



# CFCM

CANADIAN FINISHING & COATINGS MANUFACTURING MAGAZINE

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## COLOUR Flexibility



As demands of the finishing line increase and speed is key to meet orders, paint and coating finishers are looking for products offering them quick colour change options.

Greg Taylor, Gema Regional Manager (for Canada & Michigan) says, "We believe customers are looking for improvements and flexibility in productivity, but they also are demanding coating expertise from their suppliers. Customers are looking for suppliers to provide solutions to solve their powder coating application challenges. Taylor adds, "Powder Coating industry suppliers are expected to understand more about the powder coating process, so that they can help their customers solve problems with hanging, cleaning, coating and curing. Another aspect of this knowledge transfer is training programs. Customers are seeking more process knowledge and finding it by attending industry training seminars offered around the country as a good

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### ALSO IN THIS ISSUE

- Flatline Finishing
- Pretreatment and Washing
- Anodizing Trends
- Power Supplies and Rectifiers
- Flame Retardants
- Fillers
- MUCH MORE!**

## Water Beats SOLVENT?

Wood finishers seem to be looking for a water-based coating that wets the wood in the same way as solvent-based products.

Mark Levesley, of ICA North America says customers want to avoid the "dead" or "washed out" look that can come from water-based products, plus performance and ease of application similar to that of the solvent products.

"In other words, they would like the application and end result to be very similar to what they are achieving with the solvent-based products, but with water-based," says Levesky.

Coming from Italy, where industry mainly uses high performing polyester and catalysed (2K) polyurethanes, ICA's water-based coatings had to match that



type of performance before they were considered suitable.

The company has a range of water-based stains (spray only or spray and wipe), mono and 2K interior & mono-component exterior products that perform at the highest levels. Specialty products such as "Naturwood," AO684 – self-sealing mono-component products that wet the wood like a solvent and have minimal grain raise, LA410 – nano technology exterior products that perform

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### In the News

#### Association News

#### CPCA Celebrates 100th Anniversary at Annual Conference in Ottawa

This year marks the 100th Anniversary of the Canadian Paint and Coatings Association's presence in Canada. To celebrate this magnificent milestone, the CPCA, along with stakeholders and its board members, will gather at the Fairmont Château Laurier hotel in Ottawa on October 20-22, 2013 to hold their annual conference.

This year's conference will address how the industry continues to evolve in a competitive environment and a world with increasing demands on how it does business. Join us to help recognize and celebrate the past, and hear about what the future might hold for paint and coatings.

CPCA's President Gary LeRoux states, "It's not often that an association reaches the 100 year milestone, which usually means that members see the need for a strong association to advocate for the industry. They know that it is better and stronger together." The annual conference is an important time to come together as an association to network with

*continued on page 4*

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# Taking the Fall

We are heading into one of the busiest falls CFCM magazine and the industry has ever had. When you have a product that covers several industries that means a lot of trade shows. This September/October issue will be at five trade shows this year. And so will its staff.

The headline on the promotional piece for this issue states boldly, "We've got you covered" We most certainly do.

The trade shows we are exhibiting at include:

**Radtech uv.eb EAST 2013**

October 1-2, 2013, Sheraton Hotel & Conference Center at Syracuse, University Syracuse, NY  
www.radtech.org

**AAC 2013 Anodizing Conference and Show**

October 1-3, 2013, Seattle, WA  
www.AACconf.org

**Powder Coating 2013**

October 8-10, 2013, America's Center St. Louis, MO  
www.coating-show.com

**CPCA 100th Anniversary Conference**

October 20-22, Chateau Laurier, Ottawa, ON  
www.cdnpaint.org

**WMS - Woodworking Machinery & Supply Expo**

October 24-26, 2013, International Centre Toronto  
www.WoodworkingExpo.ca

In November the **Canadian Association of Surface Finishers (CASF)** are holding their annual environmental forum. This is always a very well attended and well run event. See pre-coverage of all of these

events this issue and post-coverage with lots of photos in future issues. November also features FabTech 2013.

We also have golf tournaments that we covered this summer, seminars and companies have been having open houses to announce new product lines, building expansions and anniversaries. And of course there was the SurFin 2013 trade show in June. CFCM was there too.

Our last issue of the year, November/December will be covering:

- Plating and Anodizing
- Blacking Air
- Pollution Control
- Industrial Finishing
- Aerospace Coatings
- Masking
- Testing Equipment
- Paint and Coatings Manufacturing
- Anti Corrosion



- Additives Biocides, Algacides, and Preservatives
- WHMIS Reporting

We welcome writers on any of our featured topics who are industry experts.

Feel free to contact the editor if you have any questions: [sandra.anderson@cfc.ca](mailto:sandra.anderson@cfc.ca)

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## In the News

Continued from page 1

like-minded colleagues and help build a stronger future over the next hundred years.

The business program addresses many issues related to the economic outlook for business, environmental sustainability, government regulation, standards development, international harmonization, regulatory alignment, training and skills development and more. This year will also feature a strong social and entertainment program to recognize the Association's long legacy of serving the industry.

### Waste Diversion Ontario Assesses the Paint Industry's Application for a New Program Operator in Ontario

After several months of extensive consultation with Waste Diversion Ontario (WDO) and Stewardship Ontario (SO), the paint and coatings industry has formally submitted an Industry Stewardship Plan (ISP) to run its own producer managed waste reduction program in Ontario. WDO is a not-for-

profit organization charged with the task of approving the ISP, as outlined under Ontario's Waste Diversion Act. CPCA members, the paint and coatings stewards in Ontario, selected Product Care as the new program operator for Ontario.

"We were pleased to be asked by CPCA members to make a formal application as the program operator for post-consumer paint recycling in Ontario and we are looking forward to providing services to the industry as we currently do in seven other Provinces," commented Mark Kurschner, President of the Product Care Association.

Product Care has operated post-consumer paint recycling programs since 1994, when the first individual producer program in Canada was started by the paint industry in British Columbia. In the United States, Product Care also advises the American Coatings Association (ACA) in launching their new PaintCare program, now operating in three states and four currently in the planning stages.

"Our members expressed a strong desire to

have a change in Ontario and they have been pleased with the service provided by Product Care across Canada," stated CPCA's President, Gary LeRoux. He went on to say that, "Our members represent 91 percent of the paint and coatings program for post-consumer paint recycling in Ontario and we are confident that Product Care can continue to meet or exceed the established paint and coatings waste diversion targets as Stewardship Ontario has done every year since 2009."

Product Care and CPCA are working closely with Stewardship Ontario to put in place a strong transition plan to ensure the industry, service providers and the consumers are not disrupted in any way. The paint and coatings industry is looking forward to the new program being operational for a January 1, 2014 start date.

### CPCA Now Part of Important Coalition for Waste Reduction

The Canadian Paint and Coatings Association (CPCA) is pleased to be a member of the Coalition for Effective Waste Reduction in Ontario (CEWRA), created to work towards greater waste reduction throughout the Province. The organization made up of 20 industry trade associations covering every product in the waste stream will work with its members, government and all stakeholders to ensure the recently proposed Waste Reduction Act (WRA) meets recycling targets, while at the same time ensuring the sustainability of all industry sectors.

"Our members have proven their commitment to post-consumer recycling in Ontario with the paint and coatings stewards consistently exceeding established waste reduction targets annually under the MHSW program run by Stewardship Ontario since 2009," commented Gary LeRoux, President and CEO, CPCA. CPCA members are confident that they will continue to meet established targets provided that any new legislation focuses on outcomes rather than process.

Canadian paint and coatings producers now lead the world in post-consumer paint recycling with a program operating in every Province of Canada. Last year CPCA member companies recovered 18.7 million kilograms of leftover paint across Canada as well as the containers in which it was sold.

### Canadian Coatings Industry to Honour Three Individuals

The Canadian Paint and Coatings Association will honour three individuals who have contributed much to the work of the Association and the coatings industry in Canada. "We are pleased to once again honour three deserving individuals who have made an important contribution to their companies and the important work done by the Association throughout their careers," commented Dale Constantinoff, President of the General Paint Corporation and CPCA Chair.

Dick Glassford, Vice President Human Resources, General Paint Corporation will be presented with the Industry Achievement Award at the upcoming annual conference in Ottawa on October 20-22, 2013, at the Chateau Laurier. Mr. Glassford has worked for General Paint for almost 40 years and has participated on a number of Association committees like the Product Stewardship Committee and is also the current Chair of the Product Care Association handling post-consumer paint recycling programs in seven Provinces.

Valerie Tunstall, of Dupont Performance Coatings and Mike Livermore of Valspar Corporation will receive the Industry Statesman Award. This award is presented to individuals who have recently retired or retiring and have made a significant contribution to the Association. Both Valerie and Mike have been very strong representatives as members of the Health, Safety and Environment Committee and the Paint and Coatings Working Group. They have provided invaluable input on the many regulations developed for industry and their work has helped ensure minimal impact on companies doing business in the coatings industry.

### CPCA Unveils New Logo and Branding



To commemorate its 100th Anniversary, the Canadian Paint & Coatings Association is proud to unveil its new logo for 2013. Pictured above, the image is that of a paintbrush stroke with a distinct maple leaf in the centre.

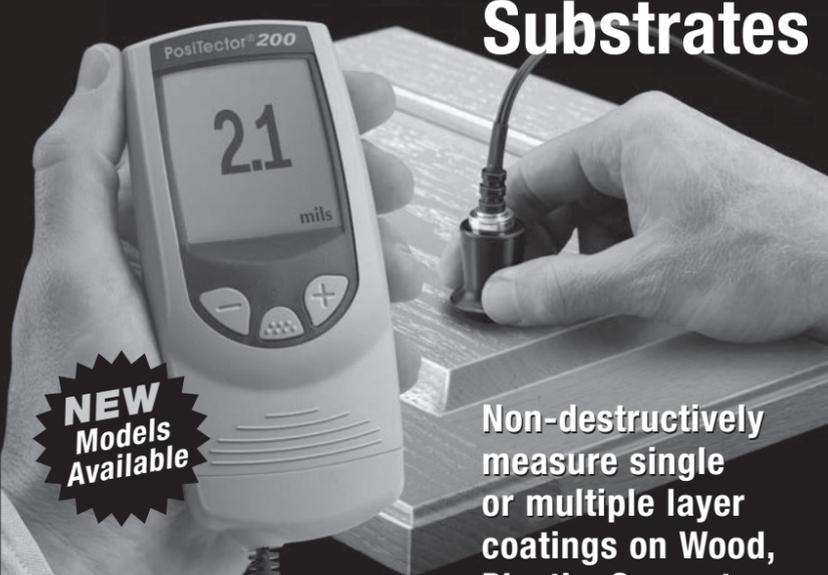
After more than 350 submissions by 93 graphic designers from around the world, a new logo was chosen with input from CPCA staff and board members. The image reflects what the industry does in a simple manner; is clearly Canadian with the national symbol and colours; and can be easily expressed in multiple colours and still be recognizable. "I'm pleased to see a focus on renewal this year during our centennial anniversary to highlight a new beginning for the Association and the important work it does for its members," said Dale Constantinoff, President of General Paint Corporation and CPCA Chair.

As part of the re-branding effort, the Association's URL has been changed to [www.canpaint.com](http://www.canpaint.com). It reflects the Association's overall business approach to its work using the more common business suffix (.com), conveys a 'can-do' attitude that is action-oriented and also reflects that it is truly Canadian.

CPCA's new corporate logo will be rolled out in phases. It is currently visible on all CPCA social media channels, as well as all CPCA communication products to members and the public. In the upcoming weeks, the Association

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will also be adding its new logo to its website and national advertising.

### International Paint and Coatings Group Consults on the Transportation of Dangerous Goods

International Paint and Coatings Group Consults on the Transportation of Dangerous Goods at the United Nations as a long-standing member of the International Paint and Printing Inks Council (IPPIC), CPCA is pleased to note that on July 23 IPPIC participated on the United Nation's Expert Subcommittee on the Transportation of Dangerous Goods. This is part of IPPIC's ongoing efforts to proactively seek to harmonize shipping requirements for all members of IPPIC, eliminating lost time and added costs, in cross-border and multi-modal shipments of paint and allied products. "We believe this is positive proof of the importance of having an international group, such as IPPIC, to ensure that the industry is well represented in international forums, such as the UN," commented Gary LeRoux, President and CEO of CPCA.

IPPIC submitted four informational papers to streamline the UN Model Regulations, which govern the shipment of products across country borders. The TDG submission also included a proposal to reinstate an exemption from requirements for closed cargo transport units; a proposal to adopt a single multi-modal description for pollutants (Class 9); a proposal for Class 9 Proper Shipping Names for Environmentally Hazardous Paints, Printing Inks and Adhesives; and a proposal to allow some packaging flexibility for these Class 9 Paints, Printing Inks and Adhesives. These proposals will be helpful in formulating strategy for submitting formal proposals in the next biennium.

There were a number of other issues raised during this meeting and IPPIC continues working toward the development of appropriate policies related to the transportation of dangerous goods internationally. For details of this undertaking please consult: [www.CanPaint.com](http://www.CanPaint.com).

### CPCA Awards Scholarship to Deserving Student

The Canadian Paint and Coatings Association Board recently approved continuing with the annual awarding of a scholarship to deserving children of staff at member companies, as per the practice of the Toronto Society for Coatings Technology (TOSCOT) for many years. The award is made by CPCA's Education Committee and granted to high school students who have excelled in their final year and have been accepted in a post-secondary education program. The granting of the award is based solely on academic achievement.

The Association is pleased to announce the first recipient of the award, Mary Yao, the daughter of one of the staff members of John E. Goudey Manufacturing Ltd. Mary is a graduate of Cardinal Carter Academy for the Arts, an Arts secondary school in Toronto. She was enrolled in the music program, and her instrument of concentration was the Violin. In the past, her orchestra participated in various competitions and festivals and performed at Carnegie Hall in New York City. Throughout high school, Ms. Yao focused mainly on science and math courses and she will continue pursuing science at Western University in the fall of 2013. She is enrolling in Environmental Life Sciences specializing Biology, Earth Sciences, Geology, Pathology, Pharmacology and Microbiology & Immunology.

Her first year will include Biology, Chemistry, Calculus, and Earth Science.

CPCA would like to take this opportunity to congratulate Ms. Yao and wish her well in all her future endeavours.

### CACD Moves

The Canadian Association of Chemical Distributors (CACD), effective August 20, 2013, has moved to: 1160 Blair Rd., Unit A, Burlington, ON, L7M 1K9, Tel: 905-332-8777, Fax: 905-332-0777. The CACD officially resided at their new office on Sept. 1, 2013. The email and website addresses remain unchanged.

### New Address for OPCA

The mailing address for the Ontario Painting Contractors Association (OPCA) effective September 1 2013 has changed to: 7611 Pine Valley Drive, Unit 10 Woodbridge, Ontario L4L 0A2 Phone and fax remain the same at: Tel: 416-498-1897, 800-461-3630,

Fax: 416-498-6757  
[www.better-faster-safer.ca](http://www.better-faster-safer.ca)

### Company News

#### Eco-Tec expanding facility to meet large-scale demand

Eco-Tec Inc., based in Pickering, ON, global supplier of industrial water treatment and chemical recovery systems, is adding a significant expansion to its manufacturing facility. The addition is in response to growing orders for large-scale equipment from worldwide clients in the oil & gas, power generation, and metal finishing/refining industries.

Eco-Tec officially issued a contract on July 16, 2013, to add approximately 17,000 square feet (1,580 square meters) of state-of-the-art production space to its current 32,080-square-foot (2,980-square-meter) facility.

"This expansion will allow us to become an even stronger leader in the marketplace and give us the ability to provide larger-scale products that

will meet growing demand," said Dr. Phillip (Rocky) Simmons, Eco-Tec President and CEO.

The new space will increase Eco-Tec's capabilities; namely, in welding, material handling, sand blasting, and painting. The extra capacity will go into constructing high-performing ion exchange/micro media filtration products, which dramatically reduce waste and operating costs for clients.

In particular, the expansion will enhance production of produced water treatment for upstream oil production, amine purification for the downstream oil & gas sector, and water demineralization/boiler feed systems for various types of power generating facilities.

The expansion will also allow Eco-Tec to build even more of its components in-house, giving the company greater control over its high-quality equipment and parts. The extra capacity also means shorter delivery times for Eco-Tec's clients located throughout all parts of the world.

Work on expanding Eco-Tec's facility will begin immediately and is scheduled for completion in April 2014.

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## Walter Surface Technologies Inaugurates \$30 Million International Campus and New Bio-Circle Facility

After several years of investments in sophisticated design and construction of the most recent extension phase housing its new Bio-Circle facility, the entire 92,000 sq. ft. Walter Surface Technologies International campus is now complete on its original Montreal (Pointe-Claire, Qc) site and is poised to grow in all of its business segments. More than 300 guests including some of Montreal's top business leaders and key metalworking industry executives were on hand in August 2013 for the official inauguration of the entire campus with a focus on the new Bio-Circle state-of-the-art production facility. Tours were conducted by members of the Walter team, which provided close-up views of products at work.

The campus serves as the overall international headquarters for the WALTER Company, encompassing corporate management, R&D, laboratories, product management, test centers, marketing, sales, warehousing, distribution, and after sales service. Construction of this campus represents an

investment over \$30 million.

The new Bio-Circle complex contains a high-tech bottling plant where production capabilities are increased 10 fold while quality control guarantees a flawless end product. Key components of this new facility include automated bottling systems, massive mixing and storage tanks, sophisticated pumping and packaging systems.



Key leading Walter products include: ZIP CUT (ZIP WHEEL in USA), ZIP ONE, Enduro-Flex, and Surfox.

Since the early 1990s Walter has also been active in the research and development of green technology. Today, environmental initiatives represent a core part of the business embodied within the Bio-Circle Environmental Solutions division, and its moniker "Making Green Work". This has set the company on a new course to explore new business practices and processes, which help manufacturers protect the health of their workers, while reducing global warming and pollution. VOC-free, VOC-reduced and water-based products protect users from toxic compounds that were traditionally used. These industrial, yet environmentally-friendly solutions represent merely the beginning of Walter's green initiatives - the Bio-Circle line already includes more than 20 products, from parts washer machines to cleaning liquids. Key products include: Bio-Circle Ultra, Nature Boost, Bio-Rust and AF Clean.

Naturally, Walter uses its own Bio-Circle cleaning system for parts and equipment, contributing to the elimination of toxic solvents. Walter's employees recycle more than just paper and aluminum cans - they follow a comprehensive recycling program covering virtually every aspect of daily operations, from cafeteria services to individual work spaces.

Walter Surface Technologies has grown as a leader in surface treatment technologies for more than 60 years providing high productivity abrasives, power tools, tooling, chemical tools and BIO-CIRCLE branded environmental solutions for the metal working industry. Founded in Montreal in 1952, the company is now established in 7 countries throughout North America, South America and Europe.

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

## DuPont Realigns Leadership Team to Accelerate Integrated Science Execution, Explores Strategic Alternatives for Performance Chemicals

Taking the next steps in its transformation to a higher growth company, DuPont has realigned its leadership team to accelerate its integrated science execution across the company and is exploring strategic alternatives for its Performance Chemicals segment. These steps are part of DuPont's transformation to a higher growth, less cyclical company that integrates its unique scientific capabilities in biology, chemistry and materials to develop differentiated, high-value solutions in the attractive agriculture and nutrition, industrial biosciences and advanced materials markets worldwide.

To accelerate the execution of its applied integrated science strategy across its businesses, James C. Collins, Jr., who currently leads the Industrial Biosciences business, will become senior vice president, reporting to DuPont Chair and CEO Ellen Kullman, and will oversee the Industrial Biosciences, Performance Polymers and Packaging & Industrial Polymers businesses. In addition, Matthew L. Trerotola will rejoin DuPont and report to Kullman as senior vice president with responsibility for the Protection Technologies, Building Innovations, and Sustainable Solutions businesses. A previous DuPont corporate officer, Trerotola is familiar with DuPont's strong brands including DuPont Kevlar, Tyvek and Nomex.

DuPont's consideration of strategic alterna-

tives for its Performance Chemical segment may include a full or partial separation of each of these businesses from the company through a spin-off, sale or other transaction. The segment includes Titanium Technologies and Chemicals & Fluoroproducts businesses, which generated total sales of \$7.2 billion in 2012. DuPont may pursue a different strategic alternative for each business.

DuPont's decision to explore strategic alternatives for its Performance Chemicals businesses reflects its ongoing portfolio review to determine how best integrated science can contribute to growth and the optimal mix of businesses for maximizing shareholder value. This follows DuPont's sale of its Performance Coatings business earlier this year and the acquisition of Danisco in 2011.

