



# CFCM

CANADIAN FINISHING & COATINGS MANUFACTURING MAGAZINE

## Plating and Anodizing: Building a Precision Anodizing Business

PLUS

- Industrial Finishing
- Plating and Anodizing
- Paint and Coatings Manufacturing

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SEPTEMBER/OCTOBER 2017

## Ruffino Cabinetry talks about brand growth through relationships

We traveled to Fort Myers, Florida to talk with Steve Ruffino, founder and CEO of Ruffino Cabinetry, and his Chemcraft Distributors Oscar and Mario Hernandez of Famis Inc. located in Miami and Naples, Florida.

Ruffino Cabinetry was founded in 1981 and produces luxury custom cabinetry and fitted furniture for projects throughout Florida and selected national and international projects. Their award winning work has been featured in several publications including Home & Design and Florida Design.

“While we’re obviously cabinet makers, we consider our true specialty to be our custom colors and finishing techniques,” said Steve Ruffino, “it offers our customers more options than they can typically get from the larger manufacturers. It’s what sets us apart.

“I started the business as a solo operation in 1981,” said Ruffino, “and now we have 60 employees. We don’t advertise and we don’t have a sales force to speak of. Most of our business comes from longtime repeat customers and referrals.

“Our reputation for quality has established us as a brand name,” continued Ruffino, “we now have designers and architects coming to us as their preferred cabinet company.

“A few years ago we were experiencing a severe production bottleneck in our finishing area. We realized that we needed to find a new partner that could help take our product and our production to the next level – that’s when we reached out to Famis and Chemcraft.”



Front, L to R: Steve Ruffino - CEO, Ruffino Cabinetry holding grand-daughter Stella Rose Ruffino, Mario Hernandez - Vice President, Famis Inc., Mike McIntyre - Operations Mgr., Ruffino Cabinetry. Back, L to R: Meghan Ruffino, Stephen Ruffino - Vice President, Ruffino Cabinetry, Carol Ruffino - Sales / Design Mgr., Ruffino Cabinetry, Oscar Hernandez - Partner / Sales Director, Famis Inc., Fernando Rivadeneira - Sales Representative, Famis Inc.

“One of our specialties at Famis is custom engineering automated and semi-automated finishing systems,” said Mario Hernandez, “so we were confident that we could help improve their work flow. But first we needed to identify the correct Chemcraft product to fit the system.

“We brought in our Chemcraft technical representative and together we did extensive testing,” continued Hernandez, “the solution we arrived at was Chemlife® 24.

“Chemlife 24 was a perfect fit with the on-demand finishing system we set up, and its properties allowed us to greatly simplify their finishing process,” he said.

“Between the equipment upgrades and Chemlife 24,” added Ruffino, “a step that was taking us 8 hours was reduced to 40 minutes. Overall we’ve seen at least a 50% improvement in production time.”

“Chemlife 24 allows us to use this type of system,” said Oscar Hernandez, “we’re circulating both white and clear and because the same catalyst is used for both, the number of steps involved have been reduced.

“In addition,” continued Hernandez, “the 24 hour pot life of the product ensures that there aren’t fluctuations in the sheen and helps offset any external factors that might cause problems in the finish such as humidity.”

“And, with Chemlife 24,” said Ruffino, “we have far less of an issue with formaldehyde off-gassing than we had with the product our previous supplier had us using. Between our distributor Famis, and Chemcraft we get the attention to detail, knowledge and support we need. It’s a relationship we can grow with.”

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

**EDITOR**

Edward Mason  
416-423-0150  
edward.mason@cfcfm.ca

**PUBLISHER and SALES**

Pete Wilkinson  
705-296-3030  
Fax: 705-296-3031  
pete.wilkinson@cfcfm.ca

**VICE PRESIDENT, ACCOUNTING,  
CIRCULATION and SALES**

Brian Jones  
905-405-1500  
Fax: 905-592-1880  
brian.jones@cfcfm.ca

**GRAPHIC DESIGN**

Allan S. Bates  
Green Apple Prepress  
allan.s.bates@sympatico.ca

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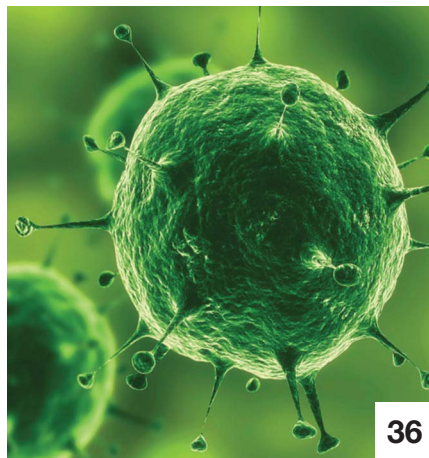
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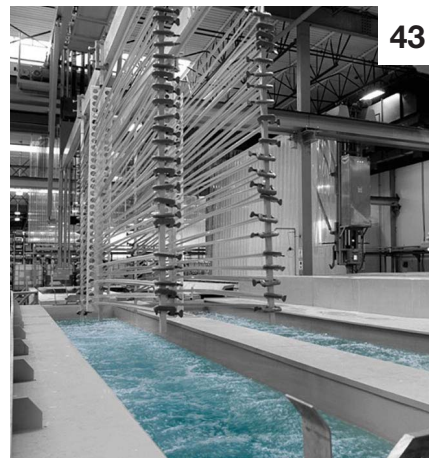
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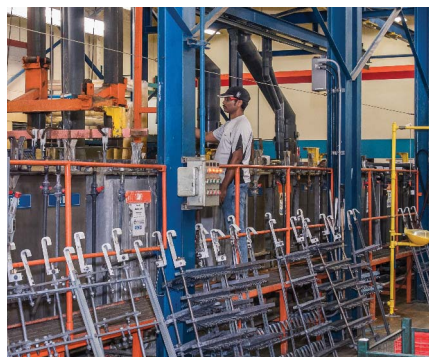
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# FABTECH 2017

## CCAI's FINISHING Pavilion Set as FABTECH Returns to Chicago

The FINISHING Pavilion at FABTECH 2017 will be the largest yet. FABTECH will play host to more than 1,700 exhibitors overall at McCormick Place in Chicago. CCAI has packed the FINISHING Pavilion with companies that will bring countless products, services, innovative ideas and equipment to manufacturers interested in all finishing technologies. You will find more companies providing more finishing products and services than any other event in North America. CCAI continues to prove that the FINISHING PAVILION at FABTECH is the premiere event for industrial finishers!

## FINISHING Pavilion Exhibitors (as of August 28)

Accudraft Paint Booths  
Acme Finishing Co. Inc.  
ACT Dust Collectors  
ACT Test Panels, LLC  
ADF Systems Ltd.  
Aesthetic Finishers, Inc.  
AFC Finishing Systems  
AkzoNobel Powder Coatings  
Alconox, Inc.  
Alliance Manufacturing, Inc.  
American Fabric Filter Co  
American Grinders Inc.  
American Industrial Sales, LLC  
Amiberica, Inc.  
AMOVA S.a.r.l.  
Apel International Inc.  
Argon Masking Corp.  
Assured Testing Services  
Axalta Coating Systems  
AZZ Metal Coatings  
B.L. Downey Co. LLC  
Baoji AATi New Metal Co., Ltd.  
Baril Coatings USA  
BASF Corp.  
BCI Surface Technologies Bulk Chemicals, Inc.  
BEKO Technologies  
BEX Spray Nozzles  
Blast Cleaning Technologies - div of Metcast  
Blast-One  
Bonding Solutions  
Brush Research Mfg. Co.  
Burleigh Industries LLC  
Caldan Conveyor A/S  
Calvary Industries Inc.  
*Canadian Finishing & Coatings Manufacturing*  
Caplugs, Inc.  
Carbit Paint Co.  
Cardinal Paint & Powder  
Cardinal Parts and Equipment, LLC  
Carlisle Fluid Technologies  
Castrol  
Cataforesis S.A. de C.V.  
Catalytic Industrial Systems  
Chemetall  
Chemical Coaters Assoc. Int'l  
ChemQuest Inc.  
Chemtec North America, LLC  
Chicago Coating Technologies  
Chris Plating  
ClearClad Coatings, LLC

Clemco Industries Corp.  
Col-Met Engineered Finishing Solutions  
Columbus Industries, Inc.  
Combustion and Systems, Inc.  
Coral Chemical Co.  
CPR Systems  
Custom Fabricating & Supplies  
Daifuku North America  
Decoral System USA Corp.  
DeFelsko Corporation  
Delfin Industrial  
Dinamec Systems  
Dipsol of America  
Divine Brothers Company  
DMP Corporation  
Dosatron International  
DST-CHEMICALS Inc.  
DuBois Chemicals  
Duroair Technologies Inc.  
Durr Systems, Inc.  
Echo Engineering & Production Supplies, Inc.  
Eisenmann Corp.  
Elcometer Inc.  
The Electrocoat Association  
ElektroPhysik USA Inc.  
Enhanced Powder Coating  
Enhancement Technologies/Sublitex-Miroglio  
Environmental Coatings Inc.  
EPSI Masking Co.  
Ervin Industries Inc.  
FANUC America Corporation  
Filtermedia SRL  
Fischer Technology Inc.  
Flex Trim USA  
Fluke Process Instruments  
Fostoria Process Equipment, div. of TPI Corp.  
Frost, Inc.  
Gema  
General Automatic Transfer Co.  
General Fabrications Corp.  
George Koch Sons, LLC  
Global Finishing Solutions LLC  
GMA Industries  
Goff, Inc.  
Graco Inc.  
Graphic Products  
Guspro, Inc.  
HafcoVac  
Hedson Technologies North America Inc.  
Henkel Corp.

Hentzen Coatings Inc.  
Heraeus Noblelight America LLC  
Herr Industrial, Inc.  
Hosco Fittings, LLC  
Houghton International - Surface Finishing  
Hubbard-Hall Inc.  
IFS Coatings, Inc.  
IHC Inc.  
Intek Corporation  
IntelliFinishing  
International Thermal Systems, LLC  
Intertek  
Iowa Area Development Group  
IST International Surface Technologies  
Jamestown Coating Technologies  
Jinzhou Honor Galvanized Equipment Co., Ltd.  
Keyland Polymer Material Sciences, LLC  
Klinger Paint Co  
Kolene Corporation  
Kyzen  
LDPI, Inc.  
Magic Rack/Production Plus Corp.  
MAXAIR Systems  
MetoKote Corp.  
Micro-Surface Finishing Products, Inc.  
Midwest Finishing Systems, Inc.  
Mighty Hook Inc.  
Mode Kartela Boya Ltd. Stl.  
Munters Corp.  
NikoTrack  
Nordic Air Filtration  
Nordson Corp.  
Northern Coatings & Chemical  
NorthStar Products  
Novacel  
Osborn  
Parker Ionics  
Patriot Metal Finishing System  
Pneu-Mech Systems Mfg. LLC  
Pollution Control Products Co.  
Polymer Molding, Inc.  
Poppelmann Plastics USA, LLC  
Porcelain Enamel Institute, Inc.  
*Powder Coated Tough*  
*Powder Coating*  
The Powder Coating Institute  
Powder Parts, Inc.  
PPG Industries, Inc.  
Pretreatment Equipment Manufacturing Inc.  
Proceco Ltd.

*Products Finishing Magazine*  
Protech Powder Coatings  
Quaker Chemical Corp.  
QuickLabel Systems  
Raptor Blasting Systems  
Richards-Wilcox Conveyor  
Rohner  
RollSeal, Inc.  
Ruwac  
SAMES KREMLIN  
Sankyo Rikagaku Co., Ltd.  
Sata Spray Equipment  
SciTeex Group  
Sculpt Nouveau  
Selas Heat Technology  
The Sherwin-Williams Co.  
sia Abrasives  
Sierra Paint Corporation  
Singer Safety Company  
Southern Systems, Inc.  
Specialty Aerosols/Raabe/Precision Color  
Spray Systems, Inc.  
Spraying Systems Co.  
SprayTech / Junair  
Stanza Machinery, Inc.  
Sunkiss Thermoreactors, Inc.  
SuperMax Tools  
Surface Armor  
SWECO  
System Technologies, Inc.  
Tanis Inc.  
Technotrans America  
Therma-Tron-X, Inc.  
Therica Equipment Co.  
Transmet Corporation  
Trimac Industrial Systems, LLC  
Uni-Spray Systems Inc.  
V & S Galvanizing LLC  
Valmont Coatings  
Vapor Technologies  
Venjakob North America, Inc./Nutro, Inc.  
Vitracoat America Inc.  
Vogel Industrial Coatings  
Vulkan Blast Shot Technology  
W Abrasives  
Wagner Systems, Inc.  
Webb-Stiles Company  
Westran Thermal Processing  
Yeuell Nameplate & Label

**November 6 - 9, 2017 | Chicago, IL USA**

## CCAI's Largest FABTECH FINISHING Educational Program Ever

CCAI continues to offer outstanding FINISHING technical sessions as a part of the FABTECH Educational Program. This year's agenda is the largest and most diverse ever, providing finishing professionals with a vast array of learning opportunities.

### Why Attend the Conference?

- FABTECH brings together experts from all aspects of the finishing industry resulting in a diverse and high-quality program.
- With 28 sessions comprised of 67 presentations, it is the single most comprehensive program in the industry.
- More than 80% of this year's sessions include new topics, making the CCAI FINISHING sessions a must attend program for both new and repeat FABTECH visitors.



CCAI is excited to once again offer **30% off ANY FINISHING educational session** by using code **FINISHING30** when you register. This offer is **ONLY** available for CCAI's FINISHING Sessions. Review the topics listed in the matrix below. Complete session descriptions are available on the FABTECH website under the EDUCATION tab at [www.fabtechexpo.com](http://www.fabtechexpo.com).

## FINISHING Conference Schedule-at-a-Glance

MONDAY, NOVEMBER 6			
TECHNOLOGY	8:00 AM – 10:00 AM	10:30 AM – 12:30 PM	1:30 PM – 3:30 PM
FINISHING		<b>C20: NEW</b> Fundamentals of a Successful Powder Coating Operation <b>B</b>	<b>C30: NEW</b> Fundamentals of a Successful Liquid Coating Operation <b>B</b>
		<b>C21: NEW</b> Fundamentals of a Successful Electrocoat Operation <b>B</b>	<b>C31: NEW</b> Fundamentals of Plating and Anodizing <b>B</b>
		<b>C22: NEW</b> Rack-up Profits with Productivity and Efficiency <b>I</b>	<b>C32: NEW</b> Blasting Your Way to Successful Metal Preparation <b>B</b>
TUESDAY, NOVEMBER 7			
TECHNOLOGY	8:00 AM – 10:00 AM	10:30 AM – 12:30 PM	1:30 PM – 3:30 PM
FINISHING	<b>C40: NEW</b> Fundamentals of Pretreatment <b>B</b>	<b>C50: NEW</b> Finishing End User Case Histories <b>I</b>	<b>C60: NEW</b> Understanding the Importance of Wastewater Treatment <b>I</b>
	<b>C41: NEW</b> Plating and Anodizing Industry Success Stories <b>I</b>	<b>C51: NEW</b> Mejorando el Desempeño Total Del Sistema de Pintura en Polvo <b>I</b>	<b>C61: NEW</b> Practical Approach to Optimal Powder Coating Operations <b>A</b>
	<b>C42: NEW</b> Solving 21st Century Coating Challenges with Durable Porcelain Enamel <b>I</b>	<b>C52: NEW</b> Finishing System Design Criteria <b>I</b>	<b>C62: NEW</b> Optimizing Liquid Finishes <b>I</b>
WEDNESDAY, NOVEMBER 8			
TECHNOLOGY	8:00 AM – 10:00 AM	10:30 AM – 12:30 PM	1:30 PM – 3:30 PM
FINISHING	<b>C70: NEW</b> Managing Perceptions for Your Finishing Business <b>I</b>	<b>C80: NEW</b> Achieving Consistent Quality Finishes <b>I</b>	<b>C90: NEW</b> Efficient Curing with Infrared <b>B</b>
	<b>C71: NEW</b> Mastering a Batch Finishing Operation <b>B</b>	<b>C81: NEW</b> See It. Touch It. Fix It. Identifying and Solving Finishing Defects <b>I</b>	<b>C91: NEW</b> Protecting Your Most Valuable Asset: Your Employees <b>I</b>
	<b>C72: NEW</b> Advancements in Ambient Pretreatment <b>I</b>	<b>C82: NEW</b> We've Got the Cure <b>I</b>	<b>C92: NEW</b> The Evolving Technology of Powder Coating <b>A</b>
THURSDAY, NOVEMBER 9			
TECHNOLOGY	8:00 AM – 10:00 AM	10:30 AM – 12:30 PM	1:30 PM – 3:30 PM
FINISHING	<b>C100: NEW</b> The ULTIMATE Powder Coating <b>A</b>	<b>C110: NEW</b> Got Corrosion? <b>I</b>	
	<b>C101: NEW</b> Electrocoating Equipment Considerations <b>B</b>	<b>C111: NEW</b> The Evolution of Architectural Coatings <b>I</b>	

Register now at [www.fabtechexpo.com](http://www.fabtechexpo.com)

# Buyouts, Mergers and Survival

A glance over this issue's News pages shows evidence of a remarkable summer. DuPont and Dow Chemical Co. finally cleared all approvals for their merger, Sherwin-Williams completed its purchase of Valspar, the Netherlands' IMCD bought venerable Canadian distributor L.V. Lomas, Axalta bought the UK's Spencer Group, Clariant and Huntsman courted each other ...

