based on the surface area to be coated and volume of paint used, or destructive examination using the Tooke Gauge, in accordance with ASTM 4138. Accuracy was suspect using the volumetric procedure, due to the necessary subjectivity of the area values and complexity of the structure. The Tooke Gauge allowed for accurate thickness assessment, but required the finished coating to be cut and repaired.



In the 1997 version of the NACE CIP Session II manual, there are four sentences related to coating thickness testing on concrete, one being "More recently, an electronic device based on ultrasound was developed to determine the DFT ( dry film thickness ) of a coating on concrete." With the introduction of Ultrasonic measurement of dry film thickness on non-metal substrates, it was no longer necessary to damage the coating in order to obtain reliable, accurate thickness measurements, eliminating costly and

time-consuming coating repairs.

The original coating thickness gauge using ultrasonic technology was the PosiTector 100 introduced by DeFelsko Corporation in 1993, and updated in 1999. (pictured below)

In 2002, they introduced the PosiTector 200, a smaller, hand-held gauge measuring total coating thickness on non-metal substrates. The latest version of the PosiTector 200 is pictured below. With each change, the gauges have become smaller, more powerful, simpler to use, and more economical.

Ultrasonic coating thickness measurement is an accepted method for measuring coating over non-metals; ASTM D6132 describes the method in detail. Testing begins with application of a drop of couplant to ensure a continuous interface between the surface and the transducer. The probe is then coupled to the coating surface and an ultrasonic vibration (sound wave) is sent into the coating. The wave travels through the coating until it reaches an interface boundary (the point at which materials of differing mechanical properties abut), which may either be the substrate or a different coating layer. The ultrasound wave is partially reflected at this interface and travels back to the transducer, while the other portion of the wave continues on and may experience more reflections at other interfaces. Due to the possibility of a large number of reflections or "echoes", the gauge is designed to select the maximum or predominant echo from which to calculate the coating thickness. In cases where the instrument is measuring layers in a multi-layer application, the predominate or loudest echoes are used. Echoes of smaller amplitude tend to be from coating imperfections, substrate layers, or surface noise, and can be disregarded. The measured thickness value is a calculation based on the speed of sound in the specified material and the transit time of the wave. Sound velocity doesn't vary significantly between different coating materials, so adjusting gauge calibration is usually unnecessary.

While SSPC PA-2 is routinely specified to determine the number of dry film thickness measurements to be taken and their acceptance criteria, there had been no industry standard for measurement of DFT's on concrete. In 2008, SSPC published SSPC SP-9: Measurement of Dry Coating Thickness on Cementitious Substrates Using Ultrasonic Gages. SSPC PA-9 provides the standard for how dry film measurement using ultrasonic technology



was to be performed and recorded, and as well as providing a standard for coating application acceptance.

PA-9, while describing a method, endeavours to take into consideration the significant difficulty associated with measuring DFT's on concrete caused by surface irregularities inherent to both the substrate and the coating. Repeated gauge readings from points in close proximity will usually differ. As with PA-2, the principle of spot measurement (the average of several individual measurements) is also found in PA-9, with the spot being defined as a 6-inch circle. PA-9 specifies spot measurement as a minimum of 3 gauge readings, each of which shall be at least 2 inches from the other gauge readings within the 6-inch spot. Unusually high or low single readings that cannot be repeated consistently are to be discarded.

When working on a rough coating surface, multiple reflections off the uneven surface will cause 'surface noise' giving improper readings which are usually abnormally low. A simple adjustment of the lower gate will eliminate false lows, resulting in more accurate, repeatable thickness values.

Not all coatings can be measured by ultrasonic gauges. Coatings which have a high rubber content and some polyurea coatings tend to have very small voids through which the sound wave will not propagate. Your instrument supplier will be able to advise whether the gauge is suitable for the purpose. When in doubt, a sample of the coating can be tested by the supplier or manufacturer.

Concrete is the most-used building material in the world today. The preservation of concrete is a growing industry requirement, making accurate assessment of protective coatings on concrete increasingly important to Owners and Engineers alike. Tools like PA-9 and DeFelsko's PosiTector 200 which measures in accordance with PA-9, better enable us to ensure the quality of concrete-substrate-based coating projects. ■



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# NAI: A True Industrial Coating Show

The North American Industrial Coatings Show is the only event that provides a technical program and exhibits focused exclusively on industrial and protective coatings.