"As we discussed at our Investors Day in May, we have been carefully weighing the strong cash generation of our Performance Chemicals businesses against their cyclicity and lower growth profile, as well as where the power of DuPont's integrated science can be differentiated," said Kullman. "We are evaluating options for our Performance Chemicals businesses as part of our ongoing plan to deliver higher growth and greater value creation for our shareholders."

DuPont has been bringing science and engineering to the global marketplace in the form of innovative products, materials, and services since 1802.

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

## Axalta Expands Coatings Technology Center

New Pilot Reactor Will Accelerate New Product Development



Axalta Coating Systems, a leading global supplier of liquid and powder coatings, has invested \$5 million in a new pilot reactor that has begun operations to support coatings polymer research and scale-up activities at its Coatings Technology Center (CTC) in Wilmington. The state-of-the-art reactor system is coupled with a complete process automation and control system to enable precise control of ingredient amounts and critical process conditions such as temperature and pressure. The expansion will enhance product development capabilities and accelerate the manufacture and introduction of the next generation of polymers that offer improved performance properties to meet customer expectations. The polymers produced from the pilot reactor can be used for both traditional solvent based and more environmental friendly water based coating products.

The new pilot reactor is a key component in the advancement of a variety of polymer technologies to support innovative coating develop-

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ment. Formulations that work in a laboratory environment may not necessarily transfer consistently to full scale production. The pilot reactor, also known as a semi-works facility, is a small scale manufacturing system that allows new polymer formulations to be produced in a way that fully mimics full scale production. Improved first pass production capability means increased product speed to market for our customers.

The CTC is Axalta's global center for research and development, including the work performed by its specialized polymer technology team. The new facility will complement existing Axalta polymer research capabilities in Europe, Asia Pacific and Latin America, providing state-of-the-art polymer production scale-up resources that will enable the development of future polymer technologies for customers around the world.

### Buckman Launches Buckman North America

Buckman has announced the formation of a new company, Buckman North America, under which the current Buckman Canada and Buckman United States organizations will be brought together into a single operation. The intent is to provide synergy to better serve customers. The new company will begin operating immediately and will be based out of the Buckman global headquarters in Memphis, TN. The company will also maintain operations at the current Buckman Canada location in Vaudreuil-Dorion, a suburb of Montreal, QC. Jim Doan, will serve as President, Buckman North America, and Pete Tchouros will serve as General Manager Operations for the new company.

"When fully operational, this new Buckman North America structure will give Buckman associates in Canada and the United States increased access to technical knowledge, encourage sharing of best practices and enhance abilities to serve our customers," says Doan.

Doan points out that the transformation to Buckman North America will be seamless from a customer perspective, with no business interruption.

With the creation of Buckman North America, Buckman now has six geographically organized operating companies focused on customer needs around the world.

Buckman is a privately held, global specialty chemical company with headquarters in Memphis, Tennessee, USA.

### Mexican Authorities Reject Sherwin-Williams Acquisition of Comex

The Sherwin-Williams Company announced in July 2013 that the Federal Competition Commission of Mexico informed the Company that by a 3-2 vote the acquisition of Consorcio Comex, S.A. de C.V. announced on November 12, 2012 was not authorized by the Commission. The Company is reviewing the rationale for the Commission's decision and expects to respond to the Commission's concerns in the near future. Although disappointed by the decision, the company remains hopeful that it can adequately address the Commission's objections and proceed with the transaction. The Comex Group owns Comex Canada and General Paint.

### ALTANA enters into Agreement to Acquire Rheology Modifier Business from Rockwood

The specialty chemicals group ALTANA has signed a definite agreement to acquire the global rheology

business of Rockwood Holdings Inc. The unit, currently part of Rockwood's "Performance Additives" segment, is one of the world's leading manufacturers of rheology additives that optimize the flow characteristics of various materials. With about 340 employees at four production sites in the U.S., the UK and Germany the rheology business generated sales of USD 191 million in 2012. After approval by the relevant antitrust authorities, ALTANA will integrate the business into its BYK Additives & Instruments division.

The purchase price amounts to USD 635 million. The closing of the transaction is expected to take place in the fourth quarter of 2013.

With the acquisition ALTANA is expanding its existing additives portfolio and sales are expected to reach about EUR 1.9 billion. There will be four additional production sites: Gonzales (Texas), Louisville (Kentucky), Widnes (UK) and Moosburg (Germany). The number of employees will rise to approximately 5,700.

In 2012, ALTANA achieved sales of more than EUR 1.7 billion. With its high profitability and dynamic growth ALTANA is one of the most

successful and innovative chemical groups worldwide.

### Cytec Coating Resins Establishes New Identity as Allnex

The divestiture of the Coating Resins business of Cytec Industries to funds affiliated with Advent International was first announced in October 2012 and completed on April 3, 2013. The adoption of the new name – Allnex – is the first step towards establishing the company's new identity.

"We are excited about our new name," states CEO Frank Aranzana. "We believe that it reflects who we are, what we stand for, and what we want to achieve."

The search for a name began with an employee contest in November 2012 that generated more than 300 possibilities.

Additional information on aspects of Allnex's new identity will be provided as it becomes available. A global company with \$1.5 billion in sales, Allnex is a leading supplier of resins for architectural, industrial, OEM and special purpose coatings. [www.allnex.com](http://www.allnex.com)

### PPG Protective and Marine Coatings Available at DULUX Paint Stores in Canada

With the April 2013 acquisition of AkzoNobel's North American architectural coatings business by PPG Industries customers can now purchase industry-leading PPG Protective and Marine Coatings (PMC) products at DULUX Paint stores across Canada. This is the first time PPG PMC products are available through stores in Canada.

PPG PMC products, such as AMERCOAT and PPG High Performance Coatings product lines, are designed to protect and preserve customers' assets in a broad range of industries such as petrochemical, civil infrastructure, power and marine applications.

PPG PMC's extensive Amercoat line – featuring PSX 700 polysiloxane topcoat – is internationally recognized for its ability to resist abrasion, sustain extreme weather conditions and minimize rust, DiLeccia said. The patented polysiloxane technology of PSX products, which offers a wide colour range and low volatile organic compounds (VOCs), is used around the world to protect water towers,

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roller coasters, bridges, storage tanks and other steel assets.

The Peace Bridge connecting Fort Erie, Ontario, and Buffalo, N.Y., was coated in PSX 700 products more than a decade ago and still looks good today despite brutal winters and humid summers. Earlier this year, the topsides of the U.S.S. Freedom, the lead ship of the U.S. Navy's littoral combat ships, were repainted using Amercoat 240 edge-retentive epoxy and PSX 700 coatings.

The PPG High Performance Coatings line includes award-winning PITT-TECH products, recognized in 2012 for their role in helping restore and protect the U.S. Capitol Dome in Washington, D.C.

Dulux Paint stores are distributing PPG PMC products through nearly 250 locations across Canada, leveraging the expertise of PPG PMC technical and specification experts to serve customers, allowing for quick and flexible delivery, DiLecce says. [www.ppgpmc.com/northamerica](http://www.ppgpmc.com/northamerica)

## Argex Announces Purchase Agreement with PPG

Argex Titanium Inc. recently announced today that it has entered into a long-term supply agreement with PPG Industries Inc. relating to titanium dioxide (TiO2) pigment suitable for various end-use applications by PPG.

PPG is the world's leading coatings and specialty products company, serving customers in construction, consumer products, industrial and transportation markets and aftermarkets. PPG operates in nearly 70 countries around the world, with sales in 2012 of US\$15.2 billion.

The supply agreement and a concurrently executed research services agreement between PPG and Argex, whereby PPG will provide continued research and development support to both optimize Argex pigment grade TiO2 for paints and coatings and combine PPG's coatings technology and expertise with Argex's TiO2 proprietary processing technology, replace the collaboration agreement signed by the two parties that was announced in April, 2012.

Roy Bonnell, Argex President and Chief Executive Officer says, "The agreements with PPG are a significant milestone for our Company. Our relationship with PPG has greatly assisted with

our stated goal to move towards production. We are very pleased that PPG will be our first customer for TiO2 pigment suitable for use in its architectural paint production. We are also pleased that we will continue our collaboration with PPG to optimize our product for other various end-use applications."

"These agreements and our ongoing collaboration with Argex are demonstrative of PPG's stated intent to leverage our expertise to secure an enhanced supply of critical raw materials," says Charles F. Kahle II, PPG Chief Technology Officer and Vice President, Research and Development, Coatings.

PPG previously manufactured titanium dioxide using the chloride process at its former Natrium, W.Va., chemicals plant and sold titanium dioxide pigment for coatings and other end-use applications. Titanium dioxide is a raw material widely used in the paint and coatings industry as pigment for its hiding, durability and whiteness characteristics.

ARGEX Titanium Inc. is a near-term producer of Titanium Dioxide (TiO2). With a primary goal of advancing rapidly towards production, Argex has adopted a simple and low-risk strategy for the scale-up of its proprietary process that allows it to produce high quality TiO2 pigment directly from run-of-mine material. The closed-loop process is environmentally friendly and produces minimal inert tailings.

The Argex R&D Centre and its first industrial sized production module will be situated in Salaberry-de-Valleyfield, Quebec.

## Troy Supports OBPA, Offers a Full Line of Micropel Preservatives for Plastics

Troy Corporation announces its continuing support of OBPA materials for plastics applications. Troy is the only US manufacturer that supplies OBPA and is supporting its re-registration in the USA. The company offers customers a full line of products under its Micropel brand of antimicrobials for plastics; these specially designed products are based on proven OBPA technology, as well as alternatives such as IPBC and isothiazolinones.

"In order to enable our customers to lead in their respective markets and achieve their per-

formance and cost objectives, Troy offers the product technologies they demand," says David E. Faherty, Vice President, Troy Corporation. "Our customers in all regions except Europe can continue to use OBPA without any service interruptions. For those customers who wish to formulate with OBPA alternatives, Troy offers a full range of Micropel preservatives based on other actives, most notably IPBC, which provide comparable performance to OBPA in the control of fungal and pink stain growth in plastics and related materials."

In Europe, Troy offers a full line of non-OBPA commercial products. These include Micropel A285, 612, and the new 2000 series products, all of which are based on IPBC. In addition, Troy supplies the Micropel IT and DC liquid series of products in various plasticizers, as well as solid Micropel IT10PVC. Another new product technology is Micropel 1000, which is designed to impart surface anti-bacterial properties and offer comparable performance to silver, but with better cost in use.

"Additional Troy Micropel materials are under development which will continue to answer the demands of the industry and assist customers worldwide in overcoming the challenges they face," says Faherty. "Troy has an established track record of working with customers and developing custom solutions."

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

## People

### David Carreiro Announcement

Fischer Technology, Inc., a manufacturer of coating thickness, material testing, micro-hardness and material analysis instrumentation, has announced the appointment of David Carreiro as Sales Manager. David previously worked for Thermo Fisher Scientific in various roles, including sales management and product management, on the Niton XRF product line along with Ahura FT-IR and Polychromix NIR. He also spent time with CSM Instruments as an Applica-



David Carreiro

tions Engineer for their hardness, scratch and tribology line of products, along with various other technical roles. He has a BS in Chemistry and a MS in Polymer Science and Engineering from the University of Massachusetts. Carreiro is located in the Boston area, where he lives with his wife and 3 children. He can be reached at +1 508 415-4631 or [dcarreiro@fischer-technology.com](mailto:dcarreiro@fischer-technology.com).

### EC Personnel Changes in Chrome

At the offices of environment Canada with respect to Chromium Electroplating, Chromium Anodizing and Reverse Etching

Regulations, effective in May 2013, the overall responsibility for administration of the regulations rests with Alex-Dragan Gojkovic. Please ensure that any correspondence or queries with respect to the Regulations is directed to his attention. He may be reached at 819-934-6523 or by e-mail

[alex-dragan.gojkovic@ec.gc.ca](mailto:alex-dragan.gojkovic@ec.gc.ca). Environment Canada's regional offices are also available to respond to requests.

Peter Paine has been assigned to the plastics area within the Chemical Production Division. EC thanks him for his contribution to the development and implementation of the Chromium Regulations over the years.



Alex Gojkovic

### CPCA Releases New Batch of Online Training Courses

The Canadian Paint and Coatings Association is proud to announce that it has added new courses to its online training lineup. The courses include Transportation of Dangerous Goods (TDG) and Workplace Hazardous Materials Information System (WHMIS). With the new Globally Harmonized System (GHS) for labeling, being harmonized worldwide and coming into force in January 2015, it is critical that members are fully informed as to the requirements under the new regulations.

"Proving ongoing training for employees is an important part of the industry," notes CPCA President Gary LeRoux, "and we want to ensure our members are able to provide their staff with excellent learning opportunities." The Association plans to continue to add more courses over the next year to help provide proper regulatory training for professionals working in Canada's paint and coatings industry.

CPCA online training products are automatically made available after purchase and can be taken at the students preferred pace. The courses also meet relevant legislative requirements and provide users with a certificate upon completion. Along with these courses, hardcopy handbooks will be provided to ensure that the lessons from the online training are easily referenced. This will help ensure the ongoing health and safety of all working in the industry. To learn more about the Association's new course list please visit [www.cpcatraining.com](http://www.cpcatraining.com).

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# OCCO Golf Tourney



Kevin Haynes, SUN Chemical- Low Gross with OCO Chair, Bruce Clatworthy, Dominion Colour.

The rain held off as 80 participants attended the 26th annual Oil and Colour Chemists Organization (OCCO) of Ontario Golf Tourney at Nobleton Lakes September 3, 2013.

Winners were Kevin Haynes, SUN Chemical- Low Gross: Paul Thackeray, Andicor - Low Net, Longest Drive, Scott Mackie Monteith.

Longest One Handed Putt - David Bajinski, Precept International.

All had a great time.



Paul Thackeray, Andicor - Low Net.



Longest Drive, Scott Mackie Monteith.



Photos by Pete Wilkinson

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# In the News



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Hollis Jaial from Univar.



Mary Bray, Brenntag, Lucy Gibbons, Dominion Colour Corporation - Tom Trede, Flint.



Mary Bray, Brenntag, Lucy Gibbons and Suzanne Letrondo, Dominion Colour Corporation - Noel Shahnazarian, Northspec.

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# BEX ENGINEERING

## Celebrates 50 Years

In 1963, Norm Bowen was operating a small machine shop when a customer approached him with a problem. The customer needed a particular spray nozzle and was unable to find one.

Being a recent Engineering graduate, Bowen was intrigued with the complexity and detail required in the small part. He took on the assignment with zeal, and produced his first spray nozzle.

The customer was thrilled not only with the finished product, but the speed with which Norm had produced the piece.

Now, 50 years later, Norm's son, Derek Bowen, continues this family business and tradition of designing and manufacturing of quality products at BEX's advanced manufacturing facilities in Ontario.

"At BEX we are constantly expanding and improving our product line," says Bowen. "From standard set up to custom made, our commitment to innovation has made us an industry leader in spray nozzle and tank mixing eductor technology."

The cCompany started in Etobicoke, Toronto, ON, and as it grew over the years, moved to its current location in Mississauga due to its improved location and larger building size.

One of the ways Bex BEX is celebrating its 50 years is with the launch of a new website.

"Our new website features thousands of spray nozzles in stock and an expanded engineering section to help with your spray nozzle selection," says Bowen. "BEX

is known not just for our exceptional quality, but also for our industry leading delivery and customer service."

To further celebrate its anniversary, there was a company party in June for staff and family.

BEX is proud to be a Canadian manu-

facturing company with customers across Canada and the world and is looking forward to celebrating another 50 years.

For more information, please visit [www.bex.com](http://www.bex.com)



Toronto Office and Plant people celebrate 50th anniversary.



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# Dempsey's 2013 Seminars a Great Success



The Dempsey Corporation's seminars for paint and coatings held in June 2013 attracted 176 people from across Canada. The events included presentations from BYK, Halox, Laviosa and Trinity Resources.



Stuart Lipskin, BYK.



Carol Traister, Byk.



Frank Dempsey.



Nathan Kofira, Halox.



Marc Gagnon.



Rick Laskodi, Byk.



Estolia Salera and Shaune Copeman-Botosch from Home Hardware.



Antonio Liberatore, Furnace Mineral Products (FMP), Ivan Razl from Gemite.



Valentina Ermini, Laviosa Minerals.



Photos by Pete Wilkinson

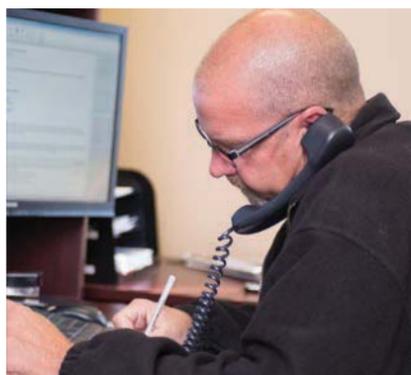
# ECE Canada Ltd.

## Acquired by Long Standing Employees

**ECE Canada Limited**, based at 270 Brunel Road, Mississauga, ON, Canada's leading supplier of finishing equipment and systems, has been successfully acquired by its long standing management team consisting of Tim Beckford, John Stock and Wayne Visser. Details of the acquisition from the company's founders Cy Wilcox and Tom Tobin were finalized on Aug 1, 2013. Customers and suppliers can expect a seamless transition through this process.

It was time to transition the business and who better than the three key individuals who were instrumental in the growth and direction of the company over its 31 years of being in business.

Discussions of transitioning the business started in April 2013.



Ross Blackwell

"Our goal was to try and button down the details by our fiscal year end (June 30th), which was a fairly aggressive schedule but we managed to stay focused," says Tim Beckford. "The three of us took over operations July 1st with the final details being completed on Aug 1st."

Both Wilcox and Tobin had already been pretty much retired. Cy continues to come in daily and do the rounds with the employees. ECE is held dear to Cy's heart and he wants to be part of the excitement surrounding the transition going forward.

Cy Wilcox says, "Selling ECE was a very disconcerting experience, but I am happy that three long time key employees have purchased the company. Their many years of experience with ECE will provide solace to our customers that their expectations from ECE will continue under the management of John Stock, Tim Beckford and Wayne Visser. I am sure the company will succeed and our customers can be assured that as in the past, good source and credibility will continue".

Tim Beckford is Vice President of



Robert Rybinski and Peter Wells.

Sales, Wayne Visser is Vice President of Engineering and John Stock is Vice President of Operations.

Beckford started as a service technician in January 1988. Promoted to automotive assembly plant sales in 1991 and took over as Sales Manager of the Automotive Group in 1993. Became General Sales Manager in March 2007. Has been instrumental in product line diversification through added distribution agreements with ancillary equipment providers. "Collectively, the three of us have shared a similar vision on where we need to be as a company," he says. "We continually strive to seek new opportunities to grow our business and remain a leader in the paint finishing industry. We are very excited to put more of our ideas into motion while maintaining our core business philosophies".

Visser started as a Service Technician October 1984. Promoted to Service Manager in 1988. Gradually went into systems engineering and system sales working primarily in automation for the tier one and automotive sectors. In addition Wayne supports the IT and Financial aspects of the business. "The three of us have all aspects of the business covered as a cohesive management team," says Visser. "Our talents are available and utilized where they are required in the business. We are looking towards adding product lines that fit with our business and design/build spe-



Joe Gillis and Jeffrey Guillermo.

cialty items the customers have need for. Our suppliers are leaders in the industry and we look forward to working closely with them to provide solutions to fit our customer's needs".

John Stock joined ECE Canada in 1982 as the company's first employee. As the company grew and evolved so did the rolls John filled in the company, through Service, Systems, Sales, Sales Management, Customer Service and finally Operations Manager. Throughout that time the industry and business developed supported by quality products, service and most of all, excellent customers. "It's your customers that make or break your business, and it is important that we do our level best to supply top notch application solutions and support for those who kindly support us." He says, "ECE enjoys tremendous support by our long term industry leading suppli-



Tom Tobin, Cy Wilcox, Tim Beckford, Wayne Visser and John Stock.

ers and it is our mandate to pass the very same support along to our customers. We look forward to continually improving our offerings and support to our valued customers across Canada".

They say that partnering closer with suppliers will be essential in building ECE's future. Recognition of voids in product offering and/or market segments are



Helen Alzate, Jezzamine Dayrit and Fanny Sun.

merely opportunities for them to pursue.

ECE Canada Limited was established in 1982 to market electrostatic paint application equipment and provide top quality after sales service to the automotive industry, their feeder plants and the industrial sector.

ECE is the leader in Canada's paint finishing industry. The company carries premier brands of liquid and powder finishing equipment from manufacturers such as Ransburg, Gema, Binks, DeVilbiss, BGK, Graco, Hosco, AW-Lake, Global Finishing Solutions, Fluidic, EFC and Anest Iwata. ECE is headquartered in Mississauga, Ontario with branches in Montreal and Vancouver.