And that isn't all. I had to set up a special file to keep track, and there are a half-dozen other buyouts I didn't just list

in that paragraph. Nor did I include PPG's abandonment of its pursuit of a wary AkzoNobel, after three rebuffed offers.

The business news headlines are about the difficulties of Brexit for the UK, and the renegotiation of NAFTA on this continent. But when the corporate realignments run into the hundreds of billions in value, you have to consider there's an equally significant shift happening among the giants in our industry.

End-users is concerned, of course.

Consolidation reduces the choice of suppliers, even if regulators have okayed the deals. Both product selection and pricing can end up negatively affected by mergers and buyouts.

Still, reasons for these moves aren't hand to fathom. There are the costs of product development, at a time when regulation is becoming stricter in many places, or substances like titanium dioxide, long considered relatively safe, are under attack. Also, a company that has facilities in multiple countries has a better chance of commercializing product than one focused on a single nation or continent. Economies of scale enhance that chance.

And there are apparently simple but relentless shareholder demands for increased revenues and share values. Buying or merging with your competitor is a clear route to that, at least in the short term.

Finally, it's a reality that whatever the UK, the US or others might want to do to withdraw from global trade arrangements or adjust them, all markets are becoming more globalized, not less. Breaking into a new market can be tough, time-consuming and expensive; buying an existing company as your subsidiary is a lot easier.

Globalization is a fact of today's world. Whatever the outcome of the NAFTA negotiations that started in August, international trade patterns are a strong influence on anyone's business, even when your customer base is entirely or largely domestic.

Industry consolidation is therefore inescapable. There's nothing wrong with multinationals wanting to stay in business and prosper, and in some cases product selection becomes easier to access from a larger source, not harder.

But you might still want to examine your company's purchasing practices, and make sure just who you're buying from this month.

*Edward Mason*  
edward.mason@cfc.com.ca



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<b>BWAY</b> Round Paint, Cone Top, Oblong & Aerosol Cans, Steel & Plastic Pails	<b>Fuji Silysia</b> Silica Gel Flattening Agents	<b>Orion Engineered Carbons</b> Carbon Black Pigments
<b>Cardinal Color</b> Colour Dispersions	<b>HPF The Mineral Engineers</b> High Performance Fillers	<b>RÜTGERS Germany</b> Hydrocarbon Resins & Modifiers
<b>CQV</b> Pearlescent Pigments	<b>Huntsman Advanced Materials</b> Epoxy Resins & Curing Agents	<b>Southeastern</b> <b>Performance Minerals</b> Mica
<b>Evonik Hanse</b> Reactive Resin Modifiers	<b>ICG Specialty Chemicals</b> (ON & Western Canada) Polymer Additives	<b>TOYOBO</b> Adhesion Promoters
	<b>Monument Chemical</b> Polyether Polyols & Glycol Ethers	<b>WPC Technologies</b> Corrosion & Tannin Stain Inhibitors

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## DuPont and Dow Complete their Merger

Chemicals giants The Dow Chemical Co. (Midland, Michigan) and DuPont (Wilmington, Delaware) have announced that all required regulatory approvals and clearances have now been received, signaling a culmination date for the two companies' merger. The US\$130-billion deal was announced in 2015, but has had to clear various regulatory hurdles.



Edward Breen of DuPont (left) shakes hands with Andrew Liveris on completion of regulatory approval for the merger.

The merger closed on August 31, after the close of markets. The two companies' shares ceased to trade at that point, and on September 1, DowDuPont began trading on the New York Stock Exchange under the ticket DWDP. DuPont's CEO Edward Breen (left in picture) will serve as CEO of DowDuPont, and Dow CEO Andrew Liveris (at right) will fill the role of executive chairman.

Spin-offs are still expected to occur within 18 months, the company splitting into three different entities. The US Department of Justice and Federal Trade Commission approved the DowDuPont transaction in mid-June, on the condition that each company make divestitures, which had already been announced.

The Material Science Company will include DuPont's Performance Materials segment along with Dow's Performance Plastics, Performance Materials and Chemicals, Infrastructure Solutions and Consumer Solutions. These businesses include the companies' coatings-related unit, such as Dow Polyurethanes and Dow Coating Solutions.

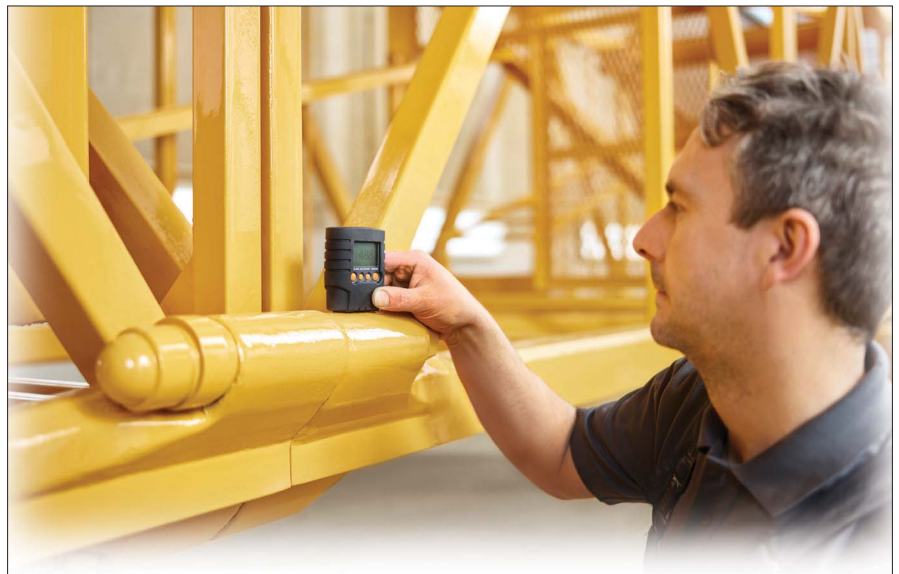
The Specialty Products Company will encompass DuPont's Nutrition and Health, Industrial Biosciences, Safety and Protection and Electronics and Communication segments, as well as Dow's Electronic Materials. The Agriculture Company will include both companies' seed and crop protection businesses.

Dow announced in February that it planned to sell its ethylene acrylic acid copolymers and

ionomers business to SK Global Chemical Co. Ltd. Dow and DuPont were the US' only suppliers of acid copolymers and ionomers, which are used in consumer product packaging and industrial applications such as metallized building panels. Seoul-based SK is a manufacturer of olefins, aromatics, performance chemicals and polymers, as well as synthetic rubber.

## IMCD Acquires L.V. Lomas

IMCD N.V., an international distributor of specialty chemicals and ingredients based in Rotterdam, The Netherlands, announced on August 4 that it would acquire 100 percent of the Canadian and US specialty chemicals and ingredients distributor L.V. Lomas. Lomas, IMCD said in a statement, is an excellent fit with the IMCD business model and immediately provides IMCD with a signifi-



## Maximize Profits by Monitoring Coating Thickness

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## Spotlight: **WOODWORKING MACHINERY & SUPPLY EXPO**



# Finishing Takes Center Stage at WMS

From conference sessions to technology and supplies on the floor, finishing will be big for the Woodworking Machinery & Supply Expo, which runs November 2-4 at the International Centre, in Mississauga, Ontario.

The Centre for Advanced Wood Processing, one of Canada's premier institutions for professional wood manufacturing training, will convene a roster of top finishing experts for conference tracks November 1 and 2. CAWP's participation is only fitting, because finishing has such a key role at WMS 2017. Everything from finishing troubleshooting, surface preparation and sanding, to developments in water-based, urethane, and polyurethane coatings, as well as automated finishing equipment advances will be covered.

The show will include all the major suppliers of abrasives, machinery, and coatings. New at WMS 2017 are IC&S ILVA, the North American operation of Italy's source for fine European finishes; and Laguna, widely known for its CNC machines, but also a big seller of smaller and medium-sized wide belt sanding machines.

Also new at WMS after a hiatus is Biesse America, which has snagged technology awards for its advanced and highly automated sanding systems that may be even better than sanding by hand.

### Sample of finishing related equipment and supply exhibitors participating in WMS 2017, November 2-4

*3M Canada Company*  
*AbrasiEuro*  
*Akhurst Machinery*  
*Axalta Coating Systems*  
*Biesse*  
*CanLak*  
*Dynabrade*  
*IC&S Ilva*  
*Katilac*  
*Klingspor*  
*Laguna*  
*Normand Woodworking Machinery*  
*Performance Abrasives*  
*Richelieu*  
*Royal City Paint*  
*SCM Group Canada*  
*Sherwin Williams*  
*SIA Abrasifs*  
*Taurus Craco*  
*Venjakob North America*

Abrasives, of course, are the mainstay of wood surface preparation, and suppliers are plentiful at WMS 2017: 3M Canada Company, AbrasiEuro, Dynabrade, Klingspor, Performance Abrasives, Richelieu, and SIA Abrasifs.

On the equipment side, you will find on the floor sanding and finishing equipment from Akhurst Machinery, Normand Woodworking Machinery, SCM Group Canada, Venjakob North America, and Taurus Craco. In fact, Taurus Craco is sponsoring a half-day event on November 1 focusing on wood surface preparation.

Among coatings suppliers are Axalta (formerly Valspar), CanLak, ICA North America, Katilac Coatings, Royal City Paint, and The Sherwin-Williams Company.

Visit [www.WMSCanada.ca](http://www.WMSCanada.ca) for registration information about industry education taking place at WMS 2017.

Use code **WMS17CFCM** when registering to receive **25% OFF** any education session or conference pass.



# WMS 2017

Woodworking Machinery & Supply  
Conference and Expo

## NOVEMBER 1

### WMS Finishing Program

Focus: Surface Preparation

Hosted at: Taurus Craco Machinery

Moderated by:

Centre for Advanced Wood Processing

University of British Columbia

## NOVEMBER 2

WMS Finishing Materials & Techniques Conference Track

Focus: Coating & Curing

8:20 – 9:00 a.m.

Water-based & Urethane Developments

9:00 – 9:50 a.m.

Research in Atomization and Grain Raising

10:00 – 10:50 a.m.

Trends in Cabinet Finishing

11:00 – 11:50 a.m.

Automation in Finishing Equipment

### Luncheon Keynote:

Sylvain Garneau, CEO Group Lacasse

1:00 – 2:15

Trouble Shooting Finishing Problems

2:30 – 5:00 p.m.

ProPly Custom Plywood Plant Tour

5:00 – 6:00 p.m.

WMS Networking Reception

## WMS PRODUCTS PREVIEW

### EXEL NORTH AMERICA

Nanogun Airmix Manual

Electrostatic gun is designed for applying solvent-based materials.

Available in 2 pressure calibrations, 120 and 200

bars (1740 and 2900 psi), Airmix technology offers productivity and outstanding transfer efficiency of 93 percent. Electrostatic charge delivers more paint savings. It's lightweight and ergonomically designed.



brushing line complete with robotic flipping device to do the second side.



### KATILAC COATINGS

In addition to its standard conventional acid cured line of wood coatings, Katilac will be focusing on its "greener" options: a line of formaldehyde free solvent based pre-cat and conversion varnishes; its new water-based universal white primer; and a newly redesigned Aquavar II clear water-based finished.

leading technology (Axalta recently acquired Valspar) in kitchen cabinets, furniture, millwork, flooring and exterior siding as well as the latest color trends from its International Color Design Centre.



### 3M CANADA

3M Cubitron II paper sanding discs represent an "advancement in abrasive technology featuring triangular shaped ceramic mineral." Rather than grinding the abrasive material, it is cultured into uniformly pointed grains. As the triangular shaped grain wears, it continually fractures to form sharp points that slice through the substrate, wear evenly and provide extra-long life and consistency, says 3M. Cutting faster, it increases throughput with faster sanding and more parts can be completed before the disc is discarded.

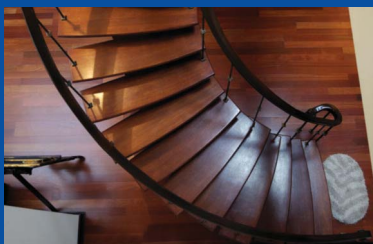
### BIESSE NORTH AMERICA

New at WMS 2017 is Biesse, whose Viet line of wide belt sanding systems are well-regarded. Biesse has gained acclaim for its high tech Opera R,

the only automated solution for sanding of MDF doors with flat center panel as well as removal of cross grain scratching of



solidwood doors. It also offers an innovative planing, sanding and



### AXALTA COATING SYSTEMS

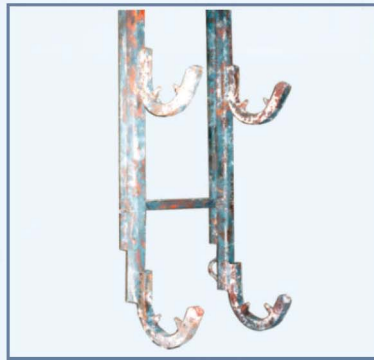
The Axalta team will provide an in-depth look at its new industry



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cant presence in Canada and a further enhanced position in the US.

Established by the late Lloyd Lomas in 1960, and based in Toronto, the Canadian firm is active at six locations in Canada and the US. Until now, it has remained family-owned.

Over time, it has become is one of North America's leading distributors of specialty chemicals, ingredients and raw materials. It claims distinction based on its experienced and qualified professionals that provide its customers with advanced technical support and market intelligence.

In 2016, it generated revenue of C\$383-million and realized a normalized EBITDA of C\$18-million. It has about 280 employees.

IMCD had sales of 1.715-billion euros in 2016. It has about 1800 staff operating in 40 countries.

IMCD says L.V. Lomas, with its asset-light business model and long-term relationships with leading global chemical and ingredient suppliers, has an excellent fit with the buyer's business model and strategy, and significantly strengthens IMCD's position in North America.

Piet van der Slikke, CEO of IMCD, commented: "This is an important step in the further development of IMCD's North America region as it not only expands our geographical presence into Canada in all core markets but also further strengthens our US organization and coverage."

Rand A. Lomas, chairman of L.V. Lomas, added: "IMCD will enhance our ability to provide our customers with a more extensive specialty product portfolio and will further develop our depth of technical expertise and innovation. My family built L.V. Lomas over several decades into an organization driven by teamwork, innovation and a dedication to excellence in all that we do. This is a vision closely shared by IMCD and together we will become a market leader in North America for the sales, marketing and distribution of specialty chemicals and food and pharmaceutical ingredients."

The acquisition will be paid from available cash and existing bank facilities. The closing of the transaction is subject to customary regulatory review and is expected at the end of August.

Lloyd Lomas founded LV.Lomas in 1960.

## Axalta Buying Spencer Coatings Group

Axalta Coatings Group has entered an agreement to acquire the Spencer Coatings Group, a British manufacturer of industrial coatings for heavy-duty equipment, general industrial, oil and gas,

and glass coatings segments. Financial terms of the transaction were not disclosed.

The Spencer Coatings Group, established in 1909, claims to be the largest independent industrial coatings manufacturer in the UK. Spencer's decades of success are attributed to their high quality, durable products, with a reputation of unparalleled customer service. Its products include Acothane polyurethanes for internal and external pipeline coatings, Corroless coatings which provide a range of highly efficient corrosion control solutions for a variety of steel structures, and water-based coatings for both glass and general industrial segments.

"We are very proud to welcome the Spencer Coatings Group into the Axalta family," said Michael Cash, Axalta's senior vice-president and president, Industrial Coatings. "Spencer's industry-leading product technologies fit very well within Axalta's current industrial portfolio. With the acquisition of Spencer, we will have the opportunity to take some incredibly innovative products and expand into new geographies, as well as provide our combined industrial customers with additional product technologies.

We both share a strong commitment to our customers and to the Industrial Coatings markets in which we participate."