This event, taking place October 26-29, 2010 at the Indianapolis Convention Center, Indianapolis, IN, will feature a technical program that incorporates five tracks of instruction and presentations on the use of industrial and protective coatings. Each session has been developed to offer a diverse, highly educational program to all types of attendees. In addition to the technical material, the event will showcase the only exhibit floor dedicated to industrial and protective coatings in North America. A huge draw to the technical committee, the exhibition will also include a Raw Material Technical Pavilion, which will present the latest innovations in technology. This pavilion includes exhibitors such as DSM Powder Coating Resins, Cytec Industries, The Powder Coating Research Group, POET LLC, Nissan Chemical Industries, EMS-Griltech and more.

The Powder Coating Institute and NACE International have partnered to create the best and most diverse coating show in North America. No longer just a powder event, this will

truly be a fresh, new industrial coating show.

The NAI Coating Show has affiliations with PCI, NACE, NAPCA, Porcelain Enamel Institute, The Electrocoat Association, American Galvanizers Association, Powder Coated Tough, CoatingsPro, Products Finishing, Powder Coating, Canadian Finishing & Coatings Manufacturing (CFCM), Coatings World, Metal Finishing, and Process Heating. Opportunities exist to network off the exhibit floor such as at NAI's Opening Reception and Coating Craze Pub Crawl. Hear from Harley-Davidson at the Keynote Speaker Breakfast, which will present a story from a coating and corrosion protection point-of-view.

The conference program incorporates more than 60 hours of instruction and presentations on the use of industrial and protective coatings. The 2010 NAI Coating Show will offer five tracks of highly informative sessions.

See the complete technical program at [www.theNAIcoatingShow.com](http://www.theNAIcoatingShow.com).



**Show hours are:**  
 Wednesday, October 27,  
 11:00 AM – 5:00 PM  
 Thursday, October 28,  
 11:00 AM – 5:00 PM  
 Friday, October 29,  
 9:00 AM – 12:00 PM.

[www.theNAIcoatingShow.com](http://www.theNAIcoatingShow.com).

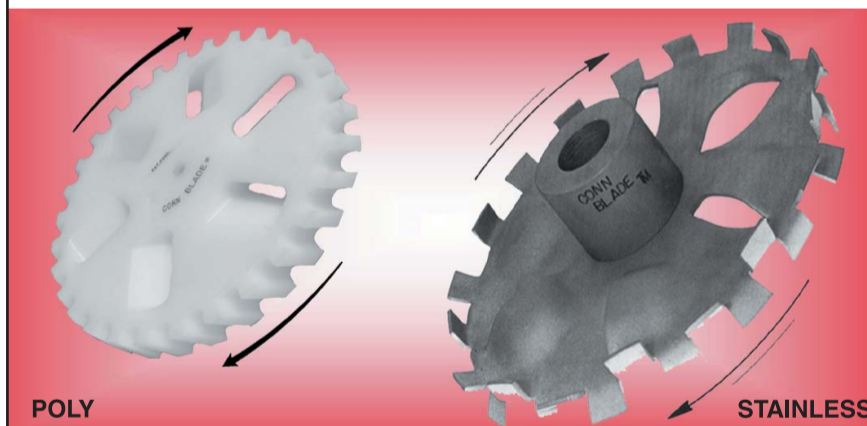
## The Exhibits

Here is a sampling of what you'll see on the show floor.