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

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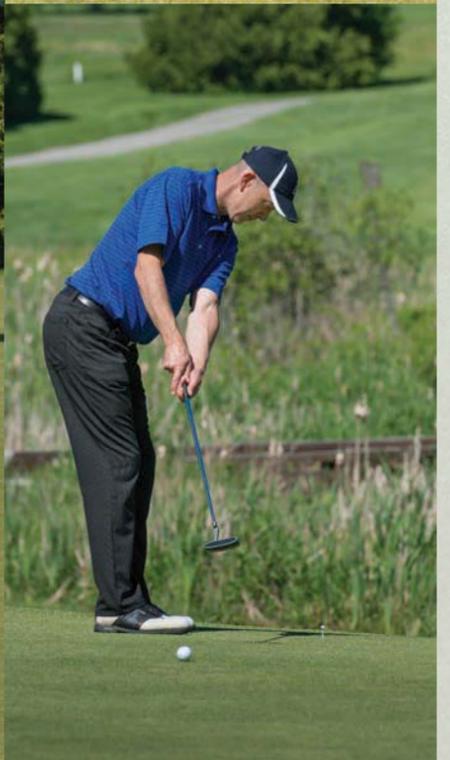
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# OPA Golf





# Yorke Towne Open House



Peter Shao, Rustoleum.



On June 5,, 2013, Yorke Towne invited people to celebrate its new location at 1235 Reid St., Richmond Hill, ON, L4B 1G4 with an open house. Food and beverages were served and there were displays and representatives from Chemcraft, Rustoleum, Graco, and Finishing Brands.

Photos by Pete Wilkinson



Kevin Cotter and Pat Dougherty, Graco and Doug Taylor, Yorke Towne.



Frederik Coutu, Chemcraft.



Robert Barber Yorke Towne, Joe Nieradka, Finishing Brands and Justin Barber Yorke Towne.



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Jeff Snyder and Kim Abel, Chemcraft.



Bill McDowell, J&B Customs Brokers, Michael Harrison and Kimberley Wilkinson, Yorke Towne.

# SUR/FIN 2013

Photos by Pete Wilkinson

The National Association for Surface Finishing (NASF) held its 95th annual SUR/FIN Manufacturing & Technology Tradeshow & Conference, June 10-12, 2013 at the Donald E. Stephens Convention Center in Rosemont, IL.

SUR/FIN included over 70 industry presentations and three Keynote speakers discussing the revitalizing the manufacturing industry.

Over 150 exhibitors represented the industry's top technologies.



Paul Brancaccio and Ken Pacciorek, Windsor Machine.



Darlene and Stephen Went, Bandit Bar Bluffton, AB.



Bob Smith, Paramjit Singh, Enthone.



Peter Forth, Alan Rickert Anode Products, Jason Bolan, Joe Brinkman JBC Ltd., Chatham, ON.



Charles Morris, Dennis Rogers, Stewart Tymchuk, Dynamix, Markham, ON.



Jeff Battiston, Larry Taylor, Erich Schonwandt, Autum, Lakeshore, ON.



Kyle Faulman, Amber from Hooters, Todd Oskroba, Associated Rack.



Mark Axford, Fabco Plastics, London ON.



Conrad Rizal University of Victoria, BC.



Ron Glaser, David Carreiro, Annette Motka, Fischer Technology.



Joe Martinez, Bob Buyse, Brad Hatcher, The Dangler Guys.



Juliana Garcia, Socogel. Boucherville, QC.



Gene Torcoletti, Atotech, Burlington, ON.



Terry Monday, Robert Simmerer, Bex Inc.



George DiFalco, Eco-Tec, Pickering, ON.



Sridhar Bushigampala, Royal Canadian Mint, Winnipeg, MB.

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Rahim Kanji, Kontek, Burlington, ON.



Zac MacKay, Plasmatreat, Ancaster, ON.



# OPCA Golf



**Ladies Closest to the Pin:** Denise Deacan (A. Richard Tools) Paul Buzzin (L.P.C. Limited) President of OPCA presenting prize.



**Men's Closest to the Pin:** Paul Buzzin (L.P.C. Limited) President of OPCA presenting prize to Ray Garneau (Carboline).





**Men's Longest Drive:** Jeff Wilson (Carboline) Paul Buzzin (L.P.C. Limited) President of OPCA presenting prize).



**Best Team:** Brad Nadalin (Carboline), Ted MacMillan (Carboline), Guy Zacharczuk (Ross Hartrick) and Lee Zacharczuk (Ross Hartrick).



**Ladies Longest Drive:** Rita Day (Rescom Coatings) Paul Buzzin (L.P.C. Limited) President of OPCA presenting prize.



# CPCA Reception Honours Vogel

Following on the heels of a recent 100th anniversary reception in Montreal, the Canadian Paint and Coatings Association (CPCA) held a second reception in Mississauga on June 18, 2013. It was well attended by 75 people in the Greater Toronto Area (GTA). Members and non-members gathered to recognize the valuable contribution made by CPCA since its founding in Montreal in 1913. It is interesting to note that many of the same names appear as members in the CPCA today. During the reception CPCA honoured Wink Vogel, head of Cloverdale Paint, which is celebrating its 80th anniversary in business this year. Cloverdale Paint is one of the few remaining Canadian-owned paint manufacturers based in Surrey, BC and is the ninth largest manufacturer in North America with 124 retail stores as part of its network. Wink Vogel will be retiring this year and members of the paint industry in the GTA wished to acknowledge his business tenacity over many years and all wished nothing but the best for him in a most deserved retirement.



Gary Leroux CPCA honours Wink Vogel on behalf of the Industry, Wink Vogel accepts Award from the CPCA on his retirement.





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Paul Stasiukaitis  
Plant Manager

Mr. Joe Stasiukaitis  
Senior Mill Shop Consultant

Joe Taschner  
Paint Specialist  
Alpine Sales, Inc.

Roger Powell  
Branch Manager  
Alpine Sales, Inc.

Mike Steck  
President  
Alpine Sales, Inc.

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Paul Stasiukaitis, Plant Manager  
Low Country Case and Millwork, Ladson, SC

Founded in 1990, Low Country Case and Millwork is an AWI Premium Certified manufacturer of commercial cabinetry and architectural millwork. Their Chemcraft distributor is Alpine Sales, Inc., and are shown here with three generations of the Low Country family.

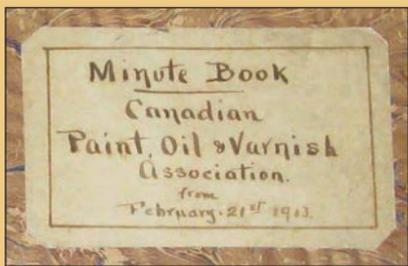
Visit [www.chemcraft.com](http://www.chemcraft.com) to locate your nearest distributor.

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# CANADIAN PAINT AND COATINGS

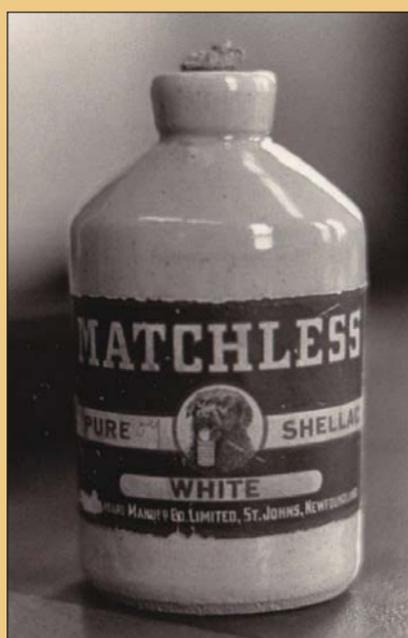
## 100 Years of Advocacy



The Canadian Paint and Coatings Association (CPCA) started as the Canadian Paint, Oil and Varnish Association in 1913. It became the Canadian Paint, Varnish and Lacquer Association in 1941, the Canadian Paint Manufacturers Association in 1966 and adopted its current name in 1980. A French equivalent (Association des fabricants de peintures du Canada) was added in 1966 in order to recognize the truly national scope of the association.

Since 1913 the Canadian Paint and Coatings Association (CPCA) has represented Canada's major paint and coatings manufacturers, and their industry suppliers and distributors, in three primary product categories: architectural paints, industrial and automotive coatings. The industry has more than 261 paint manufacturing establishments in Canada, which translates into annual retail sales valued at more than \$6 billion and employs directly and indirectly 31,800 employees nationwide.

There are more than 6,000 retail outlets in Canada selling paint and coatings



Achievements of the fledgling group between 1913 and 1920 included adoption of standard size containers and the establishment of a committee to deal with government on all matters affecting the industry. During the busy 1920s, paint clubs were established across the country, a varnish section was formed, cooperative advertising procedures were examined and a survey was made of cost accounting methods.

products, half of which are stores operated by our members, the paint and coatings manufacturers. The other half are the big box stores and others stocked with recognized brands from CPCA member companies. In addition, there are more than 5,500 auto body paint and repair shops across the country. CPCA members directly supply the coatings required for original equipment manufacturers (OEM) in the automotive, aerospace, marine and industrial sectors. It is evident that the

industry is relevant in every sector of the Canadian economy.

Canada's paint and coatings companies comprise a robust and highly visible arm of the chemical processing industry with a significant economic impact across the country. The automotive and construction markets are among the key economic drivers in Canada generating significant economic impact in the construction industry and the automotive paint-refinishing sector. The nightly news regularly talks about

crumbling infrastructure and the need for new investment. Industrial coatings are critical in the protection of infrastructure such as bridges, buildings and ships.

### Helping Members Deliver Highly Performing Products: Then and Now

In the early days of the Association, the board minutes provide very interesting insight into the workings of the Association and industry in the early days and

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By 1935, the industry was beginning the long climb out of the depression. The Make a New Home With Paint program was introduced in 1936 to promote the use of paint by homeowners. The association was also active in community improvement initiatives such as the Clean Up - Paint Up campaign aimed at beautifying the city of Montreal in the 1930s and similar campaigns that were adopted across the country throughout the 1940s.

throughout history. Many of the same companies we recognize today were CPCA members of the Association when it first began in Montreal as the Canadian Paint, Oil and Varnish Association. It also reveals that many of the same issues have been on the industry's agenda for many of the last 50 years. This is especially true since all levels of government became more activist and brought forward many regulations impacting the coatings sector.

Some of the business-related issues in the early days addressed key business concerns such as the cost of raw materials, availability of raw material supply, product pricing strategies, promoting the industry's products, corporate social responsibility and more. Pricing in the

early days was agreed to via the Association and its members. This was before Canada enacted competition laws to restrict anti-competitive behaviour such as common pricing for similar sized products. One of the most significant issues addressed by the Association in the early days was the adoption of common sized containers for products including the gallon, quart and half quart. Though seemingly a simple matter, this greatly facilitated sound business practices, budgeting, packaging, pricing, delivery, merchandising and the like. During the war years the Association reluctantly agreed to reduce its consumption of linseed oil, an important raw material input,

which was in great demand to support Canada's involvement in World War II.

An article in the Association's magazine in 1962, its Golden Anniversary Issue, profiled several senior executives making predictions for the future. Many of these predictions resonate loudly today. Some of them included the following: 1) "It is obvious to all that major technological changes now and in an increasing fashion in the future will vastly change the structure of paints. In paint production, increasing easily dispersed pigments will drastically reduce the need for massive machinery." (N.P. Beckwith, Rinsheed-Mason Co.) 2) "While the industry has fulfilled the two basic concepts of beautification and protection, the big expansion will be in the reduction and gradual elimination of the annual corrosion loss in North America of some six to eight billion dollars annually – a market potential as great as the total paint sales on this continent (F.A.E. Manning, British America Paint Company)." 3) "The highly competitive atmosphere in which the manufacturing industry operates will certainly prevail in the foreseeable future. In many respects this is a desirable state of affairs because it will cause continuous stimulation of technical, production, accounting and marketing thinking within

the industry. (Sidney Ling, Serwin-Williams Co. of Canada)."

On the occasion of the 50th anniversary of the Association, the Chair at the time, Schofield H. Russell, made the following remarks at the annual conference: "In a half century, the Association has carried out many valuable projects. Some of these undoubtedly helped stave off serious financial difficulties for some paint companies. And while the Association has been essential to the paint industry from the very beginning, it has never been more vital and effective than today. For example, how could we cope successfully with Tariff Reference 120 without a strong association? How could we carry out a broad investigation of good management practices with the Association?" Fifty years later similar comments can be made with respect to CPCA's work on a host of regulatory initiatives such as new VOC regulations; assessment of chemicals under the federal Chemical Management Plan; stewardship regulations in the Provinces; and a number of important health, safety and environmental issues across the country in multiple jurisdictions. The only thing that has changed in the past 50 years is the complexity of the issues before the industry and the increasing role of government in everything the industry does.

**CPCA's Mission Continues**

Even today, CPCA's mission is to provide value for members by collaborating with governments and industry stakeholders in the best interests of the public, the environment and a sustainable industry. The Association works to ensure that members are fully conversant and compliant with all federal and provincial legislative and regulatory requirements in Canada. This ensures that the industry can continue to deliver value-added, quality products to consumers in numerous fields such as Do-it-Yourself, industrial and commercial. The coatings industry oper-

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Plan now to attend CPCA's Annual Conference and AGM. This year's program offers numerous opportunities for delegates to learn, interact, and share, including planned sessions on innovation and economic outlook, guest speakers from government and affiliated groups, and a not-to-be missed celebration of CPCA's 100th anniversary. Consult the CPCA website at [www.cdnpaint.org](http://www.cdnpaint.org) for program and registration information.



The 1960s and early 1970s brought increasing government activity in areas that impacted the industry and its products. The first of these related to the protection of the consumer, which brought about the Hazardous Products Act and its Hazardous Substances Regulations governing the sale of hazardous products to consumers. This heralded a new age for the association in dealing with the government at all levels. Throughout the 1970s, the provinces became active as issues relating to the protection of the environment and occupational health and safety began to arise. The association responded and new committees were formed to address these issues.



While the association was active in representing the industry, it also served to provide forums for members to get together. Unfortunately, through the 1970s, it became viewed as somewhat of a closed club. Towards the end of the decade, two large members decided that they no longer saw the benefits of membership and left the fold. This was a serious problem for an association that seeks to be the voice of the industry and must be perceived as so by its stakeholders.

ates in a highly regulated sector of the economy. A recent study by the Canadian Federation of Independent Business revealed that the cost of regulation is a drag on the economy. It found that compliance costs for the average business in Canada is close to \$2000 per employee. The cost of ongoing compliance with existing regulations for health, safety and environment cannot be ignored at a time when governments and the public demand a greater focus on sustainability.

CPCA does all it can to ensure industry is in full compliance with the law. More importantly it advocates for appropriate regulations for the future. The Association works to ensure future government actions do not stifle the growth and prosperity of this vital industry in Canada. It advocates for the health and prosperity of the entire paint and coatings industry by:

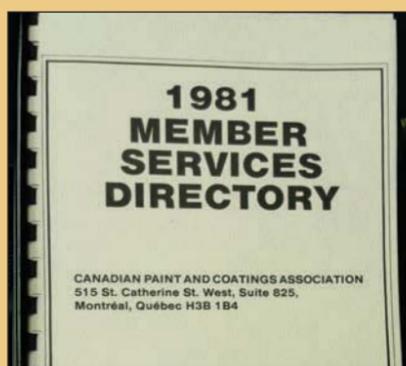
- Working at all levels of government on legislation and regulations very early in the development stages;
- Ensuring members are fully aware of regulatory compliance requirements now and in the future;
- Timely research and information for members on industry related trends impacting the industry;
- Training and other education products to assist members address a number of important issues; and



By the early 1950s the immediate post-war problems had been solved and new challenges were arising. The industry moved into a period of spectacular technological change and rapidly increasing sales volume. Association programs in these years included administering the Paint Power retail sales training courses, which graduated about 4,000 evening and home study students, and working closely with the federal government on specification and purchasing procedures.



CPCA is well served by the volunteers on its board and committees, addressing issues that would have been unheard of when the association was originally formed in 1913. From health and safety in the workplace to the management of waste household paint, environment and sustainability issues now take centre stage. Paint manufacturers operating in Canada produce safe and effective products for the consumer and now lead the world in post-consumer paint recycling with a program in every province of Canada. The industry works to benefit consumers by reducing life cycle costs on major commercial projects, enhancing interior and exterior design, preserving the past for future generations, and protecting valuable assets for all.



A number of steps were taken to address declining membership and become more inclusive. In 1980, the association changed its name to the Canadian Paint and Coatings Association to better convey that the organization truly represents the interests of the entire industry in Canada. A precedent-setting board meeting in November 1980 initiated what was to be a dramatic reversal of the organization, and throughout the early 1980s an emphasis was placed on better communications with members, improved programs and services for member companies, and acknowledging the needs of different sectors in the industry. CPCA's efforts paid off as membership increased dramatically during the 1980s and the two large companies that had left soon re-joined the association.

- Enhancing stakeholder and public awareness of the industry's important contribution to products used in every facet of the economy and significant contribution made to environmental sustainability.

*Gary LeRoux is the president of the Canadian Paint and Coatings Association.*



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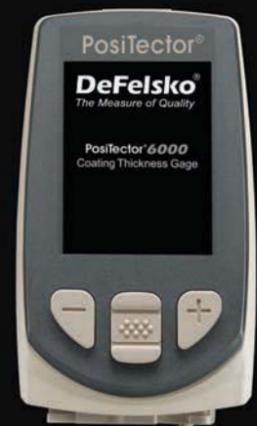
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ColorMax Booth-outlined.

continued from front cover

source for this information.

He adds, "As for the productivity, many customers are dealing with the challenges of juggling colors. For some, the struggle is to determine the frequency of color change required. In others words, how often they need to change colors versus how often they want to change colors may not be the same. For many companies, the finishing line can be a bottleneck. More colors required equal more production line downtime to complete the necessary changeover. The response by some companies is to choose to spray-to-waste a color; these companies trade the material waste of powder for the gain of higher productivity. This is an easy way to minimize downtime and keep production moving; however the long term cost of throwing away material has many compa-

nies looking for different solutions. For those companies that understand the cost of wasted material is too high, they are looking for a different solution. They are looking for a solution that allows powder to be recovered and reused, as well as color changeover times that are as short as possible.

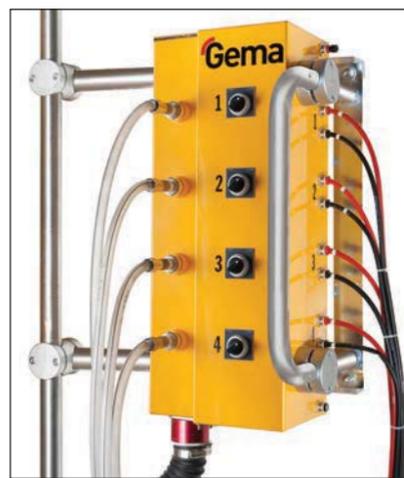
Two of Gema's latest products focused on quick color change are the OptiColor unit and the OptiCenter Powder Management System.

### The OptiColor Unit

The OptiColor is designed for those customers choosing to spray-to-waste the powder and apply it by using manual powder coating guns. Typically the users have a manual spray operation that uses multiple hoppers set up to spray various colors. OptiColor is an easy to use and cost effec-

tive solution saving time and money when changing from one color to another. The OptiColor allows the user to conduct all normal spraying operations, as well as do fast, simple spray gun color changes from a single location. Working in conjunction with our OptiFlex® series manual spray guns, color changes are performed in a matter of seconds.

The OptiColor allows production spraying to continue while a hopper color change is being performed. Fast color changes in seconds maximizes production, throughput and flexibility. The OptiColor is conveniently located at the operator, giving easy access for application adjustments and color change selec-



Gema OptiColor

tion. Experience fast color changes, multiple color capabilities, and risk free contamination all in a simple user friendly package.

### The OptiCenter Powder Management System

The OptiCenter is designed for customers using automatic guns and want the flexibility to reclaim or spray-to-waste any oversprayed powder. Typically these customers are making multiple color changes in an 8 hour shift. Included in the system are the application controls, the

gun mover axis controls and the fresh powder supply. The fully automatic cleaning process reduces color change times significantly and the OptiCenter is quick to install and easy to operate!