"We have spent the past twenty years building a specialized industrial coatings business with innovative coating systems which are supplied to customers in the UK and overseas," said Phil Buck, Spencer Coatings Group's managing director. "To continue to grow and provide confidence to our customers and employees, we felt that the Spencer Coatings Group would benefit from being part of a larger coatings company that would enable us to accelerate our growth plans. Axalta Coating Systems, with their global footprint and commitment to innovation, will provide the best home for our company and we are very excited about the prospects for both companies."

### Sherwin-Williams Purchase of Valspar Creates World's Largest Coatings Supplier

Sherwin-Williams Co. has received regulatory approval from both the US Federal Trade Commission and the Canadian Competition Bureau to complete its acquisition of Valspar Corp. The FTC

and CCB were the only remaining regulatory approvals required to close the acquisition. The deal is worth US\$11.3-billion.

Sherwin-Williams and Valspar have complementary paints and coatings offerings, the company added, and this combination enhances Sherwin-Williams position as a premier global paints and coatings provider.

Meanwhile, Axalta Coating Systems' purchase of Valspar Corp.'s North American Wood Coatings business is completed. The purchase price was \$420-million.

The acquisition, announced in April, closed hours after Sherwin-Williams Co. completed its purchase of Valspar. Valspar divested the business in connection with the antitrust approval of its acquisition by Sherwin-Williams.

Valspar's North American Industrial Wood Coatings unit had revenues of about \$225-million in 2016. It produces coatings and finishes for OEM and industrial markets under the Valspar Wood, Zenith, Lustre Lac and Grainstone labels. These are used for products such as kitchen cabinets, furniture, hardwood floors, automotive finishes, pianos and hockey sticks. Axalta, which

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has about 13,000 employees, furnishes OEM coatings for light vehicles and commercial vehicles, and refinish applications for electric motors, buildings and pipelines.

### Clariant and Huntsman Close in on Merger

Clariant (Muttenz, Switzerland) and Huntsman International LLC (The Woodlands, TX) have

presented a shareholder update on their proposed merger. Huntsman also recently announced an initial public offering on the New York Stock Exchange for Venator, a subsidiary company that makes resins and curing agents. The IPO is being valued at US\$500-million.

The merger is proceeding as intended, the companies stated, with continuing signs of strong progress toward the slated closing date, which is

projected for December 2017 or January 2018.

For the foreseeable future, both firms have agreed to a joint strategic direction in order to create short- and long-term value. This will be based on a focus on higher growth, as well as higher margin businesses.

There will also be steps taken to ensure organic sales revenue growth of two percent annually at approximately 20 percent EBITDA margin, with synergies totaling to an excess of \$400-million as well as \$25-million in terms of a tax saving target.

Complementary benefits, they state, will come as a result of the companies' performance products, care chemicals and natural resources. In total, these represent roughly 35 percent of the combined sales for HuntsmanClariant, as well as a broad surfactants portfolio.

Both companies have similar EBITDA margins at 17.2 percent, including synergies.

There will be opportunities for growth, the partners say, including cross-selling and new product applications. HuntsmanClariant will be utilizing a wide number of its assets, while also moving into specialties and more differentiated applications. Both complementary assets and geography will provide expanded global reach.

For both companies, the majority of future investments will be geared toward growth. As for other plans, formulation- and application-based segment niches will be expanded, as well as bespoke polyurethane systems, high-end composites and customer-oriented products.

### Lonza Takes 2017 Ringier Award

Lonza, a supplier of biocides, has been awarded the 2017 Ringier Technology Innovation Award for its Proxel LS Preservative. The Ringier Technology Innovation Award for the coatings industry is a professional award in China that recognizes products or technologies contributing to environmental protection and sustainable development. This Lonza biocide was one of 9 winners in the additives category.

Proxel LS Preservative is a next-generation wet-state preservation product that offers MIT-free broad spectrum performance at dosages that do not invoke the EUH208 allergen phrase. This preservative is designed to address the challenging global regulatory requirements while providing robust protection. Proxel LS Preservative is also expected to be in line with China's upcoming green label regulation proposal.

In accepting the award at a ceremony on 24

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May 2017 in Shanghai (CN), Sandy Huang, Business Director of Coatings and Composites, Lonza China, said: "We are committed to the development of new actives and formulations to align with the ever changing stringent global regulations. Guided by market demands, we collaborate with our customers to continue to innovate and bring new products to the market."

### NACE Acquires Master Painters Institute

NACE International Institute (NII) has acquired the Master Painters Institute (MPI), the primary paint performance certification organization in North America. In this new partnership, NII and MPI aim to provide a single source for information on architectural and industrial coatings, which will, they intend, advance the quality of training and certification opportunities for commercial and industrial coatings professionals worldwide.

"Our organizations are a natural fit," said NII president Chris Fowler. "The NACE Institute will bring to MPI its resources in the areas of standards, training and certification, which will benefit the quality of the commercial coatings

profession while merging the coatings expertise of professionals on both the commercial and industrial side."

The partnership will bring the expanded resources of the NACE Institute to MPI while leaving MPI to continue to operate in the same manner it has for years. MPI's products and services, which include the MPI Approved Product Listing, product testing, training and standards, will remain the same.

"MPI and the NACE International Institute share the same commitment to quality and professionalism," added Helena Seelinger, executive director of the NACE International Institute. "We are happy to be joining forces with MPI to support industry owners in their search for asset protection by qualified coatings products, while also bringing high-quality education and certification opportunities to our combined stakeholders. Demand for commercial coatings inspectors in Canada, the US and abroad is increasing, and NII and MPI are working together to cultivate qualified inspectors to meet these needs."

Based in Vancouver, BC, MPI's employees are remaining in their roles to support the

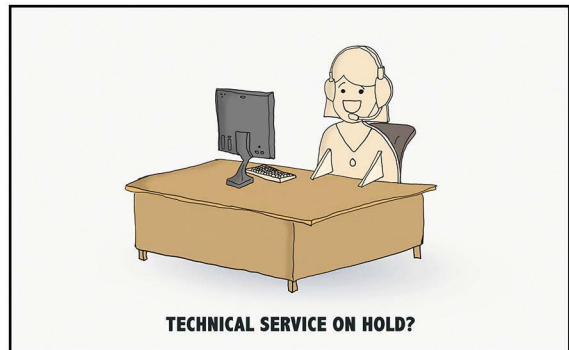
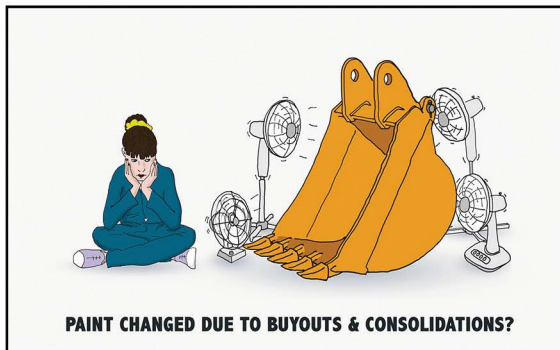
organization without any need for changes to current operations.

The NACE International Institute was formed in 2012 to focus on certification and activities to advance the corrosion profession. The Institute supports the growth and quality of certification for the corrosion-control field, improves the business conditions of the industry, and advances knowledge through certification programs that promote public safety, protect the environment and reduce the economic impact of corrosion.

### TiO<sub>2</sub> Comes Under European Regulatory Scrutiny

Titanium dioxide has long been seen as one of the more benign substances used in the paint and coatings industry. The industry uses an estimated 60 percent of global production of this naturally occurring pigment.

Now, airborne TiO<sub>2</sub> dust has come under suspicion as a possible carcinogen in Europe. The European Chemicals Agency's Committee for Risk Assessment has concluded that the available scientific evidence meets the criteria in the CLP Regulation to classify titanium dioxide as a



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substance suspected of causing cancer through the inhalation route. The opinion will be formally adopted later by written procedure, or at ECHA's September meeting.

The committee has announced it assessed the carcinogenic potential of titanium dioxide against the criteria in the Classification, Labelling and Packaging (CLP) Regulation and, having considered the available scientific data, concluded that it meets the criteria to be classified as suspected of causing cancer (category 2, through the inhalation route).

The committee also concluded that there was insufficient evidence to classify titanium dioxide in the more severe category for carcinogenicity (category 1B) as was originally proposed by the dossier submitter, France. This more severe category refers to a substance which is presumed to cause cancer. There is also no suggestion that TiO<sub>2</sub> is carcinogenic when actually used in paint.

Following adoption, the opinion will go through a normal editorial check before it is sent to the European Commission for final decision making. The opinion will also be made available on ECHA's website at the same time. RAC first discussed titanium dioxide at its meeting in March 2017.

RAC, the statement said, provides an independent scientific opinion on the hazard classification of the substance. The classification is based solely on the hazardous properties of the substance, and does not take into account the likelihood of exposure to the substance; and it therefore does not address the risks of exposure.

The American Coatings Association issued a statement on June 12 asserting that the recommendation is unfounded. "There is considerable industry concern that the basis for the opinion is flawed and does not inform on risk to humans," it says. "It is important to consider that the risks profiled are not attributable formulated products, like paint, where TiO<sub>2</sub> dust is embedded in the mixture."

In the coatings industry, TiO<sub>2</sub> is most notably used as a white pigment, in industrial and protective coatings as well as architectural paints. The ACA has repeatedly expressed concerns that all paint products containing the substance could be labeled as carcinogens under the EU's classification system.

The Titanium Dioxide Manufacturers Association (TDMA), which represents the TiO<sub>2</sub> industry, also issued a statement expressing its disappointment in the recommendation.

"The scientific evidence is clear: There are no grounds for classifying TiO<sub>2</sub> as carcinogenic for humans by inhalation," said Robert Bird, chairman of the TDMA. "Also, classification would do nothing to increase the level of protection of human health and the environment, which is the whole point of the labelling and classification system."

## Cloverdale Paint Opens New Laboratory

Cloverdale Paint Inc. has opened a new coatings R&D laboratory in Surrey, BC. The new facility is charged with developing liquid coatings technologies for the company, with an emphasis on waterborne and low-VOC technologies.

The 7,200-sq ft addition to the existing solvent-based and OEM product development



Cloverdale's new laboratory in Surrey, BC.

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laboratory will provide the necessary space for research chemists to conduct development work. It includes an application laboratory in which chemists, sales and marketing staff, along with customers, can experience and provide feedback on existing and new coatings technologies. It has separate raw material storage areas and a scale-up mixing room, and also allows for improved office space and meeting room capabilities.

Tom Snider, vice-president of research & development at Cloverdale Paint, commented: "This creative environment for chemists, technicians and specialists will foster the development of innovative products well into the future."

### **Evonik Reorganizes Crosslinkers Line**

Evonik Industries AG has combined its isophorone chemistry and epoxy curing agents business in its new Crosslinkers Business Line. The newly formed Business Line, headed by Min Chong, will be part of the Resource Efficiency Segment.

With the acquisition of Air Products' epoxy curing agents business and Evonik's long-time experience in isophorone chemistry, Evonik has a broad technology platform and expertise in crosslinker technology. The new Business Line offers products and competences for coatings and adhesives, civil engineering as well as for high-performance elastomers and composites.

Evonik claims to be the pioneer in isophorone chemistry and covers the entire value chain: isophorone, diamine, as well as di-isocyanate and polyisocyanate.

Additionally, the product portfolio contains a full toolbox of amine curing agents for ambient and heat cure applications. These products are mainly used in industrial applications because of their mechanical strength, durability, chemical resistance, and excellent adhesion properties.

"Combining both businesses to one new unit gives Evonik the chance to offer a variety of products for epoxy and polyurethane applications under one roof now – be it basic amines, isocyanate monomers, polyisocyanates or formulated epoxy hardeners," said Dr. Claus Rettig, chairman of the board of management, Evonik Resource Efficiency GmbH.

"Apart from the organizational change, safety and meeting the needs of our customers continues to remain our first priority," added Min Chong, head of the new Business Line Crosslinkers. "We see ourselves as a partner; interested in developing next-generation product solutions

together with our customers. A broad technology platform serves as the basis for further growth and successful collaboration."

The Business Line has a total of about one thousand employees worldwide. Production facilities in Europe, North America, and Asia ensure optimal proximity to markets and customers and open up attractive growth opportunities.

The Crosslinkers portfolio contains these brands: Amicure, Ancamide, Ancamine, Ancarez, Ancatherm, Anquamine, Anquawhite, Curezol, Dicyanex, Eplink, Epodil, Hybridur, Imicure, Nourybond, Sunmide, VESTAGON, VESTAMIN, VESTANAT, and VESTASOL.

### **AkzoNobel Purchases UK's Flexcrete**

AkzoNobel has acquired UK-based Flexcrete Technologies Ltd. and signed an agreement to acquire French manufacturer Disa Technology (Disatech). The deals, the company says, will further strengthen AkzoNobel's global leadership position in industrial coatings and aerospace and automotive coatings.

Flexcrete Technologies manufactures products primarily used for the protection and repair of concrete substrates. The acquisition allows AkzoNobel to expand its offering in several key industrial markets, including downstream oil and gas and chemical processing, commercial infrastructure, power, water and waste water, and mining and mineral processing.

Disatech supplies adhesive films used in the aerospace, transportation and industrial equipment sectors. Headquartered in Limoges, the company specializes in the manufacture of self-adhesive vinyl, polyester and polycarbonate films used on aircraft, vehicles, agricultural machinery and other equipment, and is the leader in aerospace technical marking systems.

Commenting on the agreements, former AkzoNobel CEO Ton Büchner said: "Both acquisitions support our strategy of investing in growth and innovation and are strongly aligned with our growth strategy. They will expand our existing product and service offering, enabling us to deliver significant benefits to our customers. These deals also offer us great opportunities to pursue further coatings innovations in a number of our core markets."

The signed agreement between AkzoNobel and Disatech is subject to regulatory approvals.

### **LANXESS Reorganizes Following Chemtura Purchase**

Following its acquisition of Chemtura in April, LANXESS has revised its organizational structure. The two business lines Rubber Additives Business (RAB) and Colorant Additives Business (CAB) now both belong to the Rhein Chemie business unit. LANXESS says its goal with this restructuring is to adopt a more targeted approach with an even stronger customer focus. The unit will in the future cover specialty business with active ingredient compounds, specialty chemicals and processing aids for the rubber, plastics and colorants industries.

"The two business lines have similar requirements and the realignment caters to our specialized business, which sometimes involves small volumes," says Philipp Junge, who has been head of the Rhein Chemie business unit since April 2017. Junge is also in charge of Rubber Additives Business, having been responsible for this business line since the end of 2014.

The new head of the Colorant Additives Business is Dominik Risse, who is returning to the operational side of the business from the Mergers & Acquisitions group function. He was previously responsible for LANXESS's colorants business in his role as head of marketing.

The name Rhein Chemie, which is 125 years old, will remain the umbrella brand for the rubber and colorants business. The lubricant and flame retardant additives business, meanwhile, has been transferred to LANXESS's Additives business unit. Together, these two business units form the Specialty Additives segment in the company's extended organizational structure.

The Rhein Chemie business unit currently has around 1,000 employees and supplies more than 2,000 products to over 3,000 customers in 120 countries across the globe. It is split into two business lines: RAB supplies the rubber industry with a broad range of pre-dispersed chemicals, processing promoters, vulcanization and filler activators, anti-sun check waxes, release agents, tire marking inks and high-performance bladders.

### **UV+EB Conference Program Announced**

The full program for the UV + EB Packaging Conference this October has been announced. The event is on Tuesday, October 24, at the Double Tree by Hilton Hotel, close to Philadelphia Airport. The program now includes a special session organized by the Foil & Specialty Effects Association (FSEA).



Other sessions will be: Printing Inks for Food Contact Materials at Nestlé (Amaury Patin, Nestlé Research Center); New Regulatory Reforms: From Broad Strokes to Small Details (Eric F. Greenberg, Eric F. Greenberg, P.C.); Are You Being Told the Truth About Food Packaging Compliant Ink? (Julie Cross, Domino Printing); UV LED Low Migration Laminating Adhesives for Flexible Packaging (Jennifer Heathcote, Phoseon, Catherine Heckman, Ashland, Jake Staples, Ashland); EB Inks for Food Flexible Packaging (Im Rangwalla, ESI); Water-based Energy Curable Compositions for Graphics Applications, Including Food Packaging and Inkjet Inks (Jo Ann Arceneaux, Allnex USA, Inc.); UV Ink jet Inks for Packaging (Tom Molampy, AGFA); EB Inkjet Case Study (Karl Swanson, ebeam Technologies); Regulatory Panel Discussion (Amaury Patin, Nestlé, Eric F. Greenberg, Dr. Greg Pace, Sun Chemical, and more); Low Migration Panel Discussion (Julie Cross, Domino, Jim Bishop, Sun Chemical, Eric F. Greenberg, and more).