Company	Booth No.	Company	Booth No.
21st Century Composites	TBD	General Fabrication Corporation	519
A.B. Myr Industries Inc.	1201	George Koch Sons LLC	809
ACE Equipment	1215	Global Finishing Solutions	1417
ACT Test Panels LLC	810	Henkel Corporation	707
AkzoNobel	720	Herr Industrial, Inc.	TBD
Alabama Washer & Oven Company, Inc.	1011	Hilliard Corporation, The	409
Alliance Plastics	412	HIT Solutions	1124
American Galvanizing Association	227	Industrial Vacuum Equipment Corp.	1504
Applied Thin Films, Inc.	903	Intech Services, Inc.	907
Argon Masking	1007	IntelliFinishing	704
Arkema Inc.	622	ITW Gema	513 / 1121
Automatic Systems, Inc.	301	ITW Ransburg	1120
Bayer MaterialScience LLC	1406	Jervis B. Webb Company	802
Bulk Chemicals, Inc.	1317	KCI America Co., Ltd.	807
C.A. Picard	1002	KMI Systems, Inc.	829
Calvary Industries, Inc.	1106	Kolene Corporation	1115
Canadian Finishing & Coatings Manufacturing (CFCM)	808	Madison Chemical	609
Caplugs	605	Madison Chemical Industries Inc.	523
Carpenter Chemicals, LC	713	Metal Finishing Magazine	306
Castrol Industrial	615	Metalworx Inc. / Pro-Coat Finishing LLC	631
Chemetall	1101	MetoKote Corporation	801
Chemidex LLC	1114	Midwest Finishing Systems, Inc.	921
Coatings World	1027	Mighty Hook, Inc.	1200
CoatingsPro	Lounge B	Montipower Inc.	508
Col-Met Spray Booths	312	National Association of Pipe Coating Applicators (NAPCA)	128
Coral Chemical Company	901	Nissan Chemical America Corporation	1207
Cordstrap USA	308	Nordson Corporation	813
Custom Fabricating & Supplies	1015	Paint Pockets Company	930
Cytec Industries	1209	Parker Ionics	823
Datapaq, Inc.	716	POET LLC	1310
DeFelsko Corporation	1001	Pollution Control Products	307
Dehumidification Technologies, LP	1000	Porcelain Enamel Institute	1025
Diamond Vogel Paints	1017	Powder Coated Tough	Lounge B
DSM Powder Coating Resins, Inc.	1211	Powder Coating Magazine	926
DuBois Chemical	1221	Powder-X	800
DuPont CoatingSolutions	1107	Power International Group of America Co., LTD	1117
Echo Engineering	611	Precision Quincy Corp.	1405
Eisenmann Corporation	620	Pretreatment Equipment Manufacturing, Inc.	816
Elcometer Inc.	500	Prism Powder Coatings Ltd. USA	701
Electrocoat Association	923	Products Finishing	1116
Electro-Steam Generator Corp.	300	Rapid Industries	527
EMS Griltech	1308	Red-Ray Manufacturing Co.	1314
EPC Powder Mfg Inc.	909	Safety-Brite	526
Evonik Degussa Corporation	812	Shenyang Jinyuxin Coatings Co. Ltd.	TBD
Filter-Doc / FD Services Inc.	1217	Shercon Inc.	402
Fischer Technology Inc.	1021	Sherwin-Williams	821
Fostoria Process Equipment Div. of TPI	1130	Southern Systems Inc.	617
GapVax, Inc.	201	Sponge-Jet, Inc.	408
		Star 10, Inc.	1108
		T&S Enterprises	1103
		TDC Filter Inc.	717
		The EPSI Masking Company	710
		The Powder Coating Research Group	1306
		The Waterborne Symposium/ The University of Southern Mississippi	315
		Thermion	1009
		Tinker & Razor	700
		Trimac Industrial Systems, LLC	814
		Uni-Spray Systems, Inc.	709
		Vitracoat America, Inc.	413
		Wagner Systems	601
		X-Rite	731
		Yantai Electrostatic Powder Equipment Co., Ltd. (ABBR Yantai Jingdian)	1006

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[www.stone-tucker.com](http://www.stone-tucker.com)



## Announcing the NEW PosiTector PC Powder Checker

DeFelsko, a US manufacturer of coating thickness gages and inspection instruments, is pleased to introduce the next generation of non-contact powder thickness gages. The PosiTector PC Powder



Checker measures uncured powder coatings using ultrasonic technology to automatically calculate and display a predicted cured thickness.

With no wires or cables to risk disturbing the powder, now you can affordably measure powder thickness before curing. The PosiTector PC Powder Checker helps control powder consumption to lower cost and reduce waste. Advanced new technology allows measurement on small tubes, odd shapes and moving parts.

The American made PosiTector PC Powder Checker features an internal memory of up to 1,000 readings with no software required for downloading. The gage continually displays/updates basic statistics and automatically

generates formatted reports with measurement summaries and charts.