The OptiSpeeder®II is the heart of the OptiCenter and combines the powder feed and cleaning functions into one compact unit. The OptiSpeeder II's improved fluidization and low maintenance pumps deliver powder to the guns using less compressed air, resulting in a softer powder cloud for improved transfer efficiency. During the OptiCenter's automated cleaning, the OptiSpeeder II empties the remaining powder for reuse, and purges the pumps and all of the powder hoses quickly and efficiently. Because the OptiSpeeder II is a completely sealed and closed system – this is a dustless process. The "one-button cleaning operation" allows one operator to complete a total color change in 10 minutes or less.

**Nordson** says customers are asking for higher productivity, higher efficiency/higher material utilization. Quick color change is important to companies who are spraying more than just a few primary colors. The more colors, the more important faster color change becomes. Customers who already have fast color change systems are continuously looking for ways to trim off any time they can, for color change.

### Nordson offers: Encore HD Automatic Gun

The Encore HD Automatic Powder Spray Guns from Nordson – the third, and most advanced, generation dense-phase powder spray guns – incorporate a proprietary, integral HDLV module\* for the most versatile and efficient performance available today. Designed specifically to work with Nordson HDLV pump technology, the unique and innovative Encore HD gun design allows easy adjustment of the powder concentration and spray velocity to achieve optimum coating coverage and cured finish quality for every conceivable part type. From a highly dense phase spray to a more diluted (powder and air) mixture, and everywhere in between. The pump and gun also provide exceptionally fast, contamination-free color change.

#### ColorMax 2 Powder Coating System

The ColorMax 2 quick color change powder spray system is optimized for efficient, repeatable powder application and fast, contamination-free color change. Numerous system features help to minimize powder in process and aid in system cleaning – providing the ability to change colors quickly. The fully integrated design of the ColorMax 2 system substantially reduces downtime and material waste for improved productivity. With the superior operating flexibility of the ColorMax 2 system, powder coaters are able to easily manage a broad range of colors, as well as both short and long runsto fit lean production schedules. As a result, manufac-

The new generation of powder management systems has a name...OptiCenter. With its quick and dust-free operation, it enables excellent coating results. OptiCenter is a new modular concept which is suitable for both stand-alone operation and for integration with gun, axis and booth control.



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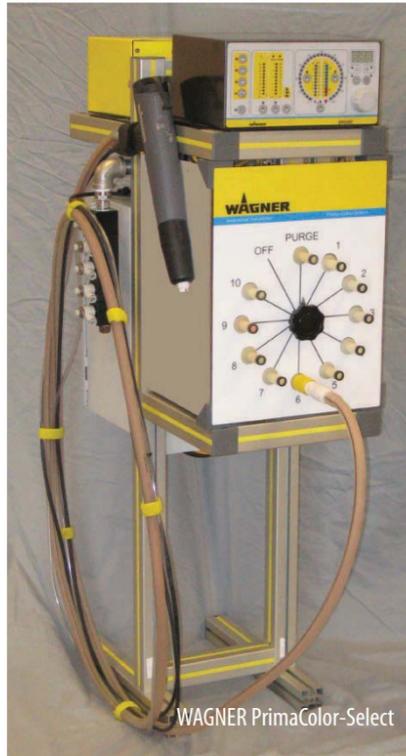


turers achieve maximum productivity with minimum downtime.

Janet James, Business Development Sales Manager, **Wagner Systems Inc.** says, "One of the drawbacks to Powder Coating in the past was the time it took to do color changes. Due to this restriction, color option customization without large quantities or a premium cost was unheard of. With increases in technology however, this is becoming a problem of the past. Today, customers have color options due to the ease and time reductions now available in color changes. One such example is the new ColorSelectX manufactured by Wagner Systems, Inc. located in Elgin, IL. Wagner's ColorSelectX incorporates a simple, robust pneumatic control system that allows color changes in less than a minute. It is easy to operate, provides the least potential for cross contamination and powder loss, and has a low cost of ownership."

The new WAGNER PrimaColor-Select is designed for the quickest powder color change while providing the least potential for cross-contamination and powder loss.

WAGNER PrimaColor-Select incorporates simple, robust pneumatic control system of up to 10 powder feed systems. Including hopper fluidizing air and powder injector feed air and dosage air. The operator control panel includes the WAGNER PrimaColor-Select dial and quick connect ports for 10 colors. A WAGNER



PrimaSprint manual system may also be integrated with the PrimaColor-Select unit.

#### HiCoat C4 Manual Spray Gun

The PrimaColor-Select may be equipped with a WAGNER PEM-C4 HiCoat manual gun and EPG-Sprint control unit providing highest first-pass transfer efficiency, optimum film build uniformity and powder utilization resulting in a perfect finish. The gun is designed to be very light for fatigue-free operation. HiCoat manual guns can be fitted with various nozzles for any application.



#### EPG-Sprint Control Unit

The WAGNER EPG-Sprint manual control unit combines attractive design and superior functionality. Easy handling and exceptional coating results are achieved by the electronic controller EPG-Sprint. Its central dynamic control dial combines operation of all parameters, which are divided into four functional groups. Unique cascade characteristic curve settings, Corona and Tribo compatibility along with 50 storable coating programs offer the greatest flexibility for all types of powder. Intuitive handling paired with AFC-technology provides perfect gun control. The EPG-Sprint control unit is FM certified.

#### 5 Simple Steps to Operate

1. Remove the quick-connect powder hose from the last color used. 2. Connect

the powder hose to the purge port, rotate dial to Purge. 3. Automatic purge cycle of powder pathway including gun and powder hose. Operator blows-off gun exterior. 4. Remove the quick-connect powder hose from the purge port and connect to the next color. 5. Rotate dial to the next color and begin coating.

As Finishers are concerned about quick colour change, manufacturers offer products that answer their needs.

#### Editors Note:

Companies mentioned in this article can be reached at:

[www.gema.us.com](http://www.gema.us.com)

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

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

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**Powder Coating Institute**



#### Exhibit Hours:

October 8, 2013	12:00pm - 5:00pm
October 9, 2013	10:00am - 5:00pm
October 10, 2013	10:00am - 1:00pm

#### Technical Tracks:

October 8, 2013	8:00am - 12:00pm
October 9, 2013	8:00am - 3:00pm
October 10, 2013	8:00am - 11:00am

The event offers an in-depth and comprehensive technical program led by key representatives in the powder coating industry. Innovation, strategy and solutions to your manufacturing challenges are presented with more than 56 hours and 60 sessions on topics such as productivity gains in powder coating, coating expense reduction and much, much more.

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

*continued from front cover*

outstandingly well, “cement look” and other special effects enable manufacturers to provide their clients with high performance in true “water borne” systems.

“Where the water-borne systems have truly improved on their solvent-based counterparts is in the field of exterior coatings. These have replaced both the old synthetic systems and more than 90 per cent of the solvent catalysed systems, thanks to their superior longevity in the field and ease of maintenance.” Levesley adds, “Being more elastic enables them to bridge gaps and move with the wood better, plus they are not nearly so susceptible to water damage coming from behind (ie from the wood itself).”

## MY LAB - Visualize an innovative project at the concept stage

ICA Group’s world is in constant motion, rather like the imagination of its many designers or of the numerous architects who choose the group’s water-based coatings. The group feels a duty to drive its work forward by coming up with unexplored paths and contributing, one step at a time, towards giant leaps in the field of design.

The latest milestone reached by ICA Group is the interactive system called MY LAB – a name chosen to underline the experimental nature of the tool and its continuous evolution – that is, geared towards supporting those who design architecture, furnishings and interiors and who want to develop, in advance, the idea that they will then go on to realize during the project phase.

The system operates through newly formulated metal-effect colours called liquid metals. These are water-based mono- and bi-component coatings with reduced levels of environmental impact.

With MY LAB, it is possible to create, in real time, combinations of cutting-edge colours and transparent coloured top coats. Specifically, with MY LAB, opaque lacquered and stained woods become the basis for interaction with a “palette” of brand-new liquid metals, creating unlimited colour options through the deployment of contrasting and tone-on-tone solutions.

With its library of liquid metals, MY LAB is without precedent on the international market, and has been developed thanks to the 40 years of experience accumulated by ICA Group’s research departments. The new range is sub-divided into primary colours and secondary colours: the former are pearls of pure colour that, when mixed together, make it possible to produce the latter.

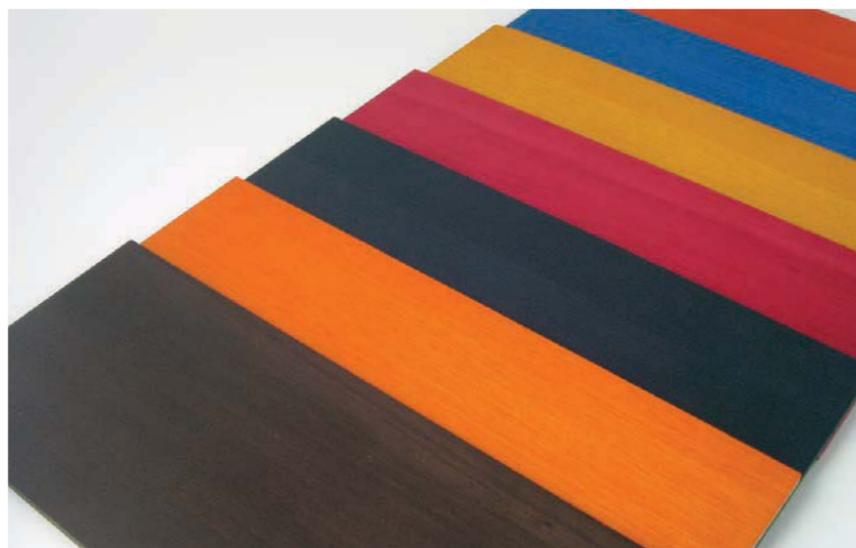
The formulation of the pigments imbues the stain with a tangible fullness of shade, equivalent to a lacquer. The luminescent effect is more subdued than that achieved with normal metallic colours and adds a real sense of depth, particularly in the primary range, whereas the

metallic shine comes across very clearly in the secondary range. To the touch, they have the feel of a micro-texture, creating a balanced surface that alternates between filled and unfilled spaces, without pitting.

The new liquid metals are suitable for highly creative uses that are ahead of the fashion curve, and they can be applied to regular and irregular surfaces. Moreover, they can be used on various types of materials: wood, bamboo, glass, plastic polymers and metal surfaces.

## “How-To” Videos are the Cure for Common Finishing Headaches

Go green without sacrificing top performance. Chemcraft has taken the best attributes of their existing technologies and adapted them into waterborne systems. From fast-drying primers to chemically resistant clear topcoats, Chemcraft says it is providing Finishers with tomorrow’s answers today.



To help with application, the company offers “How-To” videos.

Fish eyes. Lifting. Blushing. These are just a few of the common finishing problems that puzzle and frustrate both the wood coating novice and professional.

But now, thanks to a new “How-To” Video Series created by AkzoNobel, the secrets to achieving a superior finish are just a click away.

A first for the recognized leader in the *continued on page 35*



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# The Bottom Line OF THE FLATLINE

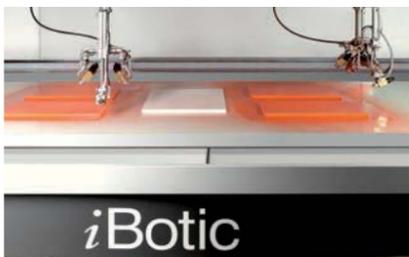
When it comes to flatline finishing systems customers are looking for solutions for the production bottleneck, quality control and even the overall lack of talent in their finishing departments. Flatline Finishers are also looking at lines with both current and future environmental regulations in mind. They are looking for environmentally friendly finishing.

**The Cefla Finishing Target/iBotic K** robotic spray machine is presently being utilized at Barzotti Kitchens in Guelph, Ontario and is a one arm dedicated spray machine designed for flexibility, high quality finish and small batches. This "JIT" (just in time) work solution for a no waste application is due to a dedicated gun specifically for edge spraying.

This Target/iBotic K is designed for spraying coatings and adhesives by using 2 – 5 guns based on the specific applica-



Target/iBotic K robotic spray machine is presently being utilized at Barzotti Kitchens in Guelph, Ontario



Target/iBotic K.

tion. In terms of flexibility, this machine can work in robotic mode or in standard oscillating mode. The movement of the arm is driven by brushless servomotors, a

rack & pinion drive and is designed for superior accuracy ensuring optimization and a reduction of waste.

The scanner at the infeed of the Target/iBotic K automatically detects any shape, frame or item including very complex parts resulting in a high quality finish.

Paul Barzotti of Barzotti Kitchens says that he is impressed with the consistency, accuracy and high quality finish the Target produces day after day.

In addition to the Target/iBotic K, Cefla Finishing also manufactures a larger robotic spray machine called the iBotic. The iBotic with two independent multi-function arms can operate simultaneously on different pieces for high operating speed, both with fixed and moving panels.

Mark Robinson at Cefla Canada says many customers investigating new flatline spray systems typically ask the following questions;

- Can a spray machine produce a high quality finish?
- Can a spray machine spray various shapes and sizes?
- Is a spray machine easy to clean and maintain?
- How easy it to operate?
- Is the machine flexible in terms of spraying different coatings?
- Do you have a responsive Service Department and an extensive Parts Department?

- Do you have a Laboratory in North America for testing?
- Can a spray machine out produce sprayers in a manual spray booth?

**Finishing Brands (BGK) Flatline Brake Pad Systems** have a modular design to meet individual production specifications. Systems are available with up to 14 cure lanes (70") wide and are capable of handling production rates of 10 to 100 pads per minute. Efficient in-line oven cures pads in less than 2 minutes with precisely zoned temperature control. Typical system components include the following:

- Infrared Oven
- Forced Air Cool down
- Exit Conveyor
- Unload Station
- Powder Coating Booth
- Powder Booth In-Feed Escapement



(BGK) Flatline Brake Pad Systems.

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**CNC Automation** offers the STARTONE, a new economically priced automated spray system. Flexibility, reliability and ease of use, combined with limited operational cost and investment, enables the START ONE to be the ideal machine for replacing a manual spray process or for finishing small production runs.

This system is composed of a single module that includes a control panel and an air exhauster. This feature together with very intuitive controls (PLC touch screen) make the installation and use of this system extremely easy.

The StartONE is available in 2 versions: PAPER TRANSPORT SYSTEM contributes to a virtually self-cleaning machine and significantly reduces maintenance costs & CARRIER TRAYS TRANSPORT SYSTEM carrier trays can be covered with a protective material, paper or similar, which is periodically replaced/recovered as needed to extend functional life.



Superfici America, COMPACT PLUS/R Spraying machine with double arm reciprocator.

**Superfici America, Inc.** offers The COMPACT PLUS/R Spraying machine with double arm reciprocator, compact and inexpensive, achieves all the advantages of automatic spraying and makes them affordable to small and medium-size enterprises. Production quality guaranteed by the application in two steps achieved by the DOUBLE ARM

RECIPROCATOR, and by the PRESSURIZED CABIN with double filtration system at the air inlet and wide filtering roof inside the cabin. Easy use and consistency in the production quality is achieved by the software OPTISPRAY, which controls the spraying parameters. The lacquer reclaiming unit reduces costs with perfect belt clearing and the eventual re-use of the lacquer collected by the system.

The Venjakob group of companies plan, produce and install complete system solutions – from pre-treatment followed by the painting process, conveyor and handling equipment through to drying and exhaust air filtering. They say their most popular flatline finishing system in Canada and the USA at this time would be the “Ven Spray Smart”. This machine is being installed into small, two man shops where it is used for small production runs and also larger shops with a full days production. Its small price, small foot print, yet large production rate combined numerous options make this our most popular machine for the wood industry. It is environmentally friendly, with the paint recovery system, allowing for most types of paint to be reclaimed. It is flexible and can be used with either water based or solvent based material. The Ven Spray “Smart” can also be used with BOTH belt systems installed at the same time; or with just the reclaim belt OR just the paper belt conveyor system. This allows the maximum in versatility for the customer for today and the future.

The machine is immediately operational (nearly zero installation time), operator friendly, low in maintenance and therefore provides a high saving in time.

Working width: 1300 mm Working height: 920–960 mm Feed speed: 2–4 m/min. Exhaust air volume: 7000 m<sup>3</sup>/h. Supply voltage approx.: 9.6 kW/12 A.



Superfici America, COMPACT PLUS/R Spraying machine with double arm reciprocator.

**Venjakob** says their customers are looking to automate some or all of their finishing department. “They are looking for a cost effective way to produce a consistent reliable finish, reduce operating costs with reduced paint consumption, all this while maintaining excellent quality for their customers. This normally allows for more volume to be produce at a consistent level to maintain the finish and quality that their customers demand.”

They sum it up when they say that customers are also looking more into a “greener” environmental way to finish their products as the laws are changing and they want to see machinery that will adapt and keep up with the changing environmental requirements as they change now and in the future.

*Editors Note: Companies contributing to this article can be reached at:*

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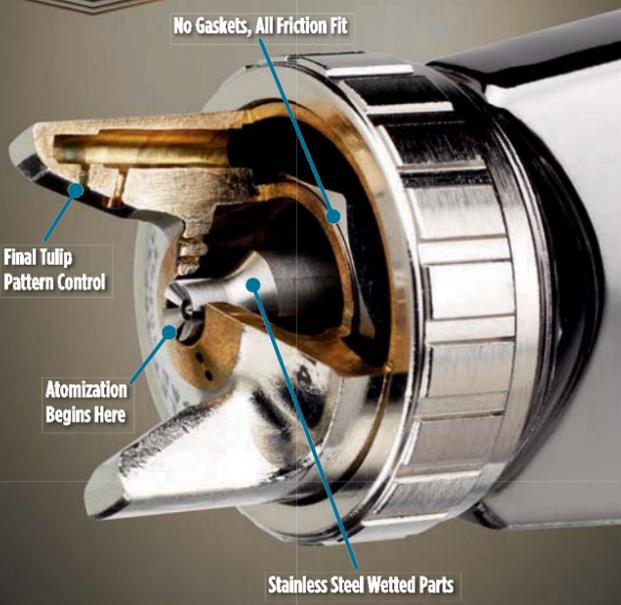
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# Trends in **Pre-Treatment**

BY DORIS SCHULZ

**Whether metal** or plastic products are involved – pre-treatment is the basis for high quality painting. Consequently, industry is working on solutions from both a material and a system standpoint, which provide for greater economy and improved sustainability, along with optimised quality when it comes to pretreatment and washing in the finishing process.

Pre-treatment is matched to the material and the product's intended purpose. Importance is placed upon maximised process reliability because pre-treatment has a decisive effect on the functional and optical characteristics of the painted or coated surface. At the same time, global competition necessitates ever more efficient and sustainable pre-treatment and cleaning.

## Nano-ceramic

The use of nano-ceramic pre-treatment systems offers ecological and economic advantages for finishers. Henkel introduced the world's first nanoceramic surface pretreatment for metal with Bonderite NT1 back in 2005. It offers outstanding corrosion protection and paint adhesion.

## More Ecological Iron Phosphating

In order to provide metallic surfaces with effective corrosion protection and ideal paint adhesion, they are subjected to conventional iron phosphating during pre-treatment in numerous industry sectors. This is accomplished by means of spraying, immersion or manual high-pressure application, usually at working temperatures ranging from 40 to 60° C, with degreasing and phosphating taking place in a single step. More recently developed processes are already effective as of a temperature of 30 to 35° C. Furthermore, single-component fluoride-free phosphating is also available in the meantime, which can be used in both spray and immersion applications. This offers ecological as well as economic advantages.

## Multi-Metal Compatible, Nano-Ceramic Pre-Treatment Without Sludge

In order to surpass the quality of iron phosphating with regard to corrosion protection and paint adhesion, zinc phosphating is used for parts included in high quality industrial goods such as those required for the production of motor vehicles, construction equipment and farming machinery. Despite continuous



Degreasing with products based on renewable raw materials shows identically results compared to conventional degreasers.

Image source: NABU-Oberflächentechnik

process optimisation, significant disadvantages remain. These include heavy-metal content, complicated process control and large amounts of sludge.

As a result, the trend is moving towards so-called nano-ceramic pre-treatment processes which can be easily implemented with existing systems technology. This multi-metal compatible alternative to conventional iron and zinc phosphating offers economic, ecological and process engi-

neering advantages. The media, which can be used for spraying, immersion and coil coating, are free of heavy metals which significantly reduces the effort and costs involved with wastewater treatment, disposal, equipment cleaning and system maintenance. Furthermore, conversion coatings can be generated on steel, aluminium and zinc by means of nano-ceramic technology with just a single bath adjustment, whose corrosion protection

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characteristics are comparable to or exceed those provided by zinc phosphatising. The deposited layers are extremely thin and have a very large surface area. This results in optimised paint adhesion as compared with zinc phosphatising. In the case of steel, the originally grey surface has a gold coloured or blue to light violet appearance after pre-treatment. This results from the fact that the pH value of the steel is shifted due to a slight pickling effect, and because ceramic is deposited onto the surface with layer thicknesses in the nano range. The pre-treatment materials do not contain any nano particles.