The program for the FSEA Conference Track: Cold Foil Technology – UV Cured Adhesives and Foils (Mike King, Eagle Systems, Inc.); Analysis of Specialty UV Coatings for Packaging and Printing (Helen Rallis, Sun Chemical Corp.); Applications For LED UV Curing for Off-line and In-line UV Coatings (Jennifer Heathcote, Phoseon Technology); Impact of High Visibility Enhancements On Shelf Presence [Foil and Coatings] (Jeff Peterson, Foil & Specialty Effects Association).

The RadTech Fall Member Meeting will be held the day after the Conference, on October 25.

### Enbridge Begins Pipeline Rehabilitation



The main pipeline will be coated with 14 mil epoxy.

Energy giant Enbridge Inc. has commenced work on a \$6.5-billion project that will replace over 1,000 miles of its Line 3, a crude oil pipeline the company says is at risk for corrosion due to failures in its protective coating. The first segment to be built in the Canadian section of the project will comprise about a quarter of the total length, starting at the line's origin in Hardisty, AB. The pipeline carries crude from the Alberta oilsands to Wisconsin, via Saskatchewan, Manitoba, a small section of North Dakota and Minnesota.

In replacing the original Line 3, which went into service in 1968, Enbridge will also be increasing the pipeline's capacity; the original 34-in. line will be replaced with a new 36-in. line that's expected to nearly double the volume of oil transported daily. Line 3 was originally built to transport 760,000 barrels per day of light, medium and heavy crudes.

In 2010, Enbridge voluntarily limited the line to 390,000 barrels per day of light crude only. The new pipeline is expected to initially transport 760,000 barrels per day again. Its full design capacity will be 844,000 barrels per day. Line 3, unlike a number of the company's other pipelines, was protected with a tapecoat, which has disbonded from the pipeline steel.

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Enbridge says the coating failure has sped corrosion rates, causing concerns over deterioration in the line.

The company plans to construct the new pipeline of high-strength GX-70 steel, with a nominal wall thickness of 0.515 in. (with stretches made of thicker pipeline when necessary, such as segments installed via road bore or horizontal directional drilling). The mainline will be coated with 14 mils of epoxy bonding, and stretches installed via trenchless methods will be coated with 50 mils.

### **RPM Buys Key Resin**

RPM International Inc. (Medina, OH) has purchased Key Resin Co. (Batavia, OH), a manufacturer of polymer flooring and coating systems. Key Resin will become part of RPM's Euclid Group, with its reported net sales of \$25-million per year. While the terms of the transaction have not been disclosed, RPM says it is expected to be accretive to earnings within one year.

Key Resin produces and markets wall coating systems, terrazzo flooring and resinous flooring, maintenance products and concrete repair materials for industrial, institutional and commercial applications. The company focuses on the North American market, and sells directly to contractors and facility owners alike. Key Resin will be run by Jeff Cain, the second generation of family involvement in the business, along with his management team.

The Euclid Group manufactures specialty chemical products for both global construction and engineering industries. Its collective product portfolio includes concrete sealers, sealants, protective coatings, flooring systems, waterproofing membranes and a number of other construction products.

"Key Resin fits right within our sweet spot for acquisitions," Frank C. Sullivan, RPM chairman and chief executive officer, said in a statement. "It's a well-run, family-founded specialty coatings business that is a market leader.

"This transaction expands our Euclid Group's flooring systems product offering and market share in North America, and positions it as a significant player in terrazzo flooring."

RPM reports \$5-billion in annual sales.

### **COROB Buys Novaflo Systems**

COROB (San Felice, Italy) has acquired Novaflo Systems Inc., based in Prescott, ON. Novaflo Systems Inc. provides equipment for all segments

of gravimetric fluid and paste dispensing and blending processes. It serves the paint, printing inks, packaging, coatings, dye, oil, adhesives, fragrances, silicone and chemical markets.

The acquisition, which closed on August 1, will strengthen the position of both companies, COROB stated in a press release. Novaflo Systems Inc. brings assets to the combined companies' in-plant offering with its background in factory and batch production capabilities.

Fernando Bertoni, CEO of COROB, said, "We are excited about the combination of COROB and Novaflo Systems Inc. With the transaction complete, we can now move forward quickly to realize the substantial benefits that the combined businesses will bring to our customers, employees and shareholders. I am pleased to welcome Novaflo to the global COROB team. The addition of their strong business, complimentary technologies and highly differentiated products is expected to contribute significantly towards our strategic growth goals for COROB."

Bertoni joined COROB in July 2017 as the company's global CEO after spending nearly two decades with General Electric Co. in a number of operating and functional roles, both global and regional.

Customers, he added, will benefit from having a provider that can supplement both point-of-sales solutions, all the way up to fulfilling factory production and productivity requirements. This new contact point for customers, the newly formed COROB-Novaflo Systems Inc., will be key to faster rollouts and essential in accessing know-how and expertise derived from operating in more than one sector of the tinting and dispensing processes.

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

### **Axalta Acquires Plascoat Systems**

Axalta Coating Systems has acquired Plascoat Systems Ltd. a supplier of thermoplastic powder coatings, from its parent company, International Process Technologies (IPT) Ltd. Financial terms of the transaction were not disclosed.

Established in 1952, Plascoat pioneered some of the science behind the formulation, manufacturing, and application of thermoplastic polyolefin coatings. Plascoat's product portfolio includes Plascoat PPA 571, a flexible, tough and highly durable plastic coating used for a wide variety of outdoor applications; Talisman, a hard wearing, tough plastic coating used extensively in the dishwasher basket coating market; and

Plascoat PPA 571 Aqua, a plastic coating for potable water pipes. It also owns other coatings designed to meet high industry standards.

"Over the last 65 years, Plascoat has led the way in developing innovative, environmentally responsible coatings that meet the high corrosion resistance demands of customers around the globe," said Michael Cash, Axalta senior vice-president and president, Industrial Coatings. "We look forward to bringing this knowledge and expertise into Axalta to augment our existing thermoplastic powder coatings business and provide even more innovative products and solutions to our customers."

"This is a great opportunity for Plascoat to grow as a business and advance our offerings while joining a company that places great value on their customers, new product development and impact on the environment," said Jeremy Stoke, chairman, IPT Ltd. "We look forward to our future with Axalta."

As part of the transaction, Axalta will acquire both Plascoat manufacturing facilities in Farnham, England and Zuidland, Netherlands.

### **Nagase America Purchases Fitz Chem**

Nagase America has acquired US-based specialty chemicals distributor Fitz Chem Corp. This acquisition, Nagase says, advances its strategy for growth in the specialty chemicals market in the US, and is a step towards implementing its vision of becoming a leading national specialty chemical distributor. Activities for integration will start immediately. Fitz Chem, as a wholly-owned subsidiary of Nagase America, will continue to conduct business under the name Fitz Chem LLC.

Fitz Chem Corporation is a specialty chemical distributor with over US\$60-million in annual revenue, focused on the coatings, adhesives, sealants, and elastomer (CASE) markets, as well as the plastics and personal care markets. NAGASE is a supplier to these markets in Japan, with a broad portfolio of both distributed products and proprietary products. NAGASE also has an expanding presence in China, Southeast Asia, India, the Middle East, and other areas.

"This acquisition allows NAGASE to combine its technical expertise and existing supplier and customer relationships with those of Fitz Chem, creating opportunities for sustained growth in the US market," said Bradley Hilborn, director of sales and marketing at Nagase America. "Both organizations are committed to helping suppliers

and customers exceed their goals.”

“Continuity was extremely important to our Fitz Chem management team,” said Robert Becker, chairman of Fitz Chem. “We wanted a long-term partner that focused on providing growth opportunities for our employees, one that would not create any conflicts for our suppliers, and lastly one that would provide additional resources to assist our customers in growing their businesses. In teaming with NAGASE, we strongly believe we will be able to achieve these objectives. It truly is incredibly thrilling to join forces with a company like NAGASE and create a win-win-win for our employees, customers and suppliers. NAGASE and Fitz Chem’s values and passion to succeed are unequivocally aligned.”

## PEOPLE

### Orion Carbons Names Technical Market Manager

Carlos Hernandez has joined Orion Engineered Carbons as technical market manager, coatings and specialty applications, Americas region. In this role he will develop new products and



Orion's Carlos Hernandez

applications for customers and collaborate with them to resolve technical issues.

He is a 30-year veteran of the coatings industry, with expertise in color

dispersion for architectural, automotive and industrial paints and coatings. Most recently, he served nine years as technical manager for Elementis Specialties Inc., where he produced additives and color dispersions for automotive, marine, adhesive and sealant, architectural, industrial, furniture and UV applications.

Hernandez earned his Bachelor of Science and Master of Science degrees in Chemical Engineering from the Universidad Nacional de Columbia in Medellin, Antioquia, Columbia.

### TCI Appoints Director of Manufacturing

TCI Powder Coatings, a subsidiary of RPM International Inc., has named Dale Blackwell as direc-

tor of manufacturing, effective May 1. He brings over 20 years of manufacturing and operations experience to this position with TCI.

Prior to this position, Blackwell spent 16 years managing various powder manufacturing locations with Valspar. He has also worked for Drexel Chemical Co. and A&L Analytical Labs.

### Azelis Appoints Ellen as CASE Sales Manager

Azelis Canada Inc. has appointed Christopher (Chris) Ellen as its new sales manager for the C.A.S.E. Division (Coatings, Adhesives, Sealants, and Elastomers). He joins Azelis Canada with over 14 years of sales management experience in the supply of specialty chemicals to the C.A.S.E. markets, as well as the rubber, plastics, surface treatment and metalworking manufacturing sectors. He previously held North American vice-president and director positions in sales and marketing at raw materials suppliers.

Azelis is a global supplier of specialty chemicals, based in Antwerp, Belgium. Its Canadian offices are in Brampton, ON.

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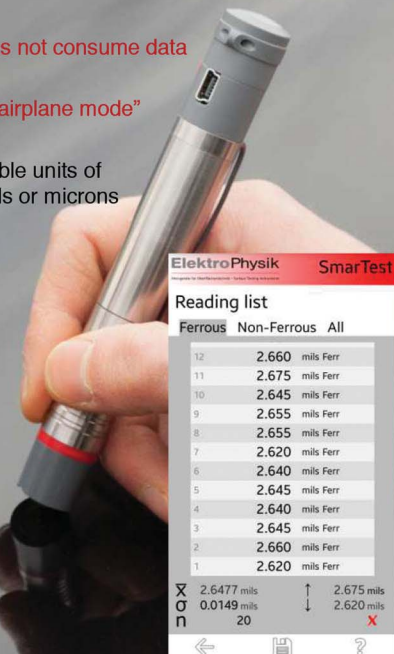
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### Dynapower Names Group of Executives

Dynapower, which manufactures power electronics for metal finishing, electro-winning for mining, and electrochemical production, has named a group of new executives. Bob Gladden is now vice-president of sales and business development for Power Systems.

In addition to Gladden's appointment, the company has strengthened its industrial sales team with an internal realignment of resources. Dev Massimi has been named Industrial Sales manager; Matt Paul has been named Aftermarket Services sales manager; Mark Desantis has joined Dynapower as a senior industrial sales engineer; and Ernest Bragg III has been named Industrial Sales associate.

"This is an incredible time for Dynapower," said Adam Knudsen, president of Dynapower. "We are seeing incredible demand for our rectifiers, switchmode power supplies and aftermarket services in the industrial, electrochemical and mining sectors. We wanted to take this advantage of this opportunity and proactively meet the market with additional senior sales and leadership resources as well as realign our team so we can not only capitalize on the demand for our product, but to also maintain and build upon the industry-leading service our customers and the markets come to expect from Dynapower."

In addition to strengthening its team, the company is actively developing new SCR rectifier and Switchmode Power Supply offerings as well as enhanced controls package offerings. "Innovation is in Dynapower's DNA," said Knudsen. "We want to be constantly delivering to the market effective solutions that help improve our customers' processes and save them money with power

supplies that push the boundaries of quality and efficiency. Over the next several months you'll see new products, services and solutions that we believe are going to take our power systems business to a whole new level."

Gladden has over 30 years of experience in global industrial markets, the company says, and has guided product and team development and raised the sales performance of each of the enterprises he has led. In addition to leading sales within the Power Systems Division of Dynapower, Gladden will also oversee Aftermarket Services with a goal towards extending Dynapower's service offerings and reach with both new and existing customers.

Of Massimi, Scott Kerner, vice-president of sales said: "Dev's knowledge of our key industrial markets and customers is a major strength as he takes on this new role. Dev's entrepreneurial spirit and customer-oriented mindset will be instrumental in helping Dynapower grow in new areas while still taking care of our extensive customer base. I am thrilled to see Dev move into his new position, and I am highly confident in his ability to drive continued success for his team and Dynapower."

Prior to being named sales manager, Massimi worked as a sales engineer at Dynapower.

Paul has worked with Dynapower for over five years, beginning his career with the company in 2011 on the production floor. He later moved to do work for the Sales and Customer Service departments, improving his knowledge of the Dynapower product, applications, and customer needs.

Desantis, a sales professional in the electro-mechanical industries, brings over 30 years of experience in sales and business development. He will be a key direct point of contact for customers, guiding their projects.

And Bragg previously served in customer services. He began his career with Dynapower in 2011, and has since worked in both the marketing and sales departments, supporting various initiatives for all business segments.

### Vanlancker Succeeds Büchner at AkzoNobel

Ton Büchner, CEO of AkzoNobel, has stepped down from his position due to health reasons. The company has named Thierry Vanlancker as the new CEO.

Büchner joined AkzoNobel in 2012, the company said, and has been responsible for significantly improving the performance of the company, increasing profitability and cash flow to record levels. More recently, he has been a target of criticism over his role in the proposed merger with PPG. He and the AkzoNobel board rebuffed three offers, and lawsuits are proceeding in European courts as a result.

Vanlancker was most recently head of Specialty Chemicals at AkzoNobel, having joined the company in 2016. A Belgian national, prior to joining AkzoNobel he was president of Fluoroproducts for Chemours, the spin-off company of DuPont's chemical businesses that was formed in 2015.




Thierry Vanlancker, new AkzoNobel CEO.


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# CPCA Conference Opening Reception

The Canadian Paint and Coatings Association held its 104th Annual Conference and AGM on May 24 and 25, coinciding with the 375th anniversary of the founding of Montreal, where the event was held. This year's conference theme was "Trends Moving Industry to Higher Levels of Performance."

The evening reception was an excellent opportunity to network and greet old friends.



**CANADIAN PAINT  
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# CPCA Conference Day 2



Tim Vogel, CPCA's chairman, welcomed attendees to the Plenary Business Sessions.



Jessica Walsh, regulatory manager, Chemicals Group, Intertek Scientific & Regulatory Consultancy, projected the market growth of antimicrobials and other biocides.



Jim Banks, of the Sustainable Development Association, looked at the challenges of integrating sustainability into personal and business behavior.



Gary Leroux CPCA president and CEO, highlighted the association's work with government and NGOs.



Ahmet Satir, Concordia University, John Molson School of Business, explored risk mapping, risk prioritization, and tacking supply chain risk.



Doug Bohn, Orr & Boss, explored the \$3.2-billion Canadian paint and coatings market and the four percent growth it saw in 2016.



Transformative Deals and Their Impact on Coatings by David Cocuzzi, vice-president, ChemQuest Group, explored the various recent industry mergers between Dow, DuPont Axalta, Valspar and Sherwin-Williams.

# CPCA Conference Chairs Reception



Steve Sides, vice-president, ACA Global Affairs, & chief science officer, highlighted the regulatory work the International Paint and Printing Ink Council performs on behalf of member organizations, including the CPCA.



Mark Huisman, Canadian business manager, automotive refinishing, BASF, explored the continued projected growth in construction and automotive paint and coatings.



Paul Chaney, plant manager, Axalta Coatings and Mark Kurschner, president of the Product Care Association, explored R&D in resource recovery, reduced energy use and repurposing unused paints and solvents.



# CPCA Conference **Chairs Dinner and Awards**

At the Chair's Annual Dinner, the CPCA honored six individuals for their distinguished contributions to the association and the paint and coatings industry in Canada.