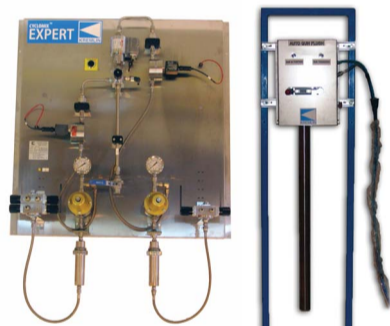
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## Graco Introduces Innovative Solution for the Small Component Finishing Market

Graco Inc. introduces the AirPro EFX, an innovative solution designed for precision finishing in the small component finishing market. The AirPro EFX is a complete line of air spray automatic guns with optimized performance at low flow rates. These compact and lightweight guns have aircaps and nozzles that are specifically designed to deliver superior spray performance for the small components market, which includes electronics, automotive and general metal. In addition, each gun is shipped with a serialized spray pattern imaging report that includes an actual spray pattern photo produced using laser-light sheet imaging. This allows users to not only see the high quality of the spray pattern with their own eyes, but also view a report that lists spray pattern benchmarks that each gun must comply with before shipping.

[www.graco.com](http://www.graco.com)

## Sansin Introduces Eco-Tone

Sansin Corporation, a leader in researching and developing environmentally friendly interior and exterior wood stains for a quarter century, introduced its new Eco-Tone Color System, a color additive for its Purity Interior 0-VOC base wood stain that delivers dye-like color with a fraction (1/10th) of the toxicity found in conventional, solvent-based dyes.

[www.Sansin.com](http://www.Sansin.com).

## Michem Lube 190

Michelman's Michem Lube 190 is an anionic polyethylene wax emulsion additive that improves the mar and scratch resistance, and water repellency, of architectural and decorative paints, stains, sealants and numerous other interior and exterior coatings. It is commonly used in exterior wood coatings when abrasion resistance is required along with water beading, and can provide blocking resistance as well.

This low-VOC surface modifier is also used in rub resistant high gloss OPV's and topcoats where water sensitivity is important. It produces good results at 5 per cent in styrenated acrylics from 200 to 500 strokes.

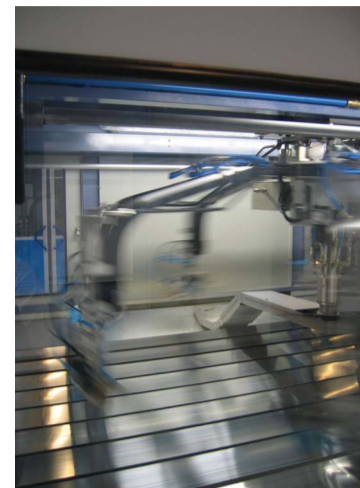
[www.michelman.com](http://www.michelman.com)

## Malvern Spraytec

Researchers from Becker Acroma, a manufacturer of high quality solutions and customised systems for the wood finishing industry, have used the Spraytec laser diffraction particle size analyzer from Malvern Instruments to help optimize the application of water-based furniture coatings using airless spraying. As a result of work with the Spraytec they have been able to tailor the droplet size of the paint to different applications, ensuring the best possible finish.

Waterborne coatings are used increasingly in wood finishing, producing results similar to those of solvent-based paints but with much less environmental impact. In terms of their application, the use of airless spraying reduces overspray, and at the same time increases transfer efficiency and production rate. However, droplet size of the applied product is critical and must be optimized and maintained in order to assure the application of a uniform coating.

[www.malvern.com/spraytec\\_coatings](http://www.malvern.com/spraytec_coatings)



## Multi-Volt Actuated Polypro Ball Valve



Plast-O-Matic Valves, Inc. has developed a new electrically actuated polypro ball valve that will automatically accept virtually any input power signal.

Designed for pure water and chemical applications, the polypro valves are molded with non-pigmented, plasticizer-free homopolymer resin and are assembled "dry" to eliminate contamination. Available in 3/8" – 2" sizes, these valves meet FDA and NSF requirements.

[www.plastomatic.com](http://www.plastomatic.com)

## Latest generation model of CV Lab Disperser- Dispermat CV3

BYK-Gardner introduces the Dispermat CV3, the latest generation model of the CV Lab Disperser product line.

The Dispermat CV3 is an efficient laboratory dissolver with a 1.0 HP motor with an infinitely adjustable motor speed from 0 – 20,000 rpm. Sample temperature measurement is now a selectable option by purchasing the PT100 temperature probe accessory.