On the one hand, a process engineering advantage results from the simpler process sequence as opposed to zinc phosphatising, which ideally includes 5 zones:

- 1) alkaline degreasing
- 2) rinsing
- 3) rinsing with deionised water
- 4) generation of the nano-ceramic conversion coating at a pH value of 4 to 6 usually within 30 to 120 seconds at room temperature
- 5) rinsing with ionised water.

The concentration of the pH value in the nano-ceramic bath can be monitored and readjusted either manually or automatically. Monitoring costs are reduced. Consumption of fresh water, chemicals and energy, as well as the amount of wastewater, can be reduced by means of a cascade scrubber for the process water beginning with the last rinse up through alkaline degreasing. Beyond this, there's no more phosphate sludge to be disposed of.

As is also the case with iron phosphatising, nano-ceramic processes can be set up as single-bath systems with simultaneous degreasing and pre-treatment, or existing systems can be accordingly converted.

### Degreasing and Pickling with Renewable Raw Materials

In the meantime, products based on renewable raw materials have also been developed for the pre-treatment of components made of steel, iron and aluminium. Non-ionic tensides (alkyl polyglycosides and amphoteric tensides) can be produced from, for example, starch and glucose syrup on the basis of betaines or sultaines. They can be found in powdery, mildly alkaline and borate-free cleaning agents. Amongst other materials, sugar beet scraps are used as a raw material for the production of environmentally-friendly, non-toxic pickling solutions for aluminium, steel and iron.

### Snow for Cleanliness

Parts made of plastics and fibre-reinforced plastics are pre-treated conventionally by means of a power-washing system with an aqueous cleaning agent and a downstream retained water dryer. However, this cost, space and energy

intensive variant is being replaced more and more frequently with alternative processes such as CO<sub>2</sub> snow-jet cleaning or plasma processes.

CO<sub>2</sub> snow-jet cleaning has established itself in numerous applications, for example in the automotive industry and the automotive supply sector. On the one hand, this is due to savings amounting to as much as 50 per cent for investment costs, 20 per cent for operating costs and up to 80 per cent for floor space requirements. Since the non-toxic, incombustible snow is made of recycled liquid carbon dioxide, CO<sub>2</sub> snow blasting is an environmentally sound process. Particulates as well as film-like contamination can be gently removed from products made of various plastics and composites in this way.

The liquid carbon dioxide is expanded as it passes through a nozzle and is accelerated with compressed air to ultrasonic speeds. The cleaning effect is based on a



CO<sub>2</sub> snow-jet cleaning can be easily automated and integrated into the painting process.

Image source: acp

combination of mechanical, thermal and chemical characteristics, by means of which the CO<sub>2</sub> snow removes contamination in a dry and residue-free fashion – even from very small gaps. The inline capabilities and minimal space require-

ments associated with this process allow for direct integration of cleaning into the painting process, thus ruling out the possibility of renewed contamination of the component, for example during transport or storage. A further advantage of the dry

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## Parts2clean

Approximately 240 exhibitors will be represented when the doors open at the 11th annual parts2clean trade fair at the Stuttgart fairgrounds on October 22, 2013.

"Attendees not only expect the world's most comprehensive range of products and services designed to carry out industrial parts and surface cleaning reliably, cost-effectively and ecologically," says Olaf Daebler, manager, Surface Technologies, at Deutsche Messe. "Numerous innovations are being showcased as well." The bilingual (German/English) technical forum is also providing wide-ranging information on optimizing cleaning processes.

process results from increased freedom in designing the respective components because, for example, water retaining geometries no longer carry media over into the painting process.

### Cleaning and Activation in a Single Step

Plasma cleaning is also a dry process. Differentiation is made between low-pressure and atmospheric plasmas. In the case of low-pressure plasma, treatment is conducted in sealed chambers in a vacuum. This makes it possible to clean workpieces with complicated shapes as bulk goods or individual parts. The use of a

great variety of process gases is also possible, because treatment takes place in an evacuated, sealed space. Direct and indirect corona discharge (dielectric barrier discharge) functions under ambient pressure. With the first variant, the discharge (plasma) strikes the workpiece directly. In the case of indirect atmospheric-pressure plasma, which makes use of so-called plasma heads (nozzles), discharge takes place at the plasma head and is directed to the surface to be processed by means of compressed air. Thanks to simpler systems technology without vacuum components, the investment costs are lower and atmospheric-pressure plasma



Particulates as well as film-like contamination can be gently removed from products made of various plastics and composites with CO2 snow-jet cleaning.

Image source: Venjakob

The surface is simultaneously cleaned and activated during plasma treatment. This dual function is based on the physical and chemical characteristics of the process. In the case of both low-pressure as well as atmospheric-pressure plasma, organic contamination is broken down into short, volatile chains, and is oxidised into water and carbon dioxide by means of chemical reaction with the oxygen. At the same time, free ions and electrons react with the surface, thus forming polar groups. Consequently, surface tension is adjusted to an ideal value for the subsequent painting process. Surface tensions of greater than 72 mN/m can be achieved in this way by means of plasma treatment. As a result, the surface becomes highly wettable which assures ideal painting conditions when coating difficult to paint plastics, thus contributing to reduced scrap rates.

systems can also be more easily incorporated into automated production lines.

Above all thin organic contamination can be effectively removed with plasmas. In most cases air is used as the process gas for cleaning before painting processes, and the material removal rate increases along with oxygen concentration.

## PaintExpo – Leading International Trade Fair for Industrial Coating Technology

PaintExpo, taking place April 8-11, 2014 at the exhibition centre in Karlsruhe, Germany, covers the entire process sequence in the field of coating technology and offers a comprehensive overview of the latest developments from pre-treatment right on up to quality control for liquid painting, powder coating and coil coating. The exhibition programme covers equipment and application technology, paints, drying and cross-linking systems, conveyor systems, automation solutions and painting robots, pre-treatment, measuring and test equipment, quality control, environmental engineering, filtration technology, accessories, consumable materials, services, paint stripping and technical literature.

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*continued from page 29*

wood coatings industry, the new Chemcraft brand series of instructional videos covers the best finishing practices in seven key areas: White Wood Sanding, Catalyza-tion, Agitation, Viscosity, Beginning Spray Techniques, Intercoat Sanding and Pre-venting Common Finishing Problems. Each one offers surprisingly practical steps that give novices the basics, and give the professional a refresher course.

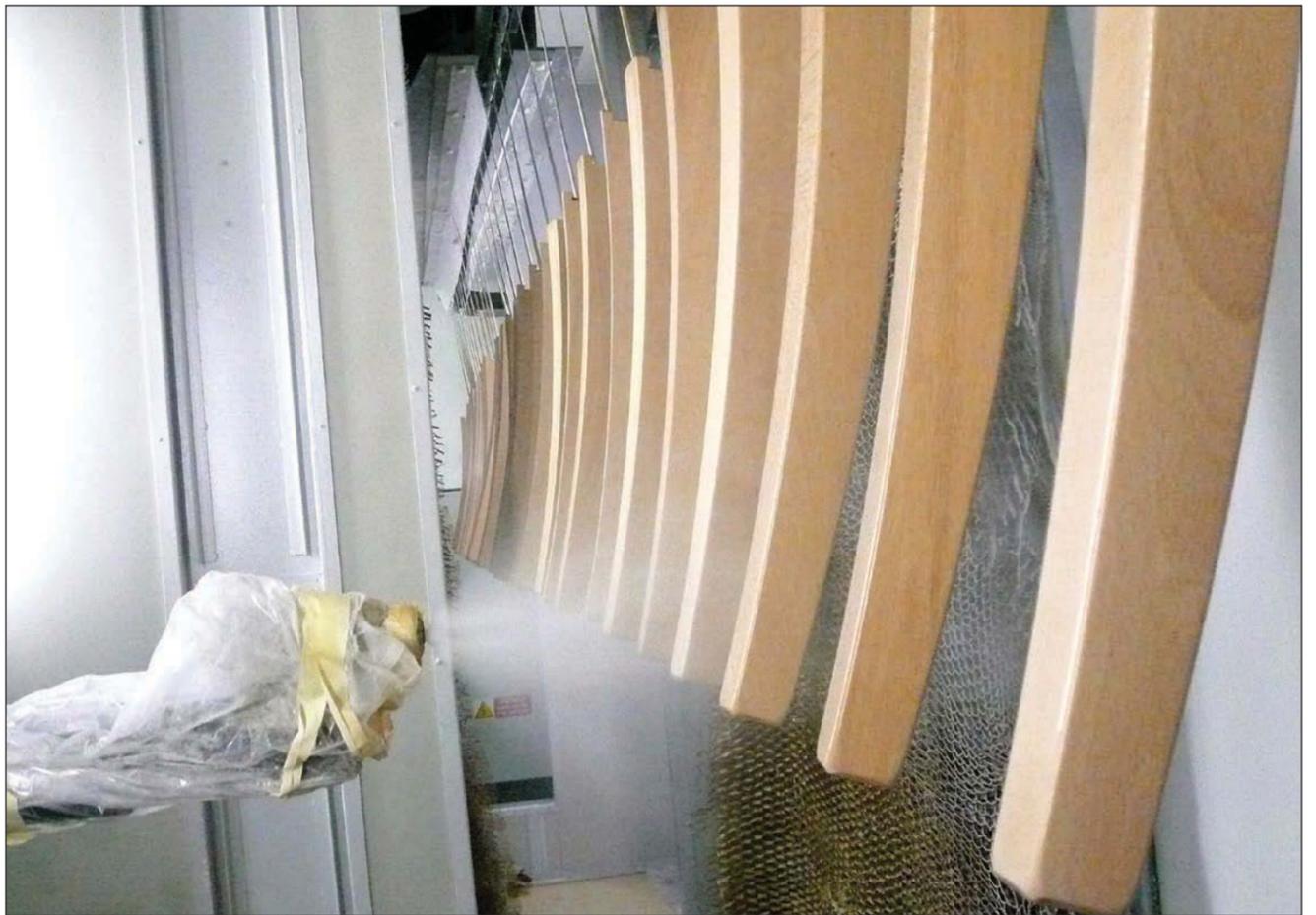
The new Chemcraft brand “How-To” Video Series emphasizes the safe and proper use of coatings, the right applica-tion techniques and ways to troubleshoot common problems to achieve superior results. In addition, each video has its own convenient, easy-to-follow, step-by-step guide that customers can print and refer to anytime they have questions. Step-by step guides are also available in French and Spanish.

True to its belief that a great finish is only the beginning, the new AkzoNobel, Chemcraft brand “How-To” Videos is a prime example of its ongoing commit-ment to provide both customers and distri-butors the tools they need to safely achieve the best results in the wood coat-ings industry.

Headquartered in High Point, NC, Chemcraft is the distribution brand for AkzoNobel wood finishes. The brand focuses on Innovation, Quality, Support and Sustainability.

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resin technology to yield a finish that is superior in durability to conventional nitrocellulose finishes. Zenith Water-borne Lacquer is a low VOC, HAPS-free formulation that contains no isocyanate or formaldehyde. It is a coating that is not only beautiful and durable, but also reduces hazards to workers, consumers and the environment.

Zenith Waterborne Lacquer is ideal for a broad range of products including: fine residential furniture, millwork, moldings, interior doors, and picture frames. The environmentally friendly formula also yields a finish that is perfect for children’s furniture and consumers that are sensi-tive to harsh chemicals. This product can be applied with the following spray equipment: conventional, HVLP, airless or air-assisted airless. It is packaged ready-

Wood finishers seem to be looking for a water based coating that wets the wood in the same way as solvent based products.

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Aqualac AM acts as a humectant and skin-conditioning agent that lends moisturization, emollience and wetting properties. This product also contains a UV tracer for ease of detection. Aqualac AM is an ideal fit for wire goods, consumer products and interior automotive applications.

Metex AF Additive was developed to prevent bacterial and fungal growth in rinse waters and in rinsing equipment. It combines an antifungal agent and antimicrobial agent to carry out these

functions. Metex AF Additive can be utilized in both stagnant and flowing rinses and can be analyzed for ease of process control.

Metex AM Rinse Aid is best suited for applications where antimicrobial properties are desired on finished parts without the use of a lacquer. The antimicrobial agent is incorporated into the final rinse with another product that allows it to adhere to finished parts. This allows an antimicrobial coating to be applied in decorative, functional and engineering applications. Like the Aqualac AM, this product also contains a UV tracer for ease of detection.

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

### The next generation of HVLP spray guns

ANEST IWATA USA, Inc. introduces the new Entech LS400 representing the latest addition to the constellation of Supernova spray guns. This completion of the Supernova range of products insures the Entech LS400 gives the professional users a wide range of application solutions for waterborne basecoats of second and third generation according to weather conditions hot and dry climates and cold and high humidity climates. HVLP technology and Pre atomization technology coupled together give to users a very high comfort of application, a stable and large fan pattern, high stability in droplet sizes and maximum material savings.

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



### Sherwin-Williams Introduces MIL-PRF-14105 High Heat

The new Sherwin-Williams MIL-PRF-14105 High Heat finish is one of only four approved products available globally to meet this rigorous military standard, having received Army Research Lab (ARL) approval at the Aberdeen Proving Grounds, Aberdeen, MD, according to the company.

MIL-PRF-14105 specifies that the finish is heat resistant to 1,400 degrees F and withstands wide fluctuations in temperatures from extreme cold to extreme heat without cracking, chipping or flaking. This finish also dries to touch within one hour of application. This corrosion-resistant finish can be applied directly to metal, and does not require a high film thickness.

Market applications include military, heavy equipment and automotive end-uses. Available in a wide variety of colors, Sherwin-Williams MIL-PRF-14105 High Heat has a lower VOC of 3.39 lb/gal (as applied, less water and federally exempt solvents) and is Volatile HAPs free.

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

### Determining the Phosphorous Content and Thickness of Electroless Nickel Coatings Using X-ray Fluorescence



Fischer Technology is pleased to announce the capability of non-destructively measuring simultaneously the phosphorous content and thickness in electroless nickel (NiP) coatings using X-ray Fluorescence Instrumentation (XRF). For the first time this capability is realized for measurements in air (vacuum free), regardless of the underlying base material, AL, Fe, Cu or PCB. Fischer's high performance XRF hardware combined with user-friendly advanced

fundamental parameter software allows for fast and accurate results of both coating thickness and phosphorous content at the same time with minimal sample preparation.

The phosphorus content of electroless nickel coatings is critical in determining the corrosion and wear resistance, hardness and solderability.

[www.fischer-technology.com](http://www.fischer-technology.com)

### NEW PosiSoft 3.0 Desktop Software by DeFelsko

DeFelsko is pleased to announce NEW PosiSoft 3.0 Desktop Software for PC and Mac. Compatible across all product lines: coating thickness, environmental, surface profile, ultrasonic wall thickness and adhesion – the free, easy-to-use software offers intuitive importation of readings for downloading, viewing, printing and storing measurement data on your local computer.

PosiSoft 3.0 Desktop Software features customizable reporting tools which allow you to: add pictures and screen captures; edit notes and annotations; add or remove sections; change headings; and more. Create custom layouts using a simple drag and drop Template Design toolbox and save your custom layouts for future use. The open data architecture allows for file sharing with other programs.

No internet connection is required. PosiSoft 3.0 communicates with PosiTector gages connected to your computer via USB cable or WiFi network.

[www.defelsko.com/posisoft](http://www.defelsko.com/posisoft)



### Graco Introduces Compact Airless Sprayers for High Solids Coatings

Manufacturers and contractors active in the protective coatings segments such as marine, rail, oil and gas, water and wastewater industries have long searched for a portable material sprayer that provides the power and versatility necessary to spray high solids coatings.

Graco is proud to announce the answer to these challenges with two new Merkur™ airless sprayers. The Merkur X48 and X72 provide the ultimate combination of power and portability, packing up to 7200 psi (500 bar) of spraying muscle into a unit weighing just 99 pounds (45 kg). Portability plus the ability to handle longer hose lengths than traditional sprayers, makes it the ideal solution for even the toughest protective coatings.

While the Merkur is much smaller than traditional spray units, little is sacrificed in terms of pressure; the new Merkurs are capable of handling a variety of high solids coating materials.

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



### Arkema Announces New Nano-acrylic Polymer for Coatings

SNAP 728 Structured Nano-acrylic Polymer offers the widest formulating latitude and improved performance in the company's SNAP binder line.

Arkema Coating Resins, a business unit of Arkema Inc., has introduced SNAP 728 acrylic latex for architectural coatings applications. SNAP 728 acrylic latex offers outstanding block resistance and enamel-like hardness across a wide range of sheens, from satin to high gloss.

SNAP 728 acrylic latex provides these benefits:

- Superior block resistance and enamel-like hardness compared to standard acrylic binders
- Outstanding dirt pickup resistance
- Improved scrub resistance in semi-gloss formulations compared to SNAP® 720 binder
- Low odor
- EnVia certified to support sustainable formulating

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

### Guardair Corporation Announces New "Flame" Pattern Syphon Spray Gun

Guardair Corporation announces expansion of their Syphon Spray Gun product line with an all new "Flame" Pattern Syphon Spray Gun, model number 79SG012F. The new gun, featuring an original flame design on its 12" aluminum extension, uses compressed air to produce a high vacuum suction to deliver a spray up to 12+ gallons of liquid an hour. Ideal applications to use the 79SG012F include, but are not limited to spraying of solvents, spray oils, cleaners, disinfectants, insecticides, mold release agents, coatings, degreasers and more.

The syphon spray gun features include:

- A 12" aluminum extension with flame design
- An adjustable nozzle tip to control volume and spray pattern
- Separate liquid and air controls to provide user with optimum flexibility
- Six foot syphon hose with sinker
- Lightweight and fully portable
- Durable cast aluminum body
- OSHA Compliant
- Made in USA
- 1/4" FNPT inlet

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



*continued on page 49*

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

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**Woodworking Machinery & Supply Expo**  
**2013**

**The 2013  
Woodworking Machinery & Supply  
Expo (WMS), hits Toronto,  
October 24-26 at the  
International Centre.**

WMS 2013 will bring the largest assembly of woodworking machinery, supplies and services from around the world right to the doorstep of the Canadian wood products industry. The show will feature everything from CNC machining centers, edgebanders, moulders and computer software through cutting tools, cabinet hardware, decorative panels and finishing materials.

WMS 2013 will feature a comprehensive education conference. Presentations will cover key issues related to profitability and industry trends, from how to find new customers and break into new markets through how to run your shop leaner and greener.

**Wood Tech Summit  
Leadership Conference**

New to WMS this year is the Wood Tech Summit Leadership Conference jointly organized by Woodworking Network and the Centre for Advanced Wood Processing. Wood Tech Summit will take place the day before WMS opens, Wednesday, Oct. 23 at the Four Points By Sheraton in Mississauga. This unique one-day conference, featuring table top exhibits, will feature presentations by representatives of some of Canada's most innovative wood products companies.

Registration for Wood Tech Summit, includes admission to the WMS expo hall. Learn more at [WoodTechSummit.com](http://WoodTechSummit.com).



**Widespread Industry Support**

WMS is backed by leading North American trade associations, including the Architectural Woodwork Manufacturers Association of Canada (AWMAC), Association of Closet and Storage Professionals (ACSP), Cabinet Makers Association (CMA), Canadian Hardwood Plywood & Veneer Association (CHPVA) Canadian Kitchen Cabinet Association (CKCA), Canadian Woodworking Machinery Distributors Assn. (CWMDA), Wood Manufacturing Council (WMC), Wood Component Manufacturers of Association (WCMA) and Wood Machinery Manufacturers of America (WMMMA). In addition, the event has the support of leading woodworking media including Wood Industry, Woodworking, Woodworking Canadian Woodworking & Home Improvement and Canadian Finishing and Coatings Manufacturing, Wood &

Panel USA and Woodworking Network.

The number of exhibitors booked 10 weeks before the show is up 41% over WMS 2011 at this same time. Exhibit floor space is up 33%.

"Wood finishing and sanding are key product categories at WMS 2013," says Rich Christianson, conference director of Vance Communications Canada, organizer of WMS 2013. "Most of the biggest names in wood finishing materials and supplies will display at the show. Visitors can expect to see some of the most exciting developments in UV technology, high-transfer efficiency spray equipment, green finishing materials and sanding equipment and abrasives for helping achieve high-quality finishes."

Readers of CFCM magazine can register free online using the Promo Code: CFCM.