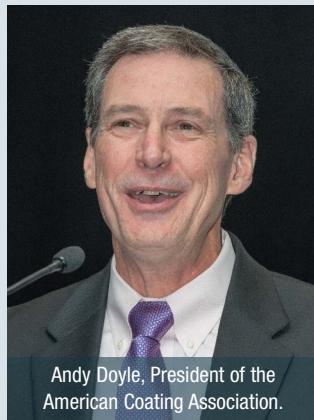
The Industry Achievement Award was presented to Errol Bonaventura, Inortech-EMCO, Barry Cupp, Sherwin-Williams, and Sheri Oberle, AkzoNobel. This award is presented to an individual or organization that has demonstrated exceptional achievement in advancing the interests of the industry and the association.

Stuart Eaton, Cloverdale Paint, Gilles Lussier, Chemours, and Richard St. Onge, Peintures MF, received the Industry Statesman Award. This award is presented to individuals who have recently retired or are retiring and have made a significant contribution to the association at the national or local level.

Andy Doyle, president of the American Coatings Association, received the Roy Kennedy Outstanding Achievement Award, the CPCA's highest award.



CPCA Chair Tim Vogel welcomes attendees to the Gala.



Andy Doyle, President of the American Coating Association.



Darrin Nobel Richard St. Onge, Peintures MF receives the Industry Statesman Award, Tim Vogel.



Tim Vogel, the Industry Achievement Award is presented to Sheri Oberle, AkzoNobel, Darrin Noble.



Tim Vogel, the Industry Achievement Award is presented to Errol Bonaventura, Inortech-EMCO, Darrin Noble.



Darrin Noble, Andy Doyle, President of the American Coating Association received the Roy Kennedy Outstanding Achievement Award, Tim Vogel.



# Paint Industry Targeted for Antimicrobial Restrictions in Canada

BY GARY LEROUX

Over the past two years, the Pest Management Regulatory Agency (PMRA) issued five re-evaluation decisions of non-renewal, cancellation of use or reduced levels for biocides used in paint and coatings. They were related to barium diborate monohydrate as a preservative, CMIT/MIT, OIT (Octhiline), sodium omadine and cholothalonil. For the latter two, the cancellation of use in paint and coatings has not yet reached the final decision stage. The final decision for pentachlorophenol, meanwhile, is expected soon. There are five other in-can paint preservatives slated for re-evaluation in 2018–19 and CPCA is monitoring this situation closely, and all those who are concerned from raw material suppliers to manufacturers should pay attention. The manufacturing sector could face a bigger issue related to the lack of critical preservatives if nothing is done by the PMRA to improve its current risk assessment methodology by seeking to better understand paint and adhesive exposure scenarios and the current best practices employed by professional painters. The PMRA also applies stricter safety margin factors than those of Canada's largest trading partner under the US EPA.

CPCA is most concerned that the lack of alignment will impact competitiveness, and may compromise the manufacturing of paint and coatings products in Canada and drive multinational and SME members out of many product lines. US members should also note that the PMRA intends to amend its policy with respect to "treated articles," to forbid the importation of treated articles containing non-registered pesticides/biocides in Canada, in the context of NAFTA and CETA.

CPCA registered its concern with the federal government on this issue and made a formal submission to the PMRA outlining key areas of concern with respect to the recent banning of OIT used as a paint preservative. CPCA met with PMRA's risk assessment officials in June to discuss their methodology as it relates to exposure and the current lack of transparency and consultation with users in the re-evaluation process. CPCA later consulted committee members and coordinated its efforts with ACA and the ACC Biocide Panel in order to prepare a formal objection concerning OIT and other recent final and pending decisions for CMIT/MIT, sodium omadine, chlorothalonil, barium diborate, and pentachlorophenol. The goal is to develop a broader strategy regarding this escalating problem for industry.

Industry raw material suppliers and manufacturers must be vigilant in addressing the ongoing review of biocides given recent events with several more key substances scheduled for re-evaluation by the PMRA in 2017–2021. The Agency is also

planning to consult "registrants" later this year to propose that any treated articles containing unregistered biocides in Canada be banned from entry into Canada.

## Federal Government Response to Parliamentary Recommendations for Tougher Chemical Management Regulations in Canada

The report "Healthy Environment, Healthy Canada, Healthy Economy: Strengthening the Canadian Environmental Protection Act, 1999," was published on June 15 by the Parliamentary Standing Committee on the Environment. It outlined 87 recommendations that could undermine the science and risk-based foundation of CEPA 1999 and the Chemicals Management Plan (CMP). The report widely supports many of the NGO recommendations such as the following:

- Fulfill every person's right to a healthy environment and include a broad definition of the term "vulnerable populations" that may not be beneficial to protecting such populations;
- Require a reverse-burden approach for a subset of substances that are of very high concern, including carcinogenic, mutagenic, and toxic to reproduction, very persistent and bioaccumulative, and toxic. It recommends that such substances be prohibited unless industry can provide the government with enough certainty that they can be used safely in specific applications and that there are no feasible substitutes. It recommends a reverse-onus system similar to that of REACH with the proviso that no data will mean no market;
- Require the assessment and mandatory substitution of safer alternatives to harmful chemical substances in every case, regardless of the efficacy of the alternative or price;
- Require mandatory hazard labelling of all products containing toxic substances despite the fact that a rigorous labelling regime already exists; and
- Revise the definition of "toxic" to ensure it addresses endocrine disruptors and the precautionary principle.

The federal Cabinet will consider the government's formal official response now being prepared by Environment and Climate Change Canada in concert with Health Canada. CPCA and other industry groups have been actively providing input to the drafters of the government's response that will be tabled in the House of Commons on October 15, 120 days from the date of the report being tabled in Parliament. CPCA met with ECCC officials in June and August and also made a

formal, written submission of industry's concerns. In addition, it continued liaising with other industry associations also concerned with the recommendations given the fact that some of these recommendations will find their way into amendments to CEPA in 2018.

CPCA focused on the key recommendations with potential impact on the coatings industry and suggested ways to address these and related issues in the government's formal response. Obtaining feedback from those impacted in the paint and coatings industry was critical to ensure that the future approach to chemicals management in Canada under the CMP continues along the lines as it has to date. There are some areas in which the CMP can be enhanced based on lessons learned, but a major overhaul will not serve anyone's interest and could in fact delay the effective assessment of chemicals, thereby delaying risk management measures for the protection of human health and the environment.

### **CPCA Comments on Post-2020 Chemicals Management in Canada**

In addition to the formal submission on the Parliamentary Committee's recommendations for changes to CEPA, CPCA responded to Environment and Climate Change Canada's request for comments on the post-2020 approach to chemicals management. CPCA made a robust submission in this regard with a number of suggestions for improvements that might be considered for the CMP beyond the current phase and into Phase 4. The CPCA submission addressed the following areas: 1) informed substitution/alternatives assessment; 2) public outreach and communications; 3) how to identify, prioritize and address issues responsively and effectively based on new science; 4) risk management approaches; 5) enhancing understanding of the supply chain throughout a chemical's life cycle; and 6) how to ensure vulnerable populations continue to be a focus of future risk assessments. It is clear the federal government has learned many lessons in chemicals management over the years and continues to seek input from all quarters to ensure the CMP remains the best of breed in future. While the CMP process is time-consuming and onerous, industry has come to respect the efficiencies achieved over the past 10 years.

### **Federal Government Publishes Eighth CMP Progress Report**

One only has to look at the biannual CMP Progress Report to see the progress made on chemicals management in Canada since the launch of the CMP in 2009. Since then it has addressed around 3,200 of the 4,300 chemicals identified as priorities by 2020–21, including DSARs & FSARs; found more than 420 DSL substances to be harmful (13.1 per cent); implemented more than 80 risk management actions; and received 5,424 notifications for new substances.

The following shows that the pace of work in CMP-3 is impressive, with actions as follows: proposed regulations on

asbestos by the end of 2017; proposed regulations on formaldehyde from composite wood products in early 2018; additional summaries for new chemicals and polymers recently published. Publications made in January-June 2017 included: Draft federal environmental quality guidelines published for bisphenol A; hexavalent chromium, perfluorooctane sulfonate and triclosan; 13 pre-notification consultations completed; 323 new chemicals and polymers assessed; three ministerial conditions; six Significant New Activity notices; five risk assessment summaries published; 248 substances added to the DSL; 793 substances deleted from the NDSL; 189 substances added to the NDSL; FSAR and RM Approach published for two liquefied petroleum gases; publications for CMP-2 substances (Disperse Yellow 3, cobalt and cobalt-containing substances and related MDI and MDA substances; and RM Progress targeting BPA, Mercury and PFCAs.

CPCA's Paint and Coatings Working Group met recently and reviewed a number of upcoming actions impacting the coatings, adhesives and sealants sector in the next few months including Codes of Practice, SNAc notices, ongoing CMP-2 actions in the sector, and more.

CPCA is focusing on the two-year rolling plan for CMP with some substances in the coatings sector moving to "Type 2" from "Type 3" approach, which is welcomed. A Type 2 approach refers to a streamlined approach similar to rapid screening, where the substances will be addressed in a streamlined approach as opposed to using a traditional risk assessment approach under Type 3, which could result in SNAcs only or no further action or assessment at all. Some substances of interest to the coatings industry still require further assessment. CPCA reviewed all the subgroups of 99 substances identified in a rapid screening publication for their impact on coatings in a bulletin called "Federal Government Releases Report on Rapid Screening of Substances with Limited General Population Exposure," which was intended to provide guidance for all those companies using those substances.

### **CPCA PCWG Update on New Regulations for Formaldehyde Emissions from Composite Wood Products**

A consultation document on the proposed regulatory approach to reduce emissions of formaldehyde from composite wood products was recently published for a public comment period ending September 1, 2017. The government is actively looking for more information on the use of formaldehyde resins (ULEF) in products. CPCA members have been fully engaged in this process and providing good feedback to ensure industry's concerns are appropriately registered with government before a final decision is rendered this fall with publication of the final regulation expected in winter of 2018. Those with a particular interest or concern with this regulatory initiative should contact CPCA sooner than later.

## CPCA Welcomes Changes to the Federal Government's Intent to Amend Environmental Emergencies Regulations

In July, CPCA obtained information from ECCC's Environmental Emergencies (E2) Division regarding key changes to the final E2 Regulations amendment. The proposed E2 regulatory text, published in October 2016, attracted 250 comments from companies, associations, all levels of government and NGOs. Three carcinogenic substances are to be removed from Schedule 1, which is a favourable response to CPCA's and several member comments following the CGI publication.

We are pleased that E2 officials decided not to add three carcinogenic substances to their new list of E2 regulated substances. This includes C.I. Pigment Yellow 34 (PY34), nickel carbonate and, seemingly, antimony oxide (not yet confirmed). Officials discussed the issues regarding some carcinogenic substances with Health Canada and international government representatives. They are now convinced that other Canadian acts and regulations already in place including the HPA/HPR, which promote a hazard-based system, will adequately manage the risks associated with those substances.

Many other changes to the final E2 amendments are detailed in the CPCA bulletin for members entitled "Final E2 Regulatory Amendment Coming into Force."

## CPCA Responds to Metro Vancouver's Intention to Restrict TBAC Use to CARB Levels

CPCA collected additional views from members of its Automotive Refinish Council on the conclusions of the Metro Vancouver Council. There was grave concern expressed by companies in the automotive coatings sector, as the restriction would negatively impact formulations used in the Vancouver region by automotive refinishers and others. At the same time, the limits would remain the same for those in other municipalities adjacent to Metro Vancouver and other cities across the province. CPCA made a formal submission to Metro Vancouver officials based on interviews conducted with a number of members and key stakeholders. The responses obtained allowed CPCA to challenge Metro Vancouver's intent to align its new bylaw with that of CARB, the strictest standard in North America. CPCA continues to liaise with officials in Vancouver in an effort to address the matter and secure a better outcome. ■

*Gary LeRoux is president of the Canadian Paint & Coatings Association, [www.canpaint.com](http://www.canpaint.com).*

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# The Ever-Changing World of **Wood Coatings**

**WOOD HAS BEEN COATED** for so many centuries, it seems logical there would be no new ways to improve its appearance. In fact, there is more innovative chemistry coming into the field all the time, as the formulations are tweaked and made more versatile.

Waterborne wood coatings are the strongest force in the market. UV-cured waterbornes in particular have emerged from a shaky start to command a stronger share of the business.

“New designs in roll coating equipment have led to a more effective way to provide an ‘inert’ environment for UV curable coatings,” says James Monroe, market segment manager for furniture and flooring with BASF. “This opens the door to innovations in UV resin development. Primary demands for new development are for waterborne UV-curable coatings and 2K waterborne coatings.”



The range of coatings for wood is constantly expanding.

UV coatings had a rocky start, he notes, something possibly aggravated by conventional waterborne coatings with mediocre performance that were introduced more than 20 years ago. At that time, they were not able to deliver consistent quality and performance.

A further issue could be the hefty capital investment, as well as the time and knowledge needed to equip a facility for waterborne UV curing.

“You need to have some knowledge of the coatings and materials,” says Monroe. “While normal waterborne systems may not require much technical expertise, a switch to UV coatings involves a look at plant safety, assessments of the facilities, and more.”

Operations will need to shell out time and money for new equipment, employee training, and assessments to ensure facilities are conditioned for air movement, humidity, and other environmental factors. None of that can be done in a day, nor is it inexpensive. Yet in spite of the shaky start and the challenges of the switch, he believes the wood and flooring industry has mostly embraced the change to waterborne UV.

“Industry market reports support that they make up the largest growth area from a coating standpoint,” he says. Case studies have reported great benefits to companies making the

switch, following a few months to a year of re-equipping facilities, training employees, and developing new formulations.

“The biggest benefit is manufacturing output and reduction in time,” Monroe says, reflecting on his personal experience working at an architectural wood product manufacturer. “In general the finishing process was a three-day process, and when we switched to waterborne UV it became a three hour process.”

DSM is a relative newcomer in the wood coatings field, having launched its line of alkyd wood top-coatings 10 years ago. The three products currently offered are Uradil AZ 760; Uradil AZ 800, which is a medium urethane coating; and NeoPac PU 480, which has DSM’s highest level of urethanes.

“Uradil AZ 800 is designed to aid the transition to waterbased alkyd technology easier,” says Dan Giles, the company’s senior technical applications manager. “It retains its toughness even when you add tint. It offers very low yellowing, and a wide formulation window.

“It offers early water resistance, mainly because of the alkyd in it. And it has blocking resistance after seven days. It has very good cure properties, and it’s also high gloss.”

The use of urethane helps with chemical resistance, he adds. The coating also has a very good positive dry characteristic.

For exterior stains, DSM offers its NeoCryl XK-190 and XK-98. “XK-190 is for high adhesion to exterior wood,” Giles says.

“You can blend the two formulations to get more hardness.”

Wood color is generally related to tannin content. However, there are also oils that affect color.

One consideration with any wood coating is the fact that tannins tend to leach out of the wood, and cause unsightly stains. Tannin stain inhibitors are one field where there is a lot of attention being paid to developing effective chemistries.

“This leaching can happen spontaneously, or over time,” says Michelle Bauer, a project chemist with ICL Advanced Additives. “The tannic acids migrate into the coating. They are phenolic compounds, with high molecular weights.” ICL offers its Halox range of tannin inhibitors as a standard product for the field.

Hydrolyzable compounds are found in chestnut and oak, while condensed tannins are found in pine and cedar. Southern red oak and redwood are highly extractable.

“White pines are less extractable,” Bauer says. “And temperate climate woods tend to have more hydrolyzable tannins.”

Regardless of the specific traits of any given wood, the solution to the overall problem lies primarily in two-layer coats. These ensure that the first layer can stop the migration process from happening, while the outer layer can add more esthetic characteristics.

“New developments in modified acrylics mimic the natural bonding properties of tannin-lignin and tannic-protein complexes,” Bauer explains. “We use multivalent metals, which

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Delivering performance levels comparable to epoxy acrylates, **Laromer® UP 9118** and **Laromer PR 9119** are new UV-curable resins from BASF. Addressing market concerns by offering an alternative to conventional solutions for wood flooring and furniture applications, Laromer UP 9118 provides matting efficiency for a low-gloss, “natural” wood look and Laromer PR 9119 offers a balanced performance profile. At BASF, we create chemistry.

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## WOOD COATINGS

can increase the molecular weight of the tannins, making them unable to migrate through the wood. This process is called chelation.”

Slightly water-soluble metal cations from inhibitive pigments have hydroxyl groups. ICL, Bauer states, has found that blends of multivalent ions give the more effective performance here. Zinc-containing tannin stain inhibitors can reduce a dependency on zinc oxide for wood coatings.