The company also introduces Dispermat LC30 and Dispermat LC55, new generation models of the LC Lab Disperser product line. Their enhancements in motor design provides a quiet, low maintenance operation.

[www.byk.com/instruments](http://www.byk.com/instruments)

## Versatile APE Latex for Low Voc Coatings

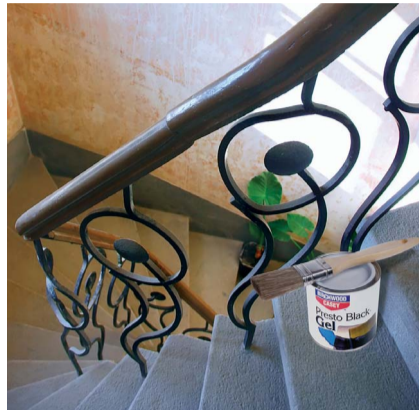
ELIOKEM, a leading global specialty chemical provider, announces the launch of Pliotec SA40, an APE-free (alkyl phenol ethoxylate) carboxylated styrene acrylic latex. Pliotec SA40 is recommended for usage in low VOC waterproofing sealers, concrete sealers, swimming pool paints and general purpose primers. This resin provides excellent water, alkali and efflorescence resistance. Pliotec SA40 has superior adhesion to concrete substrates.

### New Presto Black Brush-On Gel and PATINA GREEN

Brush or swab-on the new Presto Black Gel over large, in-place architectural iron or steel surfaces for a uniform finish at room temperature. Without runs or drips, any size surface in vertical or horizontal position can be converted to a beautiful silver/black gunmetal finish.

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The PATINA GREEN process is a unique formulation that forms a mixture of several different copper compounds on the metal surface, similar



to that formed through the natural aging and oxidation in outdoor weathering conditions.

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[www.birchwoodcasey.com](http://www.birchwoodcasey.com)

### EcoVAE by Celanese Emulsion Polymers Listed in Master Painter's Institute Starting Point Program

Guide formulas based on Celanese Emulsion Polymers' EcoVAE resins have been approved by the Master Painters Institute (MPI) Starting Point Program. EcoVAE 401 and EcoVAE 405 have been approved in guide formulas 10-ES36031 and 10-FL48030 for use in MPI class #44 and #143 respectively for use in architectural interior paints.

[www.celanese-emulsions.com](http://www.celanese-emulsions.com).

### New Water Spray Option in Low-Cost Q-Sun Lightfastness Tester

Q-Lab Corporation, manufacturers of the world's most widely used weathering tester, would like to announce the release of a new water spray feature for the rotating rack Q-Sun B02-S xenon tester. The Q-Sun B02 is an affordable lightfastness tester designed specifically to meet the requirements of ISO and AATCC.

[www.q-lab.com](http://www.q-lab.com)

### New Flush-Handle Latches

All Metric Small Parts (aMSP), a leading provider of metric hardware components, announced the availability of the MAKT39MTHA450... Series of flush-handle latches that feature fold-away safety handles. They are designed for use in EMI shielding racks for information devices such as digital equipment, magnetic disk devices, control boards, railcars, and aircraft.

[www.allmetricsmallparts.com/press/flushhandlelatches.htm](http://www.allmetricsmallparts.com/press/flushhandlelatches.htm)



### Wagner Introduces "Standard" Quick Color Change Booth

WAGNER introduces PrimaCube Concept, the newest member in the family of quick color change booths. WAGNER offers a complete system that assures the highest technical performance at a very competitive price. The complete system includes powder booth, recovery system, powder supply center, guns, moving equipment and controllers. The standard layout includes one or two manual stations with up to 12 automatic guns. The system is designed to fit into small spaces. Everything you need is in one package that is easy to purchase and easy to assemble. Contact your local WAGNER distributor for more information.

[www.wagnersystemsinc.com](http://www.wagnersystemsinc.com).



### Union Process Offers Data Acquisition Package for Attritors

Union Process, Inc., known globally as a manufacturer of size reduction and dispersing equipment for a broad range of industrial applications, is now offering an optional data acquisition package to provide customers with real-time data that will be helpful in monitoring conditions in the mill as

well as improving quality control and providing an easier method to do test comparisons.

The software package is designed to interface with the Baldor VS1SP variable frequency drive, which is standard on most Union Process Attritors sold in the United States.

[www.unionprocess.com](http://www.unionprocess.com)

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