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INTERNATIONAL CAST**



**WMS 2013**  
Woodworking Machinery & Supply Expo  
[WoodworkingExpo.ca](http://WoodworkingExpo.ca)

Only the Woodworking Machinery & Supply Expo brings the world's leading players of machinery and supplies to the doorstep of the Canadian woodworking industry.



**October 24-26, 2013**  
International Centre  
Toronto, Ontario

**VANCE CANADA LLC**  
Exhibit Sales: Rich Widick (866) 967-2015, [wms@heexpo.com](mailto:wms@heexpo.com)  
General Information: Rich Christianson (800) 343-2016, [rchristianson@vancepublishing.com](mailto:rchristianson@vancepublishing.com)

**Wood Tech Summit  
Leadership Conference**  
Wednesday, Oct. 23  
Four Points By Sheraton  
Mississauga (Toronto)  
[WoodTechSummit.com](http://WoodTechSummit.com)

**Register Now!**  
[WoodworkingExpo.ca](http://WoodworkingExpo.ca)



**Wood finishing and sanding are very important issues and product categories of the show. A Taste of some Exhibitors pertaining to finishing include:**

(As of August 21, 2013)

**ABRASIVES**

3M Canada	.....5428
Amecci	.....5039
Performance Abrasives	.....5624
SIA Abrasifs	.....5706

**SANDING EQUIPMENT**

Akhurst Machinery	.....5228
DMC	.....5048
Dynabrade	.....5519
General International	.....5020
Golden Hill Machinery	.....5047
Normand Machinery	.....5506
Safety Speed Mfg.	.....5454
Scm Group Canada	.....5034
Taurus Craco	.....5146

**FINISHING MATERIALS**

Becker Acroma	.....5538
Gemini Coatings	.....5507
ICA North America	.....5508
Pro Glo Paints Ltd.	.....5726
Renner Wood Coatings	.....5220
Royal City Paint & Supply	.....5634

Sherwin Williams	.....5254
Valspar	.....4013

**FINISHING EQUIPMENT**

Exel North America	.....5501
Miltec UV	.....5555
Superfici	.....5048
Venjakob	.....5128

**LEADING CANADIAN INDUSTRIAL FINISHING PUBLICATION**

CFCM	.....4818
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**WMS 2013 EXHIBITION HOURS**

Thursday, October 24: 10:00 a.m. to 6:00 p.m.

Friday, October 25: 10:00 a.m. to 6:00 p.m.

Saturday, October 26: 10:00 a.m. to 4:00 p.m.

Notes: Attendee registration counters in the Aviation Ballroom of Hall 5 of the International Centre open at 9:00 a.m. daily

More than 5,000 free parking spaces are available at the International Centre located at 6900 Airport Road, Mississauga, Ontario.

WMS 2013 will be preceded by the Wood Tech Summit Leadership Conference, Wednesday, October 23, at the Four Points by Sheraton in Mississauga, Ontario.

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



FABTECH 2013's show features more than 1,500 exhibitors covering more than 550,000 net square feet of exhibit space. Anticipated attendance is 35,000+ from around the globe.

2013 Finishing Pavilion Exhibitors, As of August 19, 2013

For a complete list of the more than 1,500 exhibitors at FABTECH, visit: [www.fabtechexpo.com](http://www.fabtechexpo.com)

ABB Inc. - Robotics  
 Acme Finishing Co. Inc.  
 ACT Test Panels, LLC  
 Advanced Finishing USA  
 AFC Finishing Systems  
 Akzo Nobel Powder Coatings  
 American Finishing Resources  
 Amiberica, Inc.  
 Andantex USA Inc.  
 Anest Iwata USA  
 Argon Masking Corp.  
 Arkema Inc.  
 Assured Testing Services  
 Atlatl Inc.  
 Axalta Coating Systems  
 Baril Coatings USA  
 BASF - The Chemical Co.  
 Bel Air Finishing Supply Corp.  
 BEX Spray Nozzles  
 Bic C: Dino-Lite Scopes  
 Blast Shop, The  
 Bronco Blast Equipment/ Industrial Associates  
 Bulk Chemicals, Inc.  
 Caldan Conveyor A/S  
 Calvary Industries Inc.  
 Canadian Finishing & Coatings Manufacturing  
 Cardinal Paint & Powder  
 Carpenter Chemicals, LC  
 Castrol Industrial North America, Inc.  
 Cataforesis S.A. de C.V.  
 Catalytic Industrial Systems  
 Chamtech Systems  
 Chemetall  
 Chemical Coaters Assoc. Intl.  
 Cianflone Scientific Instruments  
 Coil World Magazine  
 Col-Met Spray Booths  
 Combustion and Systems, Inc.  
 Coral Chemical Co.  
 Custom Fabricating & Supplies  
 Daifuku Webb  
 Decoral System USA Corp.  
 DeFelsko Corporation  
 DeVilbiss, Ransburg, BGG, Binks  
 Downey Co. LLC, B.L.  
 DuBois Chemicals  
 Duroair Technologies Inc.  
 Dynabrade Inc.  
 Echo Engineering & Production Supplies, Inc.  
 Eisenmann Corp.  
 Elcometer Inc.  
 The Electrocoat Association  
 Electro-Steam Generator Corp.  
 ElektroPhysik USA Inc.  
 Enhancement Technologies / Sublitex-Miorglio  
 EPSI Masking Co.  
 Ervin Industries Inc.  
 EXEL North America  
 FAMIS Inc.  
 Fischer Technology Inc.  
 Flexovit USA Inc.  
 Forrest Technical Coatings  
 Fostoria Process Equipment, div. of TPI Corp.  
 Gardner Co., Inc., Paul N.  
 Gema  
 General Automatic Transfer Co.

General Fabrications Corp.  
 Global Finishing Solutions LLC  
 Goff, Inc.  
 Graco Inc.  
 Guspro Inc.  
 Hentzen Coatings, Inc.  
 Houghton International - Metal Finishing  
 Hubbard-Hall Inc.  
 IFS Coatings, Inc.  
 Intech Services

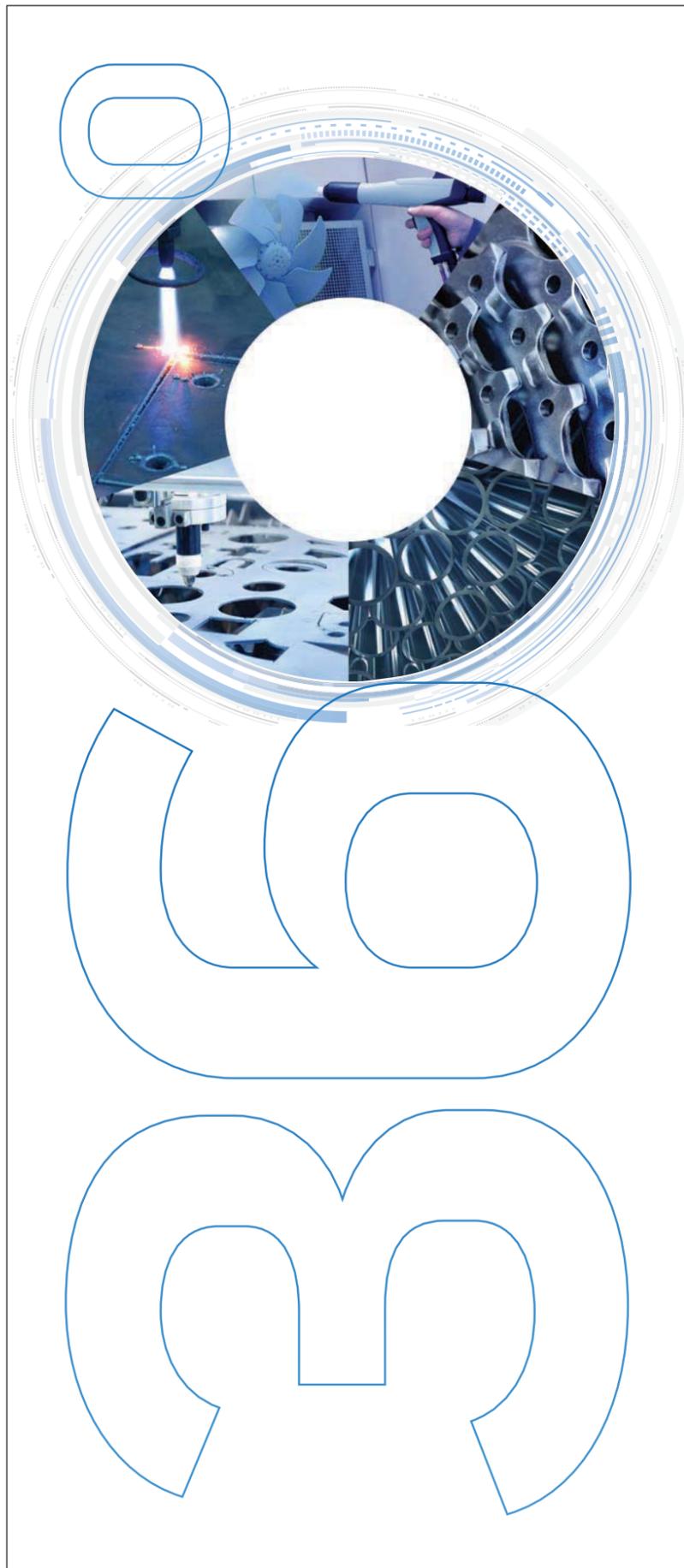
## FABTECH 2013 Breaks Records

Going on its fourth year, the Chemical Coaters Association International (CCAI) FINISHING Pavilion and Conference at FABTECH has proven to be the premiere event for industrial finishers. With more than 160 exhibiting companies showcasing finishing products and services in the CCAI FINISHING Pavilion, FABTECH is now the destination for finishers to see all products & services that they need to improve their finishing operations.

Attendees will have the opportunity to see more live demonstrations and learn about a wide variety of finishing-related new products during their visit to FABTECH in Chicago, November 18-21. The Conference offers important information for both finishing newcomers and industry veterans. Basic sessions cover electrocoating, system design, powder coating, cleaning & pretreatment and running efficient paints systems offer information for those new to finishing. Finishing Essentials sessions cover how to achieve excellent finishes, getting hooked on paint racks, manual powder coating and finishing operations impact on our environment. Finally, innovative sessions discuss mechanical finishing, porcelain enamel, cost savings for powder coating, application equipment, getting ready for an OSHA or EPA visit and more. There are also a series of free special events including new product presentations on the show floor.

IntelliFinishing  
 I.S.T. International Surface Technologies  
 KCI America Co., Ltd.  
 Keco Engineered Coatings  
 Keller USA, Inc.  
 Keyland Polymer Ltd.  
 KMI Systems Inc.  
 Koch Filter Corp.  
 Koch Sons, LLC, George  
 Kolene Corporation

LDPI, Inc.  
 Liaoning Longyuan Industry Co., Ltd.  
 Madison Chemical Co. Inc.  
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Osborn  
Oshkosh Finishing Services  
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Parker Ionics  
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Paulo Products Company  
Petroferm Inc.  
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Pneu-Mech Systems Mfg. LLC  
Pollution Control Products Co.  
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Powder Coating Consultants  
Powder Parts, Inc.  
PPG Industries, Inc.  
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Pretreatment Equipment Manufacturing Inc.  
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Southern Systems, Inc.  
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Steelman Industries, Inc.  
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Stripmasters Services Inc.

Superfici America, Inc.  
SuperMax Tools  
Tanis Inc.  
TCI Powder Coatings  
Therma-Tron-X, Inc.  
Trimac Industrial Systems, LLC  
TWN Industries, Inc.  
—Uni-Spray Systems Inc.  
Valmont Coatings  
Veolia Water Solutions & Technologies  
Vitracoat America Inc.  
Vogel Industrial Coatings  
Vulkan Catalytic Systems  
Vulkan Blast Shot Technology  
Wagner Industrial Solutions  
Walther Pilot North America  
Webb-Stiles Co.  
Zero Blast Cabinets

# RadTech East 2013 takes New York

The UVEB East 2013 takes place  
October 1-2 in Syracuse, NY.

Educational Sessions include:

- Industrial Finishing • BioBased Solutions • UV LED
- UV/EB Enabling Innovation & Advanced Applications
  - UV LED Summit: Roadmapping Session
- Short-Course: The Chemistry of UV/EB – and more.



## Exhibitor List (as of Aug. 23)

Aberdingk Boley, Inc.  
Allnex (formerly Cytec Coating Resins)  
American Ultraviolet  
Canadian Finishing & Coating Manufacturing Magazine  
Double Bond Chemical Ind. USA, Inc.  
DOWA Electronics Materials Co., Ltd.  
EIT Instrument Markets  
Energy Sciences Inc.  
Excelitas Technologies

H&S Autoshot Mfg. Co.  
Heraeus Noblelight Fusion UV Inc  
Honle UV  
IGM Resins  
Melrob US Inc.  
Miwon North America  
NETZSCH Instruments North America, LLC  
Nordson Corp  
PCT Engineered Systems  
Phoseon Technology

PL Industries  
rad-solutions LLC  
RAHN USA Corporation  
Rodman Media  
Sartomer USA, LLC  
Siltech Corporation  
Strathmore Products, Inc.

## uv.eb EAST & UV LED SUMMIT EVENT SCHEDULE

### OCTOBER 1, 2013

- 8:00 AM - 5:00 PM Registration
- 10:00 AM - 12:00 PM \*UV LED I
- 10:00 AM - 12:00 PM Industrial Finishing
- 10:00 AM - 5:00 PM Table Top Exhibits
- 12:00 PM - 2:00 PM Luncheon
- 2:00 PM - 4:00 PM \*UV LED II
- 2:00 PM - 4:00 PM BioBased Solutions
- 4:00 PM - 5:00 PM Reception

### OCTOBER 2, 2013

- 8:00 AM - 11:00 AM Registration
- 9:00 AM - 12:00 PM General Session
- 10:00 AM - 2:00 PM Table Top Exhibits
- 12:00 PM - 1:00 PM \*UV LED Roadmapping Session
- 12:00 PM - 2:00 PM \*\*UV Chemistry Short Course
- 12:00 PM - 6:00 PM RadTech Fall Meetings
- 7:00 PM - 9:00 PM \*NIST Dinner + UV LED Discussion

**uv.eb EAST**  
2013  
October 1-2, 2013  
Syracuse, NY  
[www.uvebeast.com](http://www.uvebeast.com)

- UV-LED
- Industrial Coatings
- BioBased Solutions
- Additive Manufacturing
- And more!

## CASF Technical & Environmental Forum: Latest News for the Surface Finishing Industry

The Canadian Association of Surface Finishing (CASF) will hold its annual Technical and Environment Forum on Wednesday, November 13, 2013, 8:00 am – 4:30 pm at the Hilton Garden Inn Toronto, Vaughan, 3201 Highway 7 West, Vaughan, Ontario

The event is designed for supervisors, business owners, upper and middle management involved with continuous improvement, plant and plating managers and all those involved in reducing costs and liabilities through innovative greener plating technologies.

Organizers say this CASF Forum is an opportunity to discuss with fellow

industry finishers, suppliers, government officials and environmental experts common concerns regarding the numerous regulations (existing and upcoming) and how they will affect your company and our industry. Expert guest speakers will drive discussions on legislative and economic impacts in an interactive forum. Technologies to help your company be more competitive will also be discussed.

Topics that will be discussed at the forum include:

- PFOS free fume suppressants
- Regulation 419/05 and Sector Based Technical Standards

- REACH update
- Latest surface finishing trends and environmental issues from the U.S.
- Ontario Toxic Reductions Act
- Dispersion Modeling
- Greener Chromium Plating
- Improving Plating Efficiencies

...and other important topics that are affecting the industry today.

Guest speakers include: Representatives from the Ontario Ministry of Environment (MOE); Alan Rose from Elsyca; Keith Legg from the Rowan Technology Group; Neil Paton of Atotech; Christian Richter, Executive Vice President – National Association for Surface Finishing (NASF), Founder – The Policy Group; Franco DiGiovanni, Air One and Helmut Horsthemke of Enthone.

### Space is limited.

Cost: Early Bird Registration before Oct. 15/13:

\$150 per person/ \$175 after Oct. 15

\$400 per exhibitor / \$500 after Oct. 15

Includes: coffee and pastries upon arrival, coffee breaks, snacks and lunch.

The Canadian Association for Surface Finishing (CASF) is the principal surface finishing industry association in Canada established to provide business services to its members. CASF aims to provide a single unified voice for the surface finishing industry in Canada.

For more information on event details and registration please visit [www.CASF.ca](http://www.CASF.ca)

## The 25<sup>th</sup> Annual AAC Anniversary Annual Anodizing Conference and Exposition

The Anodizing Conference, held October 1-3, 2013 at Hyatt at Olive 8, Seattle, Washington, has been delivering industry- focused information and education, giving anodizers the tools and know-how to make well-informed decisions and improve their companies' performance for over two decades! Anodizing 360 ... Discover a New Perspective, offers:

- Educational sessions
- Business information
- Industry analysis
- Technology exchange
- Networking opportunities, and much more.

The program is designed to appeal to a wide variety of anodizing industry professionals at every level of production—from the front office to the shop floor. This three-day comprehensive event offers education, information and networking geared specifically to the anodizing community. Registration includes entry to the Anodizing Conference General Sessions, Focus Sessions, Anodizing Expo, and networking events.

Value-added options, which require an additional fee and registration, include plant tours and the Anodizing Quality Workshop.

[www.anodizing.org](http://www.anodizing.org)



# CASF

Canadian Association for Surface Finishing

## 2013 CASF ENVIRONMENTAL AND TECHNICAL FORUM

Technical: Environmental and Regulatory Update for the Surface Finishing Industry

Wednesday, November 13<sup>th</sup>, 2013  
8:30 am - 4:30 pm

Hilton Garden Inn Toronto  
3201 Highway 7 West, Vaughan, ON

Space is limited, pre-register to confirm your attendance.  
For more information on event details and registration

Please visit [www.casf.ca](http://www.casf.ca)

Renowned speakers from US, Canada, Ontario MoE and Europe to cover subjects including PFOS, green chromium plating, REACH and much more...

### Who Should Attend?

Supervisors, business owners, upper and middle management involved with continuous improvement, plant and plating managers and all those involved in reducing costs and liabilities through new innovative greener plating technologies.

### Early Bird registration before Oct. 1/13

\$150 per person (\$175 after Oct. 1)

\$400 per exhibitor (\$500 after Oct. 1)

includes coffee breaks, snacks and lunch.



## Annual Anodizing Conference

Anodizing 360...Discover a New Perspective!

October 1-3, 2013  
Hyatt at Olive 8  
Seattle, Washington, USA

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with wallet-friendly options including early and team registration discounts. Hurry! Early discount ends August 31.

Visit [www.AACconf.org](http://www.AACconf.org) for details!

- General Sessions
- Technical Tracks
- Boeing Plant Tour (AAC Members only)
- Networking Events
- Optional Anodizing Quality Workshop (Level 2)
- Plus much more!

# Quality Systems for Anodizers

## An Overview of Quality Systems in an Anodizing Environment

BY JOE PASQUARELLI

**Small job shop** owners often struggle with the question of implementing formal audited quality systems. As their business expands prospective customers may ask them if they are ISO or Nadcap registered or alternatively they may ask for anodizing that complies with an AMS or Mil specification. If the owner has never worked under a quality system then many questions arise as to the benefits, cost and impact on operations. This article will explain the various quality systems and how they fit into an anodizing environment.

Anodizing falls under a category of manufacturing that is called special processing. Special processing includes all processes whose properties cannot be 100 per cent verified by non-destructive means. Some of the most common special processes include welding, heat treating, plating, bonding and painting. Customers are very sensitive to special processes because they cannot directly confirm that the process was carried out successfully. In cases where the parts are highly stressed and failure could mean loss of life customers need some way to reassure themselves that processing was carried out as specified. This is achieved by ensuring that the processes and procedures that are known to give good results are maintained. Therefore an anodizer needs to be able to prove to a customer that they have the controls in place to ensure that parts

are properly anodized to customer specifications. Quality systems are the main tool to achieve the customer's confidence in your processing.

One also needs to remember that the quality systems goal is to reduce waste and therefore increase profits. In anodizing the reduction of process variation through the use of tools like SPC must be one of the goals of your quality system. Improvements in contract review and preparation of shop travelers go a long way to eliminating communication problems and preventing improper processing. One of the biggest issues for job shops not being paid for work is disagreement on what the requirements are after the work is completed. A little discipline driven by the quality system can prevent these types of issues from occurring.

As an anodizer, the main properties that your customer requires are most likely: coating thickness, corrosion resistance, colour, abrasion resistance, and adhesion. In some cases additional properties may be required like electrical resistance, hardness, porosity control and coating uniformity. It becomes the duty of the quality system to ensure that all of these customers' requirements are met. The quality system will have all the appropriate procedures to communicate customer needs to production and production processes must have all the controls to ensure that processes delivers on those needs. Lastly, processes must be

monitored to ensure that all specification properties are met.