Michelman recently introduced new low-VOC, waterborne coating solutions for both wood and metal applications in its Ecothan product range. According to Dr. Julien Verron, industry manager with the Coatings Group at Michelman,

“Waterborne coating systems continue to gain in popularity and acceptance. However, there are still many coatings market segments that are lacking in effective and low emission polymeric binder and surface additive options. At Michelman, we are continually improving the performance levels of our waterborne chemistries, while simultaneously driving emission levels down to meet formulator’s and end-user’s requirements.”

Ecrothan 2020, the new low-VOC, waterborne acrylic-polyurethane dispersion, is used as a binder in industrial wood coating and for building paint formulations. It combines, Verron says, the environmentally friendly benefits of a waterborne solution with outstanding chemical resistance, abrasion and scratch resistance, and hardness.

“The new binder also produces excellent optical qualities including gloss, transparency, color depth and wood grain enhancement,” he adds. “It is a rapid-drying, rapid anti-block, non-yellowing solution.”

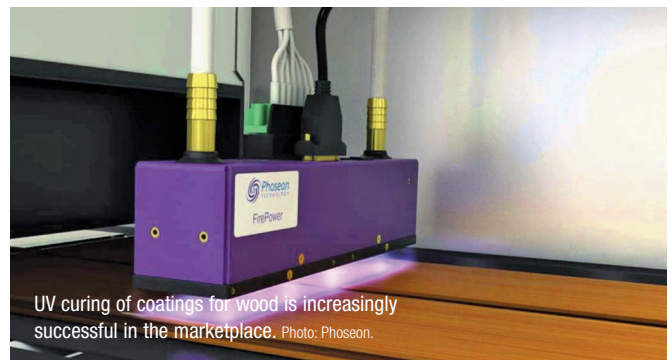
Michelman’s family of Ecothan PUR dispersions and PU-acrylic dispersions is, he continues, specially developed for applications requiring maximum durability along with a beautiful finish. Grades are available for hard surfaces as well as flexible substrates, including 100 percent cosolvent-free options.

The company last year launched its Ecronova RA 180 Plus, a water-based cationic emulsion of an acrylic copolymer used as a binder for wood primer, paint and coating formulations. With its cationic chemistry, Ecronova RA 180 Plus is preservative free, Verron says, and is exceptionally effective as a barrier to tannin and nicotine stains when used in wood primers.

“Because of its resistance to stains, combined with good scrub resistance, Ecronova RA 180 Plus is also effective for use in 2-in-1 wall paint formulations,” he adds. “It is solvent and surfactant free and because it does not require coalescents, it can be formulated into a very low VOC paint. It also provides outstanding adhesion, as well as water and alkali resistance.”

he family of Ecronova RA acrylic polymer dispersions is intended for use as binders in a wide variety of applications, including specialty architectural and industrial coatings, interior and exterior building paints, durable wood coatings, and concrete coatings.

Katilac Coatings is another, long-established player in the wood coatings arena. Its B7645 classic spray stain base is a fast dry, ready to spray, HAPS-free, solventborne, spray stain



base designed to be applied directly to bare wood. It can be used, the company says, under all Katilac clear topcoats and sealers and can also be blended with them to produce both shaders and toners.

Its B7401 wet glaze base is used for coloring wood furniture and cabinetry. Wet glaze can be used with either pre-catalyzed or post-catalyzed sealers and topcoats. For a dry glaze base, Katilac produces B7402, which is used for coloring wood furniture and cabinetry. This, also, can be used with post-catalyzed sealers and topcoats.

Katilac’s B7406, the company states, is a high quality, solvent borne, alkyd-derived stain base designed for spray, wipe or brush application directly to bare wood. It has been specifically formulated to work in conjunction with both 844 Series colorants and Nerosol dye concentrates. It features fast dry, high wood penetration, excellent grain enhancement and outstanding wiping properties.

And among its other products, T4421 NGR stain base is a fast dry, ready to spray, solventborne, spray stain base designed for application directly to bare wood. It has been formulated to be used in conjunction with Katilac’s Nerosol dye concentrates as a primary color, or to be intermixed as a complete stain. It can be used as a stand-alone stain or as a wood toner under any Katilac wiping or spray stains. It can be used under all Katilac clear topcoats and sealers.

Axalta Coating Systems became a bigger player in wood coatings earlier this year, when it acquired Valspar’s North American industrial wood coatings business. The purchase was mandated by regulators when Sherwin-William Co. bought Valspar, and required a spinoff to maintain competition in the marketplace.

The Valspar business had revenues of about US\$225-million in 2016. Its brands include Zenith, Lustre Lac and Grintone. At the time of the sale, Axalta CEO Charlie Shaver said, “This is an outstanding opportunity for Axalta to enter the large industrial wood coatings market with an industry-leading portfolio of products and customers. The strong reputation enjoyed by these brands among a long-term customer base will provide an excellent platform for future growth in this important market. Our shared commitment to technology and excellence in application services, as well as a strong pipeline of new products, will enable us to meet the needs of both current and new customers.”

Axalta stated this would be a bolt-on acquisition, that would be integrated into Axalta’s own corporate structures.

Zenith waterborne lacquer, one of the flagship brands Axalta has acquired, is a third-generation waterborne coating designed for use on fine woodwork. It has, the company says, exceptional film clarity that retains the natural warmth and character desired by professional wood finishers. It has been formulated with proprietary resin technology to yield a finish that is superior in durability to conventional nitrocellulose finishes.

It is a low VOC, HAPS-free formulation containing no isocyanate or formaldehyde. It also, Axalta says, offers superior performance over conventional nitrocellulose finishes.

It is typically used on fine residential furniture, millwork, moldings, interior doors, and picture frames, and can be applied using conventional, HVLP, airless or air-assisted airless spray systems. It is packaged ready-to-spray, and requires no reduction before use.

Canlak, which maintains a full products development laboratory in Daventryville, QC, has developed a complete line of conventional nitrocellulose products, pre-catalyzed and post-catalyzed lacquers and conversion varnishes. These are all available with the option of ranging from opaque to transparent finishes.

“Our products have excellent non-yellowing properties,” the company says, “and were designed to dry rapidly. This family of products respects the most recent norms on VOC and HAP regulations.”

One example is Pre-Lak ultra low gloss, a pre-catalyzed topcoat that Canlak says offers excellent flow and good grain penetration. It has good overall resistance, and is fast drying. It is recommended for furniture, moldings, doors and frames.

The company’s water-based products are offered in a complete line ranging from acrylics to urethanes. In addition to finishes for furniture and kitchen cabinets, these are available for exterior use as well.

Canlak also represents the Verinlegno line, Italian products it has carried since 2012. These are polyester and polyurethane finishes.

Polyester’s advantage is its excep-

tional film clarity, combined with its ability to fill wood. It thus functions as a sealer as well as a topcoat, although it is perhaps best known for its smooth or wet look as a finish.

The polyurethanes, like all PUR finishes, offer outstanding durability and mar resistance. The Verinlegno line includes pure polyurethanes as well as acrylic-urethane finishes. These are available as clear or opaque systems,

from ultra-matte finishes through to high sheens.

While no completely new chemistries have entered the field for some years, subtler variations and combinations of materials offer a constantly evolving variety of options for finishing wood. And as long as wood itself remains popular for its, looks, its feel and its ability to last a long time, such development work is sure to continue. ■

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# What's New in Mineral Fillers

**WHILE NEW CHEMISTRIES** are relatively rare in the field of fillers, new grades emerge constantly as new ore bodies are opened up. In addition, as the physical interactions between fillers and the paint matrix they go into are better understood, it becomes easier not just to mix a paint, but also to find new and cheaper ways to use fillers to advantage.

"There are very few new fillers options available to formulators these days," says Marc Gagnon, technical director with Dempsey Corp. "One of them would be Cer-aflour 1000 from BYK additives. This biodegradable matting filler, based on renewable material, will act as a matting and soft fill filler in various coating systems. It is especially efficient as a matting agent for the UV-cured systems.

"On the other hand, pumice, an old filler, is finding its way back in paint formulation. Safsil ground pumice is an amorphous silica that contains less than 0.1 percent of crystalline silica.

"We also see some unique properties from wollastonite, which is mainly used for its anti-corrosion properties, and as an alternative to nepheline syenite and talc. Its needle shape will improve mud cracking in high film-build systems."

Speaking for Unimin Corp., technical sales manager Scott VanRemortel observes that treated mineral fillers that can assist in stain removal and washability in architectural coatings and one promising avenue for future developments.

"We offer a narrow PSD MINEP EP-315 grade," he says, "with a D50 of 10 microns to aid in rapid dispersion in powder coatings, with flow and novel matting and scratch resistance characteristic. This works similarly in liquid industrial coatings."

The main technical requirements he sees customers requesting at the moment are stain resistance and self-cleaning attributes. There is also, he notes, a market demand for more block resistance in low VOC semi-gloss finishes.

Vanderbilt Minerals' Vansil wollastonite is a new product for the company. Catherine Casey, product support scientist with the company, says this is an acicular, or needle-like, product, based on calcium metasilicate.



Pumice is familiar as a domestic item, but its use in paints is less well known.

"It offers a high pH," she says, "and low oil absorption. It can be used in all types of coatings."

Vansil CK-20 is somewhat different, having a high-loading of calcite, for applications where this is a benefit.

"Our W 50 product has our finest particle size," she says. "It's for liquid industrial and corrosion resistant coatings."

"And our Vansil W-30 offers low viscosity because of its low oil absorption. It has a high pH, and good burnish resistance." Some of the mineral fillers in the Vansil range offer a 14:1 or 15:1 aspect ratio, a characteristic makes wollastonite a unique product.

Pumice has not traditionally been one of the more common fillers in the marketplace. CR Minerals' SafSil pumice comes from a mine in New Mexico, and is a highly vesicular, rough-textured volcanic glass formed by lava.

"It's an amorphous silica," says Fred Marschall, technical director with CR Minerals. "It's insulative, absorptive, and heavy-metal free – and it's inert. Yet it's not an acknowledged filler in paints, or mentioned in the handbooks."

SafSil, he continues, has a unique morphology, with angular particle shapes. It poses no serious respiration hazard, so



## Pumice, an old filler, is finding its way back in paint formulation.

## Pseudoplastic synthetic clay [has] particles smaller than the wavelength of visible light. So, it can make clear gels and solutions.

it does not require unusual safety procedures in the plant.

“Our material is 73 percent silicon dioxide, 12 percent aluminum oxide, plus small amounts of other oxides. It has one percent moisture, a specific gravity of 2.34, and Mohs hardness of 5.5 to 6.0.

“It has a 1.5 refractive index, and a pH of 9. The median particle sizes are  $3 > 12$ .”

Its benefits for interior wall paint include color development. It provides, Marschall says, more color intensity, a good flattening efficiency. It also offers good scrubability, and burnish resistance, as well as good stain removal and washability.

“It also assists with touch-up enhancement,” he says, “since it helps with pigment orientation. It could replace diatomite in typical flat paints; and it’s more scrubable than diatomite.

For exterior paints and stains, he states that it offers outstanding tint retention, as well as overall good weathering. It also provides acid resistance, and has a low soluble salt content so that there is some corrosion resistance and less blistering. Lastly, it offers hardness, for improved abrasion resistance.

“In powder coatings, the hardness helps as it improves weatherability,” Marschall says. “It adds with gloss control as well. We find we can do high-heat paints, sound deadening paints and insulative paints, as well as non-skid applications. And it can be mixed with other fillers.”

Martin Kays, product manager of rheology additives at BYK USA, says the company is focusing on its Optigel range of clay fillers. These include Laponite RD, a synthetic clay that is not mined.

“This is a highly pseudoplastic synthetic clay for aqueous systems,” he says. “The particles are smaller than the wave-

length of visible light. So, it can make clear gels and solutions. This is for waterborne paint systems.”

This product offers instantaneous recovery: once laponite is sheared, its viscosity goes away; once shearing is done, the viscosity returns, and higher efficiency than natural clays. It has less variation in particle size than naturally occurring clays, and no impurities.

Garamite is another BYK product, for solventborne coatings. It is a montmorillonite, coming from a very soft phyllosilicate group of minerals.

“It’s a mixed mineral, two minerals with two different morphologies,” Kays says. “It has needle-like particles go in between the platelets and do not allow the platelets to re-agglomerate. Fillers like this can be used to modify rheology.

“Fumed silica can be an inhalation hazard. This stuff, though, disperses very easily, and doesn’t agglomerate in xylene.”

Another BYK clay, Garamite 1958 disperses completely solely through being shaken. Added at up to 12 percent, it is still pourable.

“It’s our universal product,” Kays says. “We also have other Garamites coming into the market.”

Another synthetic product in this field is Huber Engineered Materials’ Spherilex. The company announced last year that it is investing in commercial production capacity for this patented, amorphous precipitated spherical silica and silicate technology.

This investment is at Huber’s Hamina, Finland, production facility, the first production-scale capacity for the Spherilex technology. The Hamina operation will support the business growth of Spherilex precipitated silicas and silicates globally.

Spherilex products are produced via a manufacturing process designed to create unique, spherical particles that provide new or improved functional benefits in a variety of applications including coatings, plastics and personal care products. Capacity came online earlier in 2017.

“Innovation is core to Huber’s culture and the Spherilex technology showcases the creativity and vision of our scientists and engineers,” says Eric Lundquist, global director of technology for Huber’s silica business unit. “We are excited about the opportunities and benefits it will provide to our customers.”

The new manufacturing process allows for the production of Spherilex precipitated silicas and silicates with a wide range of surface areas and tight control on both particle size and particle size distribution. ■



Image of raw wollastonite, showing the naturally elongated crystals it forms.

# Fire Retardants Face a Tough Job

**OFTEN THESE DAYS**, flame retardants find themselves between a safety-improving rock and an environmentally hyper-scrutinized hard place. As the recent Grenfell Tower tragedy in the UK demonstrated, with its 80 fatalities, lack of effective fire retardant capabilities in construction materials can have horrific results. And as another recent development, a pilot report from the Oregon State University, demonstrated, the effects of FR materials leaching or off-gassing can have equally undesirable effects.

The OSU report claimed to find a significant link between social behavior in children and their exposure to organophosphate flame retardant chemicals.

“When we analyzed behavior assessments and exposure levels, we observed that the children who had more exposure to certain types of the flame retardant were more likely to exhibit externalizing behaviors such as aggression, defiance, hyperactivity, inattention and bullying,” said Molly Kile, an environmental epidemiologist and associate professor in the College of Public Health and Human Sciences at OSU, and the corresponding author of the study. She added that this study was an interesting contribution to existing research because no one had ever looked specifically at the behavioral impact of FR materials

Her team recruited 92 Oregon children between ages three to five to wear silicone wristbands for seven days to measure their exposure to flame retardants. These wristbands had a porous surface to mimic a human body cell, allowing it to absorb the chemicals that the person wearing it was exposed to, the researchers said.

Then, researchers had the children’s primary caregivers complete questionnaires about socio-demographics and their home environments while preschool teachers completed behavior assessments. They collected data for 69 children. The analysis showed that all of the children were exposed to some level of flame retardant.

This of course was unsurprising, the researchers said, since the FR substances are added to products, and are not chemically bound into a polymeric matrix. They are therefore constantly being released into the environment.

The OSU report used a relatively small numerical sample of children, and industry observers promptly criticized. Even Kile admitted further study would be needed. However, the fact that FRs have been a point of concern for years means there will be ongoing scrutiny of them in future, as well as intensive lobbying of governments from both industry and advocacy groups in the situation.

Best estimates put the global FR market at a little over US \$7-billion. Building and construction accounts for around 30 percent of this, with the total sales figure predicted to rise to \$10-billion by 2020.

Bringing new products to market is therefore fraught with costs to ensure they are as safe as can reasonably be predicted. However, the market requirement means some new FR formulations do make it into the field, and capacity increases for existing ones are happening.

This past May, the Fire Retardant Additives (FRA) business unit of the Huber Engineered Materials division of J.M. Huber Corp. announced a 20 percent capacity increase at its manufacturing plant in Bauxite, Arkansas. The capacity increase supports the transfer of Huber’s proprietary technology for production of its fine precipitated Martinal LEO alumina trihydrate products, obtained from the 2016 acquisition of the Martinswerk facility in Bergheim, Germany. The expansion, the company said, also supported ongoing growth of existing product lines at Bauxite, which includes both Hydral 710 and Hydral PGA fine precipitated hydrates.

“Since Martinswerk is now part of Huber, it is a logical step to create a strategic global product platform for our customers,” says Martin Schulting, managing director of Huber’s FRA European business.



“The transfer will allow customers in North America to source high quality Martinal LEO grades locally resulting in reduced lead times and freight costs,” added Jerry Bertram, vice-president and general manager of Huber’s FRA business. “It will increase global capacity for Martinal LEO grades and creates more flexibility in our supply chain to service customers in the Asia Pacific and other regions of the world, as we will have two plants on two continents capable of manufacturing the Martinal LEO product portfolio.”