So depending on an anodizer's customer base, or potential customer base, a quality system needs to be in place to ensure the success of the business and its growth.

In general, the hierarchy of quality systems will run in the following order:

- No quality system
- An in-house developed quality system. Unaudited
- An in-house unaudited quality system that complies to a specification
- An audited ISO9001 quality system
- Specification Anodizing with ISO9002
- Nadcap audited quality system
- No Quality System

Only the smallest of job shops with a few employees can run effectively without a quality system. The owner can run keep track of all the customer activity and process controls by being personally involved at every stage of getting and completing an order. The larger the number of employees, the more difficult it becomes to communicate effectively without a system and to ensure that standards are maintained. As an anodizing shop grows, the target customer size also tends to grow and with that comes a demand for higher quality, proper documentation and traceability. The owner also becomes trapped because proper workflow and customer satisfaction relies on his presence.

### In House Developed Quality Systems

Next we find quality systems that were put in to address specific customer demands. The problem then becomes if too many customers have different requirements it becomes very difficult to monitor these requirements. In a sense you end up with a system for each customer. So unless an anodizer only has one target type of customer an in-house system can become cumbersome and expensive to maintain. Also the fact that the system never goes through an external audit leaves it open for abuse. In my experience when a shop claims, "we comply to ISO, but without the expense of auditors" it is a red flag for problems. A 5-minute walk through usually uncovers many non-conformances.

### ISO Quality Systems

Audited ISO9000 quality systems were introduced in 1987 and have quickly become the most used quality system in the world with over 1,100,000 registered in over 70 countries. ISO9000 was originally based on MIL-Q-9858 published in 1959. It is the accumulation of sound business practices put into a system that any company can adopt. ISO 9001 is the standard within ISO9000 that applies to anodizers. The goal of the ISO standard is to improve quality, drive continuous improvement and ensure business sustainability. Virtually 100% of European customers now demand an ISO registered

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### Calendar of Industry Events, 2013

#### September 30-October 3, 2013:

Canadian Manufacturing Technology Show (CMTS) 2013, The International Centre, 6900 Airport Road, Mississauga, ON  
[www.cmts.ca](http://www.cmts.ca)

#### October 1-2, 2013: Radtech uv.eb

EAST 2013, Sheraton Hotel & Conference Center at Syracuse University, Syracuse, NY,  
[www.radtech.org](http://www.radtech.org)

#### October 1-3, 2013: AAC 2013

Anodizing Conference and Exposition, Hyatt Seattle WA,  
[www.anodizing.org](http://www.anodizing.org)

#### October 8-10, 2013: Powder Coating

2013, America's Center, St. Louis, MO,  
[www.powdercoating.org](http://www.powdercoating.org)

#### October 20-22, 2013: CPCA Conference

100th Anniversary, Chateau Laurier, Ottawa, ON  
[www.cdnpaint.org](http://www.cdnpaint.org)

#### October 24-26, 2013: WMS Woodworking

Machinery & Supply Expo (WMS) International Centre, Toronto, ON,  
[www.WoodworkingExpo.ca](http://www.WoodworkingExpo.ca)

#### November 13, 2013: Canadian

Association for Surface Finishing (CASF), Environmental and Technical Forum, Hilton Garden Inn, Vaughan, ON.  
[www.casf.ca](http://www.casf.ca)

#### November 18-21, 2013: Finishing

Technologies at Fabtech McCormick Place, Chicago IL,  
[www.fabtechexpo.com](http://www.fabtechexpo.com)

system as a prerequisite to be allowed to quote. Having an ISO registered system also has reduced the demand for compliance to different requirements from each customer as most customers now are also registered to ISO and work to the same principles.

The success of the implementation of an ISO quality system will rely on full management support and involvement. The key to getting the full benefit of an ISO system is ensuring that the standard and your processes are understood by the person writing the Quality Manual before they write it. The closer the Quality Manual matches the way you operate your business, the more successful it will be.

ISO/TS 16949:2009 is based on ISO 9001:2008. This standard was a response to the automotive industries request for a unified automotive standard that is more stringent than ISO9001. It has more of an emphasis on the interactions of the whole business using a process approach and provides a framework for a quality management system that encompasses defect prevention and the reduction of variation and waste. The focus is on continuous improvement and customer satisfaction. For any anodizer that wishes to attract a significant amount of automotive work this is the standard for you. The cost is marginally higher than it is for ISO9001 but the potential for significant high volume exists. Many anodizers find that automotive and non-automotive work can co-exist and help protect their business from the ups and downs of their customers various business cycles. With the ever increasing use of aluminum in automobiles it can only be assumed that the amount of anodizing used by the industry is poised to grow quickly thus offering another advantage to this standard.

### Specification Anodizing with ISO9001

Having achieved ISO registration an anodizer may find that the specific industry that they service may require additional quality assurance such as compliance to various specifications. Most common for anodizers are MIL and AMS although many more exist. Compliance to these specifications requires mandatory testing which the customer can request to review as proof of control of the process. This sets a minimum standard that the customer can rely on receiving. Most customers that require specification anodizing will do qualification audits as well as annual reviews. Taking on too many specifications can be expensive due to the cost of testing and also because in some cases requirements conflict with each other and will require adding tanks or adjusting parameters in order to run to that specification. However, complying with specifications moves the anodizer up into a higher class of processor and will open doors to a larger customer base. The anodizer needs to analyze their market to determine which specifications are not

being serviced or are growing and use that as the basis for deciding which specifications to qualify their processes to.

### Nadcap Quality Systems

It is generally recognised that Nadcap accreditation is the most difficult of quality standards to comply to. Nadcap stands for National Aerospace and Defence Contractors Accreditation Program and was put in place in 1990 by the major aerospace manufacturers in an attempt to standardize aerospace quality standards. The major additional expense to an anodizer that wants to gain Nadcap accreditation will be audit, preparation and testing costs. Having achieved Nadcap registration a typical anodizer would then go through individual manufacturer audits then each part number would need to be audited and approved. Once the part process is approved the parameters are "frozen" and cannot be changed unless approved by the customer. Even simple changes can be difficult to get approval for because of all the levels of engineering that need to sign off in order to approve the change.

Nadcap audits are much deeper than those for ISO. Nadcap will probe into the actual anodizing process and specify production and test parameters. A typical Nadcap audit for anodizing lasts 3 days performed by auditors with special processing experience from the aerospace industry. Auditors are rotated frequently and selected from a pool across the USA and Canada. Every instrument or piece of equipment used in production or testing must be calibrated as specified and traceable to national standards. Detailed audit results are online for review by all auditors and customers. The cost for preparation and completion of the audit is significantly higher than that for ISO.

There are customers in the nuclear, electronics and medical sectors whose requirements are critical that will also seek out Nadcap processors over ISO processors. But the vast majority of anodizers find it impossible to serve both Nadcap and non-Nadcap customers due to the higher costs and discipline of running a Nadcap shop. Most commercial customers simply do not need the reassurances that Nadcap provides and therefore will not pay the additional cost. In addition, turnaround time will be slower than for a small ISO

shop. The Nadcap processor will find that its profitability will become tied to the cycles of the aerospace industry due to the lack of diversity of customers.

However once a customer is Nadcap accredited it becomes part of an exclusive group of companies that are allowed to process aerospace parts. A prospective customer will look at the list of approved vendors and only those on the list will get RFQs. A Nadcap anodizer will find that its geographical customer base will grow significantly and that it is not uncommon for parts to travel thousands of kilometres in order to receive the required processing.

### Conclusion

In the end there is no magic bullet in building a quality system. Having full man-

agement support to build a system that reflects your customers' needs then ensuring that you follow it is the key. Use your quality system as the tool to manage and improve your business. Constant vigilance is required to ensure the quality system stays relevant and is updated to meet changing demands. Driving quality higher will pay benefits in reduced costs through the reduction of waste. If quality is the focal point of a business it will ultimately show in the work you perform and the customer satisfaction it provides.

*Joe Pasquarelli is General Manager of Aluminum Surface Technologies, Burlington, ON.*

# Having achieved ISO registration an anodizer may find that the specific industry that they service may require additional quality assurance such as compliance to various specifications.

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# Plating Rectifiers and the Advantages of New Rectifier Waveforms

BY FRED MUELLER

Rectifiers have supplied power for electroplating and anodizing processes basically the same way for over half a century. Improvements have been made over the years; mostly today's rectifiers pack more reliability and power into smaller footprints. On the electronics front, the same thing that happened to our phones is showing up in rectifiers, they are getting smarter (more computerized).

## Computerization

As I look back over my time in the metal finishing business nothing is more striking than the technology changes that

have been made possible by computers/microprocessors. Digital controls can regulate amperage and voltage with more precision than any operator even could. The electronic controls make it possible to automatically ramp current up and down and start and stop precisely and do it the same way each and every time.

## Soft Gold

Pulse plating first found a home in precious metal plating because of the cost savings that are possible. Pulse gives more consistent distribution, yielding greater economic paybacks because of the high price of gold. History points to soft gold plating as the first noteworthy use of pulse plating. Western Electric, in the 1970s, was plating an electronic switching device with soft gold. They reduced the overall plating time by 50 per cent when compared to straight DC. After some trial and error the pulse timing settings of 0.1 milliseconds ON and 0.9 milliseconds OFF produced excellent deposit results. These timing settings are commonly used today when plating soft gold. In gold plating, less thickness is needed for equal protection because the deposit has less porosity.

Pulse and pulse reverse copper deposits are so fine that the Integrated Circuits (IC) chips use electroplated copper for the lines. Pulse can help prevent photosensitive resists from breaking down. (Remember that pulse helps the low-efficiency bath chemistries tremendously by bumping up the efficiency.) Hard acid golds are only about 40 per cent efficient, with the balance of the amperage generating hydrogen gas in the form of bubbles. This raises the pH of the solution (makes it more basic) near the resist and most photo-resists are stripped/removed with basic solutions. This causes the resist to lift so that the gold can then plate under the resist, causing a short-circuit. Pulse creates the conditions for less hydrogen loss in the solution and superior distribution (shorter plating times equal less exposure to a more basic solution) by plating more efficiently.

## Electro-Polishing

Different waveforms work great in Electro-polishing. When you Electro-polish with DC a viscous layer is formed on the surface of the part and the parts must sometimes be rinsed to remove the viscous layer for the smoothing action to continue. With pulse the viscous film has time to "relax" and is diminished reducing the time spent rinsing. The pulse is timed so that as the surface peaks are exposed by the film relaxing, the current returns to lower the highest/exposed peaks without effecting the valleys. This effect works to smooth the parts better and faster than direct current.

## Hard Chromium

Pulse works extremely well with hard chromium yielding deposits that are denser, harder, and more wear resistant in less time. Because the deposit generated by pulse is crack-free, very smooth deposits can be produced. The smooth deposit, in turn, creates a very hard chrome layer. An interesting application is the use of pulse for plating engine cylinders. By using pulse at the beginning of the plating cycle, a hard chrome layer is placed next to the base metal. Then, in order to give oil a place to cling, the waveform is changed over to DC to produce micro-cracking. This combination of Pulse and DC can be used to get the best of two worlds out of the same plating bath chemistry.

Hard coat anodizing and chrome plating are the two most successful, large-scale (based on the size of the rectifier) commercial applications. Chromium III chemistries that are additive free can provide comparable thickness and hardness to chromium plated from hexavalent chemistry with the use of modified waveforms.

## Anodizing

In anodizing different waveforms have two principal benefits: 1) greater thickness because you can use higher current densities without burning and 2) shorter process times. It's possible by using pulse to form an oxide film with a higher average current density, and this leads to a shorter anodizing time. The off time leads to the reduction of the heat generated during the formation of the aluminum oxide film at the surface of the part, which in turn causes less of the anodized layer to be lost to the solution/dissolved. In Europe the anodizing pulses are as short as 100 milliseconds, while in Japan the "Y process," developed by Yokoyama, has duration of 5 to 100 seconds. Because the "Y process" pulse is so slow, several seconds, a simple inexpensive switching device can be used instead of a pulse rectifier. Pulse waveforms work remarkably well with high copper alloys, such as 2024.

## Copper

Pulse reverse plating for printed circuit boards is the hottest area in bright acid copper for fine lines, small geometric and recessed areas. The bath chemistry has been matched to fit with pulse reverse. It is now possible to plate two to three times the amount of copper in the hole than on the lines. A back-pulse in the range of 1/10 of a millisecond at three times the amplitude or current of the forward pulse is the key. The back-pulse keeps the holds from dog-boning and removes copper from the lines faster than from the holes. Typical plating time for PCBs is 45 to 120 min. Pulse reverse, or periodic reverse, plating has consistently been found to produce a smoother and harder deposit than pulsed current plating.

## Nickel

Pulse nickel plating works about the same as for plating copper. It can provide a very uniform deposit over extremely complex shapes (electroforming) and significantly reduces the plating time. Pulse can control the alloy deposit from Nickel/Iron bath chemistry better than just watching the amount of metals (nickel/iron) in the solution.

## Tin/Tin Alloys

In tin-lead plating, pulse is stuck in the middle because of economics. It works best, however, with the higher tin alloys yielding finer grain.

## Experimental

Multiple pulse rectifiers each one optimized for a single metal can lay down alternating layers of two or more metals from the same solution. You can then use heat to get the alloy you want by diffusion.

## Today

Rectifiers, both DC and Pulse have more to offer today than ever before—computer controls and new waveforms. A new rectifiers are easily justified when their have a strong economic return on investment. I find that the projects that have worked well all have a unique hook: cost savings.

*Fred Mueller is Corp. Quality and Safety Manager at General Magnaplate Corp. and past president of the American Electroplaters and Surface Finishers Association, Inc. (AESF).*

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# Intumescent Coatings and Compounds in FLAME RETARDANTS

The presence of a flame retardant in a paint or coating slows ignition time, smoke development, spread of flames, release of toxic gases, release of corrosive chemicals and the release of heat.

Flame retardants promote the formation of char to:

- create a glassy protective layer
- form an upper intumescent coating
- terminate free radical processes in the gaseous phase
- cool the coating down through heat absorbing reactions by releasing water or carbon dioxide
- effectively dilute the concentrations of gases above the coating layer.

Halogen-containing compounds (chlorine or bromine) remove hydrogen and hydroxyl radicals in the gas flame phase. Efficiency depends on the type and number of halogen atoms contained in the flame retardant and the rate of halogen release.

Brominated flame retardants usually containing 50-85 per cent of bromine have a performance considered superior to that of chlorinated. Some use restrictions based on environmental concerns.

Phosphorous containing compounds act in the solid phase of burning materials.

When heated, the phosphorus reacts to give a polymeric form of phosphoric acid (PO<sub>3</sub>), causing the material to char.

Examples of phosphorous containing flame retardants include ammonium polyphosphate, red phosphorous metal and organics. Ammonium polyphosphate is preferred for coatings applications.

Nitrogen containing compounds form cross-linked molecular structures within the coating and release nitrogen gas that dilutes the flammable gases and thus reduces flames. They work in synergy with phosphorus flame retardants.

Inorganics interrupt burning by physical processes e.g. by releasing water or nonflammable gases, absorbing heat or by producing a non-flammable surface layer. Inorganic flame retardants which may be used in coatings include aluminium trihydrate, magnesium hydroxide and boron compound.

## Intumescent Coatings

Intumescent coatings provide an appearance similar to that of a paint finish, and remain stable at ambient temperatures.

Such coatings normally consist of:

- primer to create good adherence,
- an intumescent base coat
- a protective decorative top coat.

- some suppliers do not recommend the use of a protective top coat as it may lower the effectiveness of the intumescent coating
  - the cost of intumescent fire resistive coating can be quite expensive.
  - the thickness of the intumescent coating is critical regarding its flame-retarding efficiency.
- The constitution of an intumescent coating includes:

- a polymeric binder
- ammonium polyphosphate which releases an organic acid when heated
- a carbonizing agent e.g. Polyols as starch, pentaerythritol
- melamine which releases gas to expand the coating.

Above a certain temperature, chemical reactions occur within the intumescent coating causing it to expand many times its original thickness to provide an insulating foam-like coating or 'char' to protect the substrate.

The following processes occur:

- initial softening of the polymeric binder.
- release of an organic acid
- carbonization of the binder “
- expansion of the coating through release of gas “
- strengthening of the expanded coating through a cross-linking reaction.

In coating steel Intumescent coatings

are the ideal way to combine an attractive architectural appearance with fire safety. Although steel does not burn, it loses its strength when exposed to temperatures above 500 °C. As a result, steel structures become unstable due to the effects of fire, and buildings can collapse. Intumescent coating can form a highly efficient foam based on micro-porous carbon. It forms spontaneously, homogenously, and rapidly at about 200°C.

If there are no space restrictions, the foam may be up to 100 times thicker than the original coating and has a strong heat insulation effect. Therefore, intumescent coatings are often used to protect steel structures such as airport terminal buildings, shopping centers, theatres and office buildings. Clariant supplies ammonium polyphosphate as a key raw material for intumescent coatings, marketed under the brand name Exolit AP. They focus on modern non-halogenated products. Besides steel, similar formulations are used to fire protect sealants, adhesives, cables, wood and even textiles. Clariant has decades of experience in intumescent coatings with water- and solvent-based formulations.

Inortech's Roger Mouhanna explains that the company offers flame retardant formulations that were tested in an independent laboratory for intumescence.

INORFLAM APP 201R is designed specially for Intumescent Coatings and is very suitable for vinyl acrylic, vinyl/Veova, Cel-

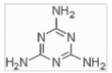
lulose etc. INORFLAM APP 201R used in an intumescent coatings system keeps a stable viscosity both in producing process and final product. It has a 'rule' granule and narrow particle distribution, which gives it better dispersability and fluidity in Coatings and Polymers.

Physical properties include:

Phosphorus%(w/w)	231
Nitrogen%(w/w)	214
PH value (10% suspension)	5.5-6.5
Water content%(w/w)	5 0.25
Thermal decomposition degree C	2775
Viscosity(25 °C in 10% suspension) mPa's	5 20
Solubility in water (g/100ml) % (w/w)	5 0.5
Average particle size um	D50=10
CAS no.	TopCut = 40 68333-79-9

Hazards identification: None, The substance is not subject to IMO TMDG.

InorFlam Melamine F40 is widely used in the field of paint, wood, plastics, paper making, textile, coatings and other indus-

Chemical Formula:	
	
C6H6N6	
1,3,5-Triazine-2,4,6-triamine	
CAS NUMBER : 108-78-1	
Physical & Chemical properties	
Purity %	99.80%
Moisture %	0.1 max
PH	7.5-9.5
Formaldehyde dissolve test	All dissolved in 10 minutes
Ash	0.03 max
Color (platinum-cobalt color)	20 max
Particles size um	40 max
Turbidity (Kaolin Turbidity)	20 max

InorFlam Penta M40 is widely used to produce alkyd resin, paint, printing ink, resin and much more.

try. It is the main material for making high-grade coatings, laminated board, mould powder, bonding agent, textile and

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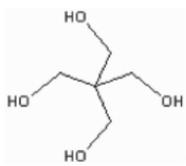
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paper treatment agent, cement water reducer, leather fanning agent, fire retardant and insulating material. It is also non-hazardous.

**Chemical Formula:**



**Pentaerythritol**  
**CAS NUMBER : 115-77-5**  
**Physical & Chemical properties**

Monopentaerythritol content %	98min
Hydroxyl group content %	48.5min
Water content %	0.2max
Ash content %	0.05max
Phthalic color	2max
Particle size um	40max
Melting Point °C	240min

Recent Water Based Intumescent Coatings Formulations from Inortech:

CB-533 and CB-534 are two different in tumescent base coatings containing a full loading of in tumescent pigment fillers. These white opaque coatings are designed to give the maximum fire retardance.

CB-535 and CB-536 are respectively urethane-based and urethane-modified acrylic top coatings. CB-535 is more suitable for exterior applications, while CB-536 is designed suitably for both exterior and interior applications.

CB-533 or CB-534 (base coating) can be applied with or without CB-535 or CB-536 (top coating).

At room temperature, it will take 15 to 30 minutes to dry each coating.

The base and top coatings can be applied using WET/WET method, but it is preferable for the base coat to be dried prior to applying the top coating

A spread rate of 75 g/m<sup>2</sup> is preferred for each coating.

**Porous Substrates**

Wood, being an absorbent substrate, can also be treated in other ways to improve flame retardance.