Production trials for the Martinal LEO products at Bauxite had been completed at the time of the expansion, and commercial availability was planned for third quarter 2017. In addition to the Martinal LEO grades, the Bauxite plant was to continue production of its existing portfolio of Hydral precipitated hydrate products.

Sibelco, represented in Canada by Debro Inc., offers a range of alumina trihydrate (ATH) products for the paint industry. Sibelco has been developing some low-viscosity grades that feature the same particle size as its other ATH products, but lower oil absorption.

While the quest continues for better ways of blending FR substances, for higher efficacy and better cost-effectiveness, there is still research needed. Blending FRs into paints, Sibelco says, still uses well-established methods.

Buckman Canada Ltd. distributes the Flamebloc GS series and Flamebloc Foam Protect range of fire retardants, made by US-based Flame Seal. Their mix of unique chemistries, including amino functional ammonium polyphosphate, offers a clear, water-based product, and contains little or no VOC. Also, they do not require a halogen donor to provide intumescent and char-forming substrate protection.

Flamebloc offers the two reactions, an intumescent response and also the formation of a char layer that protects the substrate. The product can be sprayed onto ceilings in a foam format, and is sometimes visible in large buildings or structures such as parking garages, as a layer sprayed onto ceilings or walls, including foam ceilings.

It is available in various shades. The aqueous solution applied has a hardening agent added before application, and it dries to form a semi-impact resistant coating.

Properly applied, Flamebloc products will protect the substrate from fire damage and smoke evolution. The intumescent layer forms a foam that acts as a thermal barrier between the fire and the substrate.

This is reportedly the only spray-applied intumescent coating product that has passed the relevant CAN/ULC test for spray-applied intumescent coatings. The formulations are not currently available except as spray-on materials. However, it should also be possible to create blended solutions using the same chemistries.

Buckman also sells its own graphite-type FR. This is specifically for use in segments of industry that don’t need the intumescent coatings.

Future FR options are hard to predict. The low-hanging fruit in FR chemistries have mostly been picked by now, and anything new would have to go through an extensive approvals process.

But the demand is not going to go away, and while one branch of government will be issuing cautions, another will be requiring greater fire safety. Industry has its work cut out to handle all that, but the market, as noted in the figures quoted above, is predicted to keep on growing. ■

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# Critical Antimicrobial Paint Preservatives

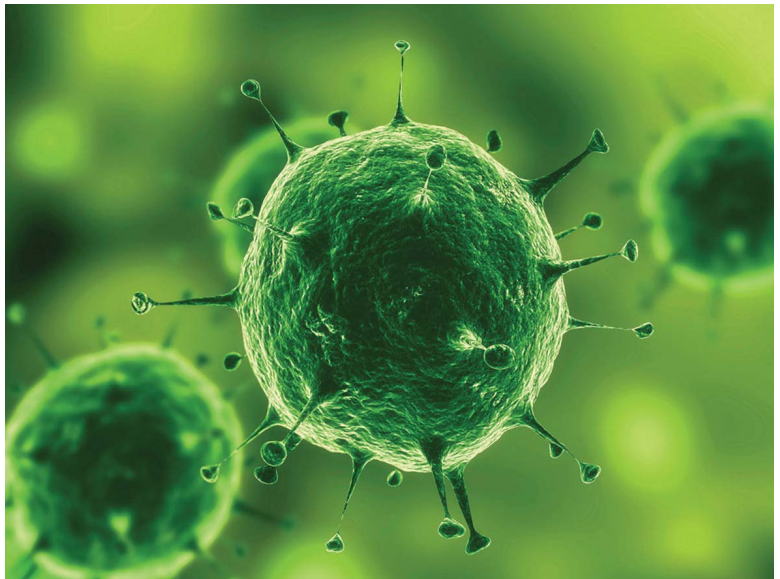
## Come Under Attack in Canada

BY GARY LEROUX

**RECENT DECISIONS** by the federal government on bans or restrictions of use levels for biocides in paint preservatives in Canada will do little other than harm Canadian paint manufacturers. This is especially true when such actions are applied only to Canadian manufacturers using these active ingredients but not to imported products that contain the very same substance. If the goal is to protect human health from potential exposure to such substances it will not work given the fact that more than 50 percent of all paint products sold in Canada today are imported, up from 40 percent 10 years ago. This downward trend is sure to continue when such government-made decisions are not based on available evidence.

Five recent decisions on biocides affect critical antimicrobial active ingredients used as in-can preservatives to protect the integrity of the films in the can and during curing time. These active ingredients are necessary for water-based coatings, which are susceptible to various microorganisms upon application. These coatings now comprise more than 95 per cent of the latex paint used in Canada. Of further concern for industry is the few remaining biocides, which are available for the same purpose and which have already been scheduled for re-evaluation over the next several years.

CPCA has strongly questioned the process for these decisions on behalf of the Canadian paint industry, both registrants and users. If such decisions are left to stand they will negatively and irreversibly impact hundreds of paint products now supplied and manufactured in Canada. One company confirmed that the most recent, final ban for one such preservative alone would impact 100 products that it manufactures in Canada today. Consequently, these products will require reformulation, which will very likely result in a major shift of production from Canada to the United States by multinational paint companies operating in both countries. The reformula-



tion and related testing is both time consuming and costly. New product formulation may not even respond to alternative biocides, which are now up for re-evaluation and could also be banned soon. Such uncertainty creates trade disruption, economic loss and an unlevel playing field for Canadian companies, especially for the many small- and medium-sized enterprises (SME) at a time when the renegotiation of NAFTA may bring further challenges for Canadian-owned business.

It would seem that such decisions are in fact an unfair trade practice by a sovereign government against industry in its "own" country. This may be a first in global trade.

In the case of several such substances noted above the paint manufacturers were never directly consulted in terms of use scenarios and related exposure impacts. A recent final decision was made without due regard to the federal government's clearly stated commitment to "use various communication tools, including webinars and re-evaluation work plans, to better inform the public and engage stakeholders including pesticide product users, retailers and consumers

## **“Moreover, Canada has led the world in post-consumer paint recycling, dating back to 1992 with legislated programs now operating in every province to recover and recycle leftover paint.”**

during the re-evaluation process.” In fact, a decision taken in December 2016 is still nowhere to be found on any government website.

We also understand that in both cases the scientific information provided by the registrants, the raw material suppliers, was dismissed with respect to challenges of the assumptions made related to risk assessment methodology, use and exposure. In contrast, the US Environmental Protection Agency (EPA) was open to considering the same scientific information and agreed to put its decision for the very same substance “on hold.” This was done to allow the registrants sufficient time to assemble and submit further data to the EPA for a more comprehensive evaluation. There is thus zero regulatory alignment with the United States due to this early decision made by Canada despite the fact that the final decision was scheduled for March 2018, not May 2017. This is clearly against the government’s desire for greater alignment as stated in its mandate: “In the interest of seeking additional efficiencies, the PMRA [Pest Management Regulatory Agency] currently explores alignment of re-evaluation schedules with those of the United States Environmental Protection Agency or work sharing opportunities for reviews where appropriate.”

This unfortunate decision comes at a time when more than 95 per cent of paint technology is now the more environmentally friendly waterborne technology. Moving to waterborne paint, as opposed to solvent-based paint, has been a long-standing objective of the paint industry to reduce volatile organic compound (VOC) emissions from paint products. This began as a voluntary industry initiative and resulted in federal VOC regulations for architectural and automotive coatings under the Canadian Environmental Protection Act (CEPA) in 2009.

Since that time the paint and coatings industry has further reduced VOCs in coatings by an additional 75 per cent. However, with the removal of solvents from an extensive list of products, there is an increase in the susceptibility of water-based coatings to various microorganisms, including surface mold growth, requiring a greater need for antimicrobial additives in addition to the regular “in-can” biocidal active ingredients. The effects of a microbiological attack in paint will greatly shorten the shelf life of paint products and could render the product unusable in a matter of days.

To date, the top priority for paint manufacturers is to eliminate declared toxics or move away from substances suspected of being toxic to human health and the environment, not substances that are not even suspected of being toxic at current levels of use. In fact, the addition of a fungicidal component inhibits the growth of filamentous molds on cured

coatings, preventing high spore loads in the air, which otherwise may cause adverse respiratory effects or opportunistic human pathogenic effects.

Moreover, Canada has led the world in post-consumer paint recycling, dating back to 1992 with legislated programs now operating in every province to recover and recycle leftover paint. More than 26-million kilograms of leftover paint was recovered in 2016, paid for by the manufacturers under mandated extended producer responsibility legislation.

Other countries have modelled their stewardship programs on Canada’s with similar programs now in the United States, Australia and soon in Britain. As a result of the PMRA decision, recycling leftover paint that is often five years old or older, containing the banned or restricted biocides, will be illegal. Additionally, removing active preservatives from paint will lead to increased spoilage rates due to lack of protection from microbiological growth, making leftover paint unsuitable for recovery and recycling. Contaminated leftover paint due to lack of biocides—in garages and basements—where young children might be exposed increases the potential for greater harm to human health.

It could also harm the environment given that it is more likely to end up in landfill or subject to other undesirable forms of disposal. It could therefore be a major setback to paint stewardship programs across Canada at a time when a circular economy approach is gaining momentum around the world.

Haphazardly banning biocides for paint preservation will not achieve outcomes that will protect human health or the environment, quite the contrary. The federal government must adopt a more holistic view of the Canadian paint and coatings industry and consider what paint manufacturers need for literally thousands of product formulations for in-can and film preservatives. This is critical if paint manufacturing is to continue in Canada. CPCA will continue to work to ensure that paint formulation leads to “safe” products across the entire supply chain and support strong post-consumer paint recycling programs for which Canada is recognized globally.

CPCA will continue to raise objections to the current flawed process for re-evaluation of biocides for paint to ensure there is actual engagement with manufacturers, greater reliance on evidenced-based analysis of potential hazard and exposure and full alignment with analyses and decisions of the US EPA. These are, in fact, the stated objectives of the federal government after all. ■

*Gary LeRoux is president of the Canadian Paint & Coatings Association, [www.canpaint.com](http://www.canpaint.com).*

# Dempsey Corporation

## Repeats Cross-Canada Seminars

**ONCE AGAIN,** Dempsey Corp. held its Cross-Canada Seminars in June. The one-day event is held annually in four cities – Montreal, Toronto, Winnipeg and Vancouver – with simultaneous seminars for the plastics and coatings industries being held in the first two locations.

Dempsey is now Canada's largest independently owned distributor of additives, fillers and resins. Marc Gagnon, technical director with the company, introduced the Toronto-area seminar, held at the Hilton Garden Hotel in Mississauga, ON, and welcomed about 100 customers and users of Dempsey's products. The photos in the following pages were taken at this event.

A cross-section of the company's principals made presentations on recent technical innovations and product introductions. Catherine Casey, product support scientist with Vanderbilt Minerals, spoke on her company's Vansil wollastonite product, which has particular application in industrial and corrosion-resistant coatings. She also covered the company's four grades of kaolin clay and Pyrax pyrophyllite.

Fred Marschall, technical director with CR Minerals, introduced attendees to an old material whose use as a mineral filler was new to many present: pumice. The company's mine in New Mexico produces a version of this amorphous silica, which adds significant properties to paint and other coatings.

Dan Giles, senior technical applications manager with DSM, spoke on his company's Uradil and NeoPac alkyd resins. These offer a combination of alkyd and polyurethanes technology.

For those interested in rheology, Martin Kays, product manager of rheology additives, and Judie Tinamisan BYK Additives' senior technical sales representative, with BYK USA, covered the Optigel range of synthetic clays and other additives. These clays offer specific benefits for waterborne gels and other aqueous solutions.

Also highlighted was BYK's Garamite, a montmorillonite for solventborne products that features a combination of platelets and needle-like crystals that prevent the platelets from clumping.

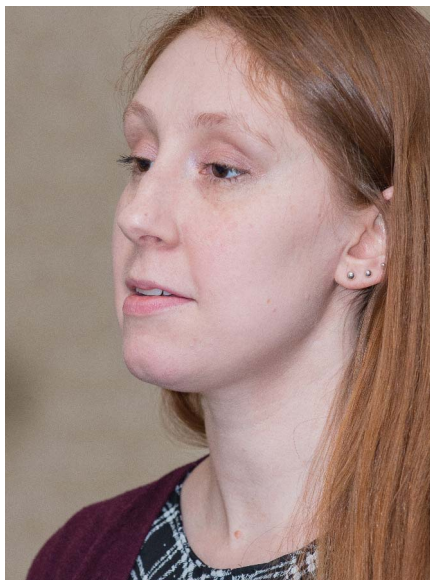
Michelle Bauer, project chemist with ICL Advanced Additives, talked about ICL's corrosion inhibitors, as well as its tannin stain inhibitors. The latter are essential in high quality wood coatings, since certain darker woods will leach out tannins, spoiling the look of a finish.

More detailed information from several of these presentations is included in this issue's features on wood and floor coatings, and on mineral fillers.

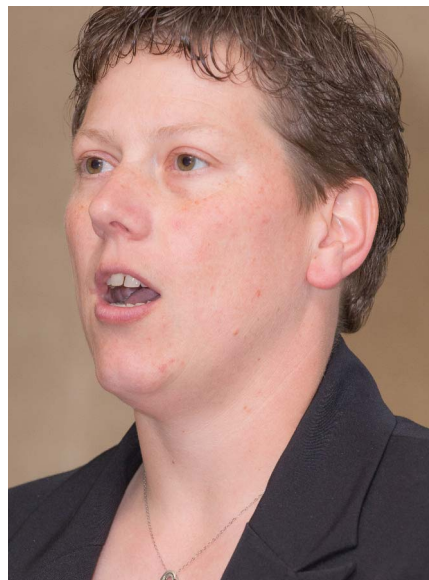
Dempsey plans to repeat the seminars in June 2018. ■



Fred Marschall, CR Minerals.



Catherine Casey, Vanderbilt Minerals.



Michelle Bauer, ICL/Halox.



Julie Tinamisan, BYK.



Martin Kays, BYK.



Marc Gagnon, Dempsey.



Frank Dempsey.



Martin Groen in 't Woud, Dempsey.



Dan Giles, DSM.

# Controls Make Strides for Power Supply

**RECTIFIER TECHNOLOGY** has come a long way in recent years. Better controls, more flexibility in the designs, and modular systems have combined to provide more choice and more ways to improve production efficiency.

Kevin Hewitt, president of JBC Surface Finishing Systems Ltd. says his company uses the Plating Electronics system for its rectifiers. JBC owns the North American Rectifier name within Canada.

“Plating Electronics is the world’s most advanced switch-mode platform on the market right now,” he says. “The PE 5910-W control is a digital signal processor control. Other suppliers are analog-based in their controls. This has been on the market for 15 years; and PE is the only company that is fully digital.

“The rectifier itself is analog, so we add a mini-plc in it to interact with the control. We can also send back communication signals in a way that other manufacturers can either do at a prohibitive cost, or they can’t do it at all.”

The system, he says, offers real-time ripple monitoring, ripple being the percentage of AC current that happens to be in the DC stream. It can keep ripple under one percent of the total current.

Plating Electronics opened a new factory in Germany this past March. Hewitt says until it had this extra capacity, the company did not want to take on the North American market.

JBC offers a homogeneous system, with a cabinet that offers 5,000 amps. Transformers and heat-sinks are oversized, which means they are built to last.

“We always say to customers, ‘Show us your ugly one – the toughest job you do,’” Hewitt says. “We’re confident we take on those jobs.”

Although his company is Canadian-based, he wants to open a US office at some point in the near future. Most probably, this will be in the Midwest.

Disavower Co. says it is moving into control packages that are more specific to the end-user. Company marketing specialist Richard Morin says this means the customer does not have to program his own controller.

“We aim at a plug-and-play scenario,” he says. “We’re also looking at master controllers that control a range of rectifiers. The goal is all to make it easier for the end-user.”

A recently launched water-cooled switch-mode control from the company has five building blocks of power.



CAENels DC controller.

“It’s all modular,” Morin says. “You can build up to what you need in terms of power.”

A recently launched air-cooled controller offers from 500 to 10,000 amps capacity. Each module in this can be programmed to power different processes on the floor.

“If one module fails, the unit still runs,” Morin says. “You don’t ruin your processes while you swap out the module. Customers need to avoid downtime at all costs.”

The idea is that customers would keep a spare module in storage. If there is a failure and this has to be used, a new module can be sent to replace it.

“You are talking a cost of a couple of hundreds of dollars, not thousands,” Morin explains. “The modular nature of the product allows us to do that.”