Three general treatments exist:

1. Retardants incorporated integrally into wood composites in the manufacturing process (usually borates)
2. Retardants impregnated into solid wood, plywood, particleboard and hardboard after manufacture (usually borates)
3. Applied, as flame retardant paints/coatings on existing wood structures (usually intumescent compositions).

As the surface of the substrate burns first, the coating approach should give the best protection. Intumescent coatings are probably the most effective in the case according to Inortech.

**Alumina Trihydrate**

Huber Engineered Materials produces a broad line of alumina trihydrate (ATH) products to impart fire retardance and smoke suppression in various coatings-related applications. Huber's ATH grades offer these overall benefits:

Available in particle sizes ranging from a D50 (median particle size) of 80 microns to below 1 micron, which can give Hegman grind values as high as 7.

Available in different purities, it holds a charge very well, so it is used in powder coatings to help transfer the paint from the gun to the part.

- Lower density than barium sulfate, allowing for good settling resistance and lower costs per gallon.
- Excellent thermal conductor, used in epoxy encapsulants to conduct heat away from motors or other similar parts.
- Chemical resistance, insoluble in water.

Huber's Featured ATH Products include:

SpaceRite S-3 double-precipitated alumina trihydrate has extremely high brightness and a median particle size of 1 micron. It is used to extend deep-tone, pastel and white glossy coatings when retention of colour (L,a,b values) is extremely important. SpaceRite S-3 can be used solely as an extender and also as a fire retardant additive in glossy coatings.

Micral AM550 alumina trihydrate is used in water-based, solvent-based and powder coatings to impart fire retardance and smoke suppression. It is 100% ATH, so it also has chemical resistance and carries a charge well. It has a rather narrow particle size distribution, which imparts very good viscosity stability along with a Hegman grind value of 5.

Manufacturers say that issues that still need to be resolved when it comes to flame retardant coatings include:

- Adequate efficiency and durability for outdoor use.
- Reduction of cost of the coatings / paints to encourage wider use.
- Effectiveness of introducing nanotechnology to improve flame retardancy efficiency (clay composites), inorganic nanoparticles).

*Editor's Note: Company's contributing to this article can be reached at:*

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

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

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

# GLOBALLY HARMONIZED SYSTEM of Classification and Labelling of Chemicals (GHS) in Canada

BY GARY LEROUX

Currently the federal government is currently consulting on the new Globally Harmonized System of Classification with respect to chemicals in the workplace. This new approach to labelling in Canada will replace the Workplace Hazardous Materials Information System (WHMIS) that has served industry well for many years. The GHS system covers all hazardous chemicals and may be adopted to cover chemicals in the workplace, transport, consumer products, pesticides and pharmaceuticals. The target audiences for GHS include workers, transport workers, emergency responders and consumers. This new GHS approach has been something governments around the world have been seeking to create for many years. It has finally arrived with the introduction of the new system of labelling planned for full implementation in Canada in 2015. In July, the Canadian Paint and Coatings Association (CPCA) provided a comprehensive, formal submission on the proposed new system to Health Canada. The submission clearly expresses

paint manufacturer and supplier members' views with respect to the background consultation documents, officially launched on July 5, 2013.

The federal Government's intention is to repeal the Controlled Products Regulations (CPR) and replace it with a new regulation to be entitled the Hazardous Products Regulations (HPR). These new regulations would implement the GHS hazard classification criteria and hazard communication elements – labels and safety data sheets (SDS) – as per the third revision of the GHS, published by the United Nations in 2009. This will be in full alignment with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) as amended on March 26, 2012 (HCS 2012). Consequential amendments would also need to be made to related regulations. The purpose of the online background consultation effort is being done to obtain early comments that will have the effect of speeding up the review process with industry as well as the provincial and territorial jurisdictions. This will help facilitate the

official publication of the amendments in the Canada Gazette – Part I in the Fall 2013.

CPCA has been represented on the WHMIS Current Issues Committee (CIC) since its beginning and through this CPCA representation – and other industry efforts – we have worked diligently over the years to address important implementation strategies related to the GHS or WHMIS, as we know it in Canada. The WHMIS Current Issues Committee has played an important role on the Regulatory Cooperation Council's (RCC) commitment to implement the GHS for workplace chemicals. RCC's initiatives related to GHS led to the signing of a Memorandum of Understanding (MOU) that will permanently coordinate future GHS implementation and related interpretations between Canada and the United States, namely, Health Canada's Healthy Environments and Consumer Safety Branch (HECSB) and the Occupational Safety and Health Administration of the United States (US-OSHA). Earlier this year, CPCA assisted the HECSB gather information on the economic impact of GHS on small and medium-sized enterprises in Canada.

CPCA has consulted widely with its US and Canadian members with respect to the current GHS proposal. CPCA also had a number of discussions with other industry associations to help ensure that the proposed regulations do not unintentionally harm the marketplace in Canada, while maintaining safe conditions for employees in the workplace.

## CPCA also had a number of discussions with other industry associations to help ensure that the proposed regulations do not unintentionally harm the marketplace in Canada, while maintaining safe conditions for employees in the workplace.

### Industry's Position

Our members have reviewed the documents in depth and find that, for the most part, Health Canada has stayed true to their vision of remaining aligned to the maximum extent possible with the US-OSHA HazCom 2012 regulation or rule as they refer to it. However, as expected, there are some exceptions in a limited number of proposed changes where alignment with the US may reduce the level of protection offered for users under the current WHMIS regulations in order to respect the Canadian legislative framework. However, our Canadian members generally agree with such exceptions, although a few are still perceived as an irritant by both CPCA members in the United States and Canada. We believe that some of the differences between our two countries can be adequately addressed in the proposed regulations. This can be done in the proposed regulatory amendments to be published in the Canada Gazette, Part I and/or in the accompanying guidance documents. CPCA has consulted widely with its members in an effort to provide Health Canada with practical considerations for improving the proposed GHS regulations.

CPCA's complete formal submission is now available on the Members Only Section of the website. Some of the areas addressed in that formal submission include the following:

**Importance of Timelines:** CPCA believes that the timing for publication of the new regulations in the Fall of 2013 is most critical for all Canadian businesses, if Canada wants to maintain full alignment with the implementation timeline established by the US. CPCA and its members have been assured by federal government officials that the June 2015 deadline for GHS implementation will be met "in principle." There needs to be some attention given to a proper transition period for implementation to ensure minimal impact on business.

**'Hatched Border' Concept:** Controlled (hazardous) products from suppliers must display a WHMIS label with a 'hatched border' and contain seven categories of information. That said, there is no mention of the 'hatched border' in the current federal proposal. Health Canada seems to have withdrawn this particular mandatory requirement in order to align with the United States. But we also understand that, while not required per se in the regulatory text, the 'hatched border' can still be used in Canada, if desired, as there is nothing in the GHS system prohibiting its use.

**Ingredient Concentration Ranges:** The proposed regulation requires the concentration of each ingredient that meets classification criteria, but gives some flexibility on reporting concentration. After reviewing the U.S. Federal Register HazCom standard CPCA found some references to concentration ranges and their use for which the acceptability is very limited. SDS preparers can use 'ranges'

rather than a specific percentage composition, but it must be limited in terms of the percentage concentration variation. Further, the variation in concentration must have no effect on the hazard of the mixture. CPCA outlines specific recommendations in its formal submission on how to specifically address this important issue for its members.

**Section 5.1 Back-up SDS Notices:** Section 5.12 (2) refers to the sale of a hazardous product for which significant new data became available within 90 days prior to its sale. It further indicates that it is exempt from the application of subsection 4(1) in respect of the requirement to provide, on the Safety Data Sheet (SDS), information that is available at the time of the sale if, on the sale of the hazardous product, the supplier ensures that the person who acquires possession or ownership is provided with an SDS that includes all information available at the time of sale. The paint and coatings industry makes a number of important recommendations on this matter and would like this requirement to be clarified and made as flexible as possible in the context of the Regulatory Cooperation Council (RCC) initiatives. We have recommended that the regulatory text be reviewed and accompanied with pertinent guidance documents showing when exactly – and in which cases – the significant new data would have to be communicated to customers without delay.

**Carcinogenicity Classification:** The proposed approach to the classification of mixtures is more structured than the current Consumer Product Regulations (CPR), as it provides a step-by-step approach to the consideration of different types of data available for the mixture or its ingredients. Policy Issue Sheet (PIS) agreements with the NOW have defined the carcinogenicity classification approach for naturally occurring complex mixtures. CPCA provides a number of ways in which this can be properly addressed to ensure clarity of intent with respect to the proposed regulation.

**Ingredient Disclosure:** Ingredient disclosure only needs to occur for un-tested mixtures where bridging principles or toxicological 'read-across' of health hazards is not possible. CPCA has recommended disclosure of ingredients at or above 0.1% that meet the current CPR s.54 criteria.

**Flash Point:** In Section 7.6 of the proposal, for a liquid that is a mixture, the flash point must be determined by appropriate tests as outlined in CPCA's formal submission.

**Definitions and Miscellaneous Issues:** The definition for complex mixtures in the Canadian document is much narrower than the US definition and allows for only naturally occurring complex mixtures. We support other industry comments to the effect that the proposed definition for "distributor" be reviewed (i.e., a supplier who is not a manufacturer or importer and who, in the course of business in Canada, sells a hazardous product). Since excluding the importer status can lead to confusion this clarification must be made. The definition of importer should be reviewed as well, that is, the "initial supplier identifier" who operates in Canada.

### Conclusion

CPCA fully supports the alignment and harmonization of practices and regulations between the United States and Canada. Harmonization will only be realized if the result is an effective and efficient administration of the GHS for both industry and government. Ultimately, it is achieved when it effectively and simply informs workers of workplace hazards and the necessary measures employees must be follow to protect and mitigate against clearly identified hazards. The hazard information must be protective, practical, credible, defensible and easily understood by the worker. We believe that the GHS proposal achieves a great deal of those important objectives. However, we also believe that it must endeavor to strengthen the current proposal as addressed by industry's recommendations and seek to minimize any negative impact on business and its workers. Much of this will be accomplished by addressing a number of the relevant issues outlined in CPCA's formal submission.

*Gary LeRoux is the president of the Canadian Paint and Coatings Association.*

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# Get Your Fill

**Fillers in paint** and coatings lower costs by maximizing the efficiency of the more costly colour pigments, reducing the amounts needed to achieve the desired colour, and filling up the volume in the paint, thus reducing the use of resins and/or solvents. In choosing a filler pigment, both the demands of the end use and the cost must be considered. The performance of a filler in a coating depends on its basic chemical nature, as well as its particle size, particle shape, surface chemistry, colour, and whiteness or brightness (both dry and wet). Most decorative coatings contain a combination of filler minerals of different types and sizes to achieve the targeted balance of application, appearance, durability, and cost properties.

## Mineral Fillers

According to a presentation by Vanderbilt Minerals, LLC, mineral fillers are not just something to take up space, they are used to improve properties. The effects of addition of minerals to paints & coatings depend on:

- Mineralogy (chemistry, crystal structure, Mohs hardness, etc.)
- Oil absorption, brightness, pH, chemical inertness, refractive index, purity, soluble salts
- Particle size and particle size distribution
- Particle shape and aspect ratio
- Volume fraction in the matrix (PVC and CPVC)

A mineral can't be defined simply by its chemical formula. The crystal structure must also be considered.

Mineral properties that must be considered:

pH is a function of the metallic ions in the structure. Aluminum in the structure makes the mineral acidic. Calcium, potassium, barium or sodium makes the mineral alkaline. Some minerals, such as calcite or serpentine are soluble in acids and can't be used in coatings that have pH <7.

Mohs hardness is a relative measure of abrasivity or abrasion resistance of a mineral. Talc is the softest mineral and diamond is the hardness. Harder minerals will have better scrub resistance and better burnish resistance. They also will potentially be more damaging to process equipment than softer minerals.

The oil absorption of a mineral is a function of the mineral itself and how finely it is ground. The denser the mineral, the lower the oil absorption. The oil absorption relates to how much of the resin the mineral will absorb. The oil absorption affects the viscosity of the paint and the gloss.

Water-soluble salts in certain minerals

can adversely affect corrosion resistance and exacerbate blistering. Exterior paint frosting and chalking also are a result of soluble salts.

Dry brightness and colour-in-oil of a mineral will affect how the mineral appears in a coating. A mineral can have excellent dry brightness but turn colour when put into a resin. Colour-in-oil can vary from cream to gray or even green depending on the mineral. The colour is usually an effect of minor impurities.

Refractive index is a measure of how light is bent when it passes from one medium to another. The higher the refractive index, the more the light is bent and the greater opacity results. Rutile TiO<sub>2</sub> has a high refractive index and gives good opacity to coatings.

Most mineral fillers have significantly lower refractive index and don't give opacity, but they can be used in conjunction with TiO<sub>2</sub> to achieve opacity at reduced cost. Some minerals, such as amorphous silica, have refractive index the same or lower than the resin and will be invisible in the dry film. They can be used to reduce gloss of a clear coating without creating haze.

## Particle Size and Particle Size Distribution

The particle size of a mineral can be expressed in several ways depending on the method by which it is measured.

Common methods of measuring particle size are Hegman fineness, screening, sedimentation methods and laser light scattering methods.

Each method will yield a distinct result.

When comparing data of different minerals, be sure that the particle size distributions are measured the same way. They can be measured by screening or sedimentation or laser diffraction measurement methods.

Mineral fillers affect many coatings properties such as durability & flexibility, scrub resistance, colour uniformity, weathering resistance & tint retention abrasion resistance and more.

Natural calcium carbonate (GCC) is one of the most abundant filler minerals.

It forms in several crystal habits (different shapes). Shapes include blocky (chalk), scalenohedral (calcite), short needle acicular (aragonite).

Calcium carbonate has high brightness, low oil absorption, can be ground to ultra fineness, and is relatively inexpensive.

It is widely used in all kinds of paints and coatings especially interior and exterior architectural.

Calcium carbonate is unstable in acidic conditions & soft (poor abrasion resistance).

Synthetic precipitated calcium carbonate (PCC) is made by calcining poor quality calcite or lime, dissolving in water to make slaked lime, reacting with CO<sub>2</sub> then precipitating a fine high brightness product. Many different crystal structures are available and can be tailored to the specific end use.

PCC is used where higher brightness, finer particle size, lower abrasivity and higher purity are required than for GCC.

PCC is used in water borne traffic paints and as TiO<sub>2</sub> extenders and opacifiers in latex paint.

Talc is a platy magnesium silicate mineral. Its properties include high oil absorption, softness and high brightness.

Talc is found all over the world including large quantities in Canada.

The use of talc in coatings contributes to gloss control, TiO<sub>2</sub> spacing, anti-settle, sandability of primers, inter-coat adhesion and corrosion/blistering resistance.

Nepheline syenite is an irregular shaped natural mineral mix of feldspars and nepheline. Its crystal structure is deficient in silica.

It is used in various kinds of paints and coatings where it imparts good scrub resistance to flat paint and good exterior weatherability (tint and gloss retention and resistance to chalking and frosting).

Natural silica is the most abundant mineral family on earth.

Common varieties include quartz, sandstone, silica sand, tripoli, opal and novaculite (microcrystalline quartz).

It has low oil absorption, good brightness, high purity, and excellent abrasion resistance.

Caution must be observed in its use because crystalline silica exposure may cause lung cancer and similar illnesses.

Synthetic silica products are made in several forms.

Precipitated amorphous silica has high brightness, high oil absorption and low refractive index.

Because of low refractive index, these products can be used for gloss control of clear coatings. Because of the hardness, these products can be used for scrub resistance of latex paints.

Natural barium sulfate, known as barite, is a high brightness, high specific gravity, low oil absorption inert filler. It finds use in powder coatings because of its high specific gravity, good brightness and low oil absorption.

Synthetic barium sulfate, known as blanc fixe, is used for photographic paper coatings and in industrial and automotive primers.

Mica is a platy mineral. There are several different forms of mica: muscovite, phlogopite, biotite, etc.

Fine dry ground mica is used in joint compounds and texture paints for mud crack resistance.

Fine wet ground mica is used in exterior latex paints for tint retention and weatherability.

Mica is used as the base for special effect pigments.

Diatomaceous earth is a form of silica formed from skeletons of microscopic plants and animals (diatoms) which yields a wide range of interesting shapes and sizes.

It has very high surface area, high pore volume and is very hard.

Its uses include gloss control and scrub resistance of interior flat paints. One must be careful when using diatomite as over grinding will destroy the unique crystal shapes, defeating the purpose of using it. Addition late in the paint preparation with low shear mixing is recommended.

The Unimin Canada Ltd. mineral portfolio reflects the wide diversity of physical, chemical and functional requirements of their customers. Many of these essential raw materials are uniquely occurring in the world, and quarried to serve a worldwide demand for performance oriented industrial minerals. Strict selection criteria, based upon application and performance requirements, identify ore bodies with specific mineralogical properties for processing and optimization.

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## Anti-Sag Meter

Coatings applied on non-horizontal surfaces will sag due to gravity. Sag resistance is a factor of the composition and viscosity of the coating, as well as the applied thickness.

The applicator is a U-shaped drawdown bar with a series of 1/4 inch (6.4 mm) wide notches of varying clearances, spaced 1/16 inch (1.6 mm) apart. It is 5 inches (127 mm) wide and produces a total film width of 3-3/8 inches (86 mm).

When a drawdown is made, a series of parallel stripes of different wet film thickness will be formed. This panel is placed on a vertical surface with the stripes horizontal and the thickest stripe lowest. As the film stripes sag downward, some of the uncoated 1/16 inch (1.6 mm) spaces may become entirely covered. The clearance of the gap that produces the thickest film stripe, not sagging completely to the stripe below, is the anti-sag index of the coating.

The Anti-Sag meter allows quantification of the sagging properties of coatings.

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- Available in most coating thickness ranges

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enable the painter to keep the pressure always under control.

Now, SATA is launching an additional retrofit solution for pressure zcontrol: With the SATA adam 2 U (=Universal), consisting of a SATA adam 2 U dock and the SATA adam 2 display, the painter has now the option to adjust and monitor the inlet pressure in digital form on any type of gun – whether SATA dry jet blow guns or competitor spray guns. The display indicates the inlet pressure with an accuracy of +/- 0.05 bar, while the adjustment screw on the SATA adam 2 U dock allows to set the pressure precisely.

The retrofit unit SATA dock offers even further options for digital pressure control: Combined with the SATA adam 2 display, it replaces any analogue pressure gauge with G 1/8 male thread, e.g. on pneumatically operated systems or when upgrading an existing SATA air micrometer with analogue pressure gauge #27771 to digital.

The SATA adam 2 display can now be used on all spray guns, either installed on the back or on the bottom of the gun.

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## New SATA Retrofit Solution

The accurate and correct setting of the gun inlet pressure is one of the key requirements to ensure perfect colour match during the painting process. Whether the pressure is set too low or too high, colour deviations will be the undesired result. The consequences are expensive rework disrupting the efficient work flow.

With the aim to eliminate incorrect inlet pressure as a possible cause for quality problems, SATA currently offers spray guns with digital pressure gauges integrated in the gun handle, while for non-digital SATA spray guns there is the retrofit option of the SATA adam 2 available. The advantages of both solutions are obvious: They are compact, lightweight and precise, and

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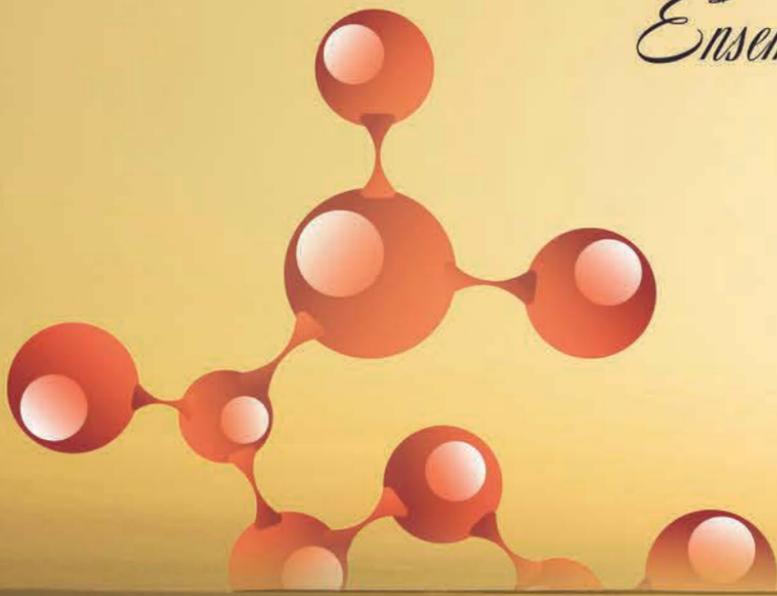
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