“These are the products that are gaining us the most traction. They are much more efficient than older approaches, and they also have a small footprint on the factory floor. Serviceability is driving people to these technologies.”

The actual hardware for rectifiers is getting smaller, he



## “Soon we’ll have a waveform generator built-in so one can preload a profile if needed.”

notes. However, the real advances are coming on the controller side.

Two new Dynapower controllers are Touchpad and Touchscreen. The wall-mounted screen version can go right on the tank or on the wall next to it.

“You can co-locate controls with the tanks,” Morin says. “We offer a water-cooled bus-bar – it’s gun-drilled through the bus-bar.

“People need controls that are more intelligent. That means the operator can do other things, so the control only calls him when things are out of spec.”

Dynatronix recently released a 2400-watt, sealed switch-mode DC rectifier with a full-color display that features a membrane keypad. “It is available as 24 volts at 100 amps, or 100 volts at 24 amps,” says David Osero, vice-president of sales and marketing. “It’s small, so it can easily fit on an existing line. And it’s sealed, for use in harsh environments.”

“We’re trying to bring rectifier controls up to a level people are used to using on a day-to-day basis,” he says, citing use of cellphones as one indicator of changing levels of technological literacy. “Our next phase is to integrate this platform

into our legacy products so our customers will only have to order one control platform.” The controls can also interface with Ethernet/IP, he adds, which is a new feature for his company’s product line.

He also says, “The marketplace is changing – it’s become extremely competitive. Our major competition is international. It has forced us to take a look at exotic design architecture that allow us remain competitive and to meet the customer’s price-point.”

American Plating Power is another company that recently upgraded its controls. The new APC 1000 control system, says Steve Smith, vice-president of sales, is primarily for anodizing, though it can be used with other processes.

“More and more people want centralized control,” he says. “And in order to save money and increase production, they are automating their processes. Our new system monitors multiple tanks from one convenient central location. Among its many features it updates a amps/volts time-stamp every second, so you have precise information on what’s happening in your plating process.”

The company has also made recent upgrades to its

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Dynatronix' DTX control unit.

AS-1200 control system (used for type 2 anodizing) and the HS-1200 (used for type 3 anodizing).

"In addition to 200 multistep recipe programs, both have automatic load adjustment capabilities," Smith says. "They automatically adjust to different load sizes, which means you don't have to manually calculate square footage. And they are Ethernet capable for remote monitoring, control and trouble shooting."

The DC/AC-1200, another new PLC upgrade, is for color anodizing and is designed to offer superior batch-to-batch color uniformity. This is extremely useful for architectural anodizing, where a good color match is difficult but critical. "Much of the hardware remains the same," he states, "though we do have a new modular switch mode set-up that has expandable power capabilities so that the rectifier can grow as your business grows. With the MSA Tower Series you can literally stack a new module on top of what you have."

One new technology that, in the longer term, could be a player in the rectifiers field, comes from CAENels, an Italian-based technology company, with North American offices in New York city. Founded in 2009 as a spin-off from CAEN S.p.A., the company is a developer and manufacturer of high-performance digital bipolar and monopolar power sources, high-precision current transducers and current measurement systems, and other high-end items.

Such technology conventionally goes into arcane research systems – not what you would find in the average anodizing operation. But more recently, it has been developing new bipolar and monopolar standard power sources for reactive (inductive and capacitive) loads with a digital control loop – currently from few watts up to 10-kW for all kinds of high-end applications, and has begun entering the high-end industrial, automotive, battery, medical markets and further. The company exhibited at the recent SurFin show in Atlanta, GA.

"We've been developing very precise current sources for particle physics but have been expanding into other industries, and began receiving interest from electroplating companies," says Erik Soiman, North America CAENels Director heading up the marketing and business development. "Thus, we decided to exhibit. Many visitors to our booth recognized our specifications as being advanced for R&D, or just better

quality production where we obtain ripple values of 0.01 percent or less."

There is a cost factor, as there is with any new technology. And as usual, the technical benefits are offered as the offset to the capital outlay.

"I'm quite sure we're on the more expensive end of the spectrum," Soiman says. "Our selling point is that one will not find a better current source on the market, period."

"We initially design for particle physics, which has very stringent

requirements. So if finishing companies need instrumentation quality for R&D, or require the best quality current and repeatability, we'd be a good choice."

Soiman thinks that supplying medical or military parts, where extreme precision is essential, are good potential markets. Batch-to-batch variations in such areas are not allowable.

"Soon," he says, "we'll have a waveform generator built-in so one can preload a profile if needed. And we'll be offering data logging as well where one can perhaps provide a customer with a current quality report with the processed batch."

"We also have lower power units available as commercial (100 to 800 amps) but we regularly do custom systems into the 20 kiloampere range as well with the same high precision specs."

One thing he says caught attention at the show was his company's digital current measurement system. This is sold under the name CT-BOX.

"We have fully isolated, very precisely (again, for physics), current sensors with 24-bit digitizing," Soiman says, "which are very useful to log current profiles during coating runs and so on. The CT-BOX is a standalone system designed to measure with high accuracy and high precision DC and AC currents, providing the readings in different digital formats."

Integrating the system into an existing facility, he adds, is not more difficult than implementing any other new equipment.

"Based on what we've noticed from other companies, it should be just about the same. You would connect the DC load cables, connect via Ethernet or analog control, and run the unit. From the front panel screen, there are menus to easily set the unit as a current source, since it can also be used as a voltage source."

If CAENels has something that changes the game, it only goes to show that the rectifying and power supply field can still show some important technical growth. And going by what other equipment suppliers offer, they are no slouches at innovation, either.

The process might look like it's all about mature technology, but there are some important developments coming into the market. ■

# Anodizing Aims FOR FLEXIBILITY

**THE ANODIZING BUSINESS** calls for a lot of customization. That applies both in how plants are designed, and the ways in which the equipment is used.

Some anodizers are fortunate in finding customers that require large quantities of the same product over an extended period of time, but most of the industry is still dealing with more limited batches. Companies therefore have to set up anodizing lines that are flexible enough to accommodate a range of sizes of workpieces, but that

are also tuned to the niches they feel are likely to be profitable.

Only the highest-volume operations can justify full-scale automation. Anodizing is not a rapid process, like spray-painting, and the labor-reduction advantages are less.

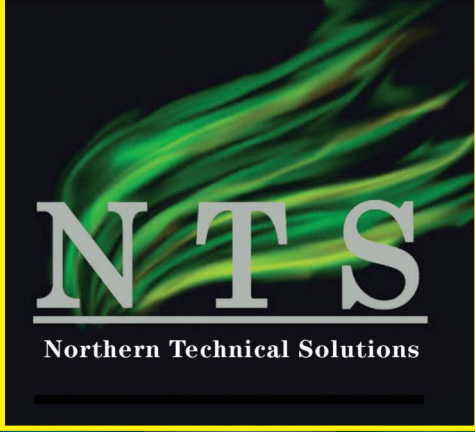
A clear-cut division between manual and automated anodizing does not really exist. Most anodizing firms are always looking to build more speed throughout their plants with labor-saving equipment. And all but the most highly auto-

mated ones have to use muscle-power for some operations.

Jessup Engineering is one of the companies specializing in automation for anodizing operations. The company says its current line of single and multiple lift hoists offer up to 15,000 lb capacity at cycle rates reaching 36 loads per hour.

Process tank material selection, the company adds, depends on process temperature and chemical resistance. Jessup offers polymeric, fiberglass, stainless steel, and lined or unlined steel tanks. Its automated plating barrel load and unload material handling equipment options include vibratory feeders and scales, as well as noise abatement enclosures.

The company is a leading manufacturer of programmable hoist systems for automatic plating hoist systems. The computer-controlled plating hoists offer rugged construction and integrated sup-



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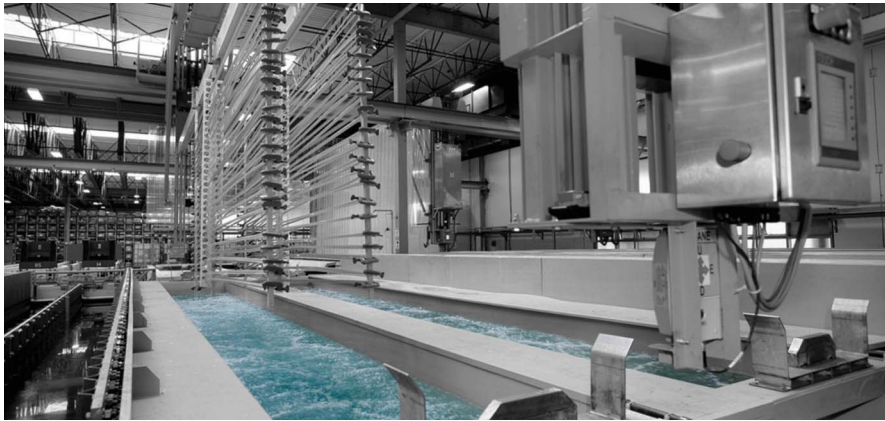
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Aluminum profiles anodizing line. Photo: Apex Extrusions

port systems, to reduce labor, utilities costs and water consumption, and to improve operational uptime.

Technic Inc. engineers and manufactures a wide range of traditional-style hoist systems for various applications. These range from small manual hoist lines with load capacities of 100 lb or less, to fully automated lines capable of handling in excess of 4,000 lb. They include, the company states, state-of-the-art controls, customized material handling, quality construction and process expertise.

Technic also offers a proprietary line of manual anodizing consoles. Custom construction, the company says, provides complete control and accommodations of equipment, integrated exhaust, plumbing and electrical.

Single units or modular construction allow for future expansion and multiple configurations. The consoles offer a solution for integrating small racked parts with basket or small barrel processing, when appropriate.

Technic also offers a line of hoists for manual and semi-automatic operations. Economical and reliable, the company says, these easy to operate systems offer high production value for a small investment.

PKG Equipment Inc. has a full line of plating and anodizing equipment, including wet benches, sinks, turnkey finishing systems, racks, baskets, and fixtures. Like other suppliers, the company can custom design equipment

based on the specific requirements of an application.

The finishing systems for rack and barrel processes can be manual, or fully automated. Wet benches and sinks can be customized with a variety of controls and features such as digital instrumentation, removable tanks, ventilation, ultrasonics, and built-in rectifiers.

Tooling for a finishing operation can also be designed and fabricated by PKG. It can provide a prototype, build new to an existing sample or drawing, or repair or modify your racks, baskets or fixtures.

Tank size is always one of the problematic issues to settle in setting up a plant or revitalizing an existing one. It is essential to build in some flexibility.

For this reason, Precision Process Equipment offers its Liberty series bench module tanks in standard lengths up to 10 ft. These are typically fabricated of stress-relieved, white polypropylene material, and available options include flame-retardant polypropylene and white PVC.

The modules, PPE says, can be supplied in quantities, and plumbed together to form a complete wet processing system. Where ventilation of individual tanks is required, side lateral exhaust arms extend to individual facilities connection collars at the rear of the modules.

The edges around the process tanks are raised several inches, to prevent spillover out of the module. Modules

are designed to have integral spill containment, and in the event of a tank leak, the containment tub will prevent any leakage of liquids from the module.

Tank controls, such as temperature controllers, pump switches, timers, etc., are located in control panels at the front of the module. Access to valves and plumbing is also provided at the module's front. Sliding doors are included to provide what the company says is an esthetically pleasing system.

Designed primarily for manual operation, without hoist assistance, the tanks-on-legs configuration offers an economical wet process system. Each tank is constructed as a stand-alone, individual station. Legs with adjustable leveling pads are provided to bring the top flanges up to a suitable operating height.

Tank controls, such as temperature controllers, pump switches, timers, etc., are located in control panels at the front of the respective tanks. Access to valves and plumbing is also provided at the front. Plumbing mains can be located at the rear if desired.

Options are available for chain-type hoists and I-beam systems, or for manually-operated sidearm style hoists. Each of these options requires support structure, which can be either epoxy-coated steel or stainless steel.

Corrotec is also a supplier of process tanks. These are available in polypropylene, polyethylene, PVDF, and PVC, as well as steel, and stainless steel. They are all produced to customer specifications, though Corrotec's focus is on ergonomically designed equipment. This includes its load/unload systems, lowervators, tote dumpers, vibratory feeders and barrel-load chutes.

The company says its approach is that no two anodizing plants are identical, any more than the parts they handle, or the customers they serve. So, while the basic process of anodizing is one of the oldest-established in the finishing industry, it continues to present challenges and opportunities to the manufacturers that supply it. ■

# Coatings for Tough Applications

**HARD ANODIZING** is a process for truly demanding applications. It includes chromium anodizing, where impending bans on hexavalent chrome – largely prohibited in Europe shortly before this issue was published – are having a major effect on industry processes. It also includes other methods where regulation is comparatively strict.

A lot of the end-uses are in areas where the operating conditions themselves are demanding. In many cases, no other metal coating process is viable for obtaining the required results.

“Currently the greatest demand for hard anodizing comes from the aerospace and military sector,” says Aaron Waltz, Chemetall’s anodizing technical specialist. He adds, “I have seen an increase in hard coat use in the automotive industry as many automotive manufacturers use more aluminum and less steel to make their automobiles.”

The greatest focus at present, he notes, is on the wear resistance of hard anodized products, specifically on moving parts that require a long product life. There is also strong

emphasis being placed on the reduction of the use of all heavy metals in the hard coat process, such as reducing the use of nickel-based sealers, and switching away from using lead cathodes in the anodize bath. There are still misunderstandings about the process of hard anodizing. This applies to people entering the anodizing field as well as to customers.

“I would say that some start ups do not fully understand the risk that comes with starting a hard coating process,” Waltz says. “Unlike decorative anodizing, hard coating requires an experienced operator with good equipment in order to produce a hard coat finish with the correct thickness and quality. One wrong parameter and an entire load of product can be destroyed in a matter of minutes.

“ Unlike other plating operations, the top layer of the metals becomes a part of the coating. This has the effect that you lose some material off of the product every time you make a mistake and have to strip the coating.”

Understanding these differences is critical in achieving a

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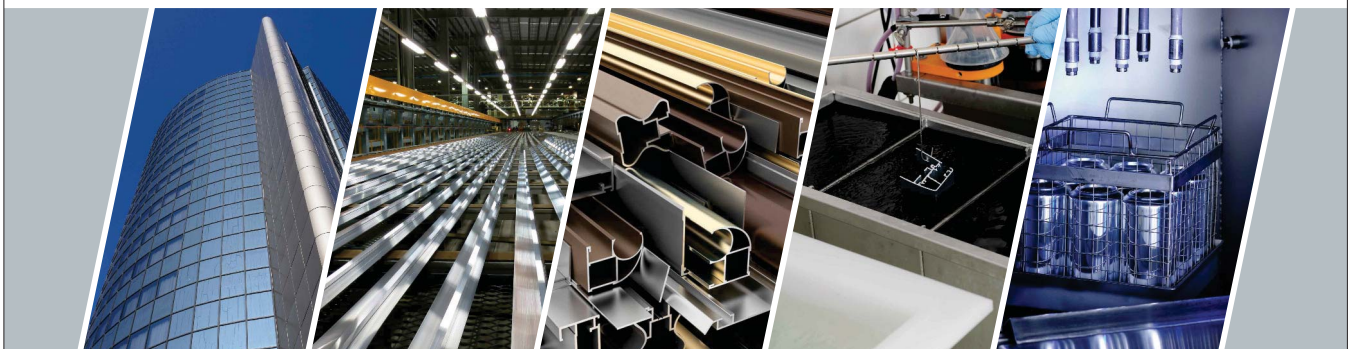
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Aluminum profiles being hard coated.

Photo: SAT Aluminum

finish that meets the specifications, and lasts in the field.

Dan Dunigan, vice-president of market development with A. Brite Co., also sees weaponry, especially small arms, as a major current market for hard anodizing.

“I would have to say corrosion protection and reliability,” Dunigan says. “If people are going spend a high dollar figure on custom small arms, they want it to last and perform better than over the counter products.”

The hard anodizing field faces several regulatory challenges. These, he says, include air and water emissions as well as other legislated standards that are changing quite often.

CHEMEON Surface Technology (formerly known under the name Metalast) has recently been promoting its AA-200 additive for anodizing. This is a proprietary anodizing chemical additive utilized in sulfuric acid anodizing electrolytes, to improve the performance of the resulting anodized surface and facilitate the anodizing process itself.

The additive is specially formulated to prevent the aluminum from burning during the anodizing process. Decreasing the tendency for burning allows a high quality, uniform oxide to form even during anodizing at higher current densities which, in turn, decreases the anodize time and allows for increased production. The company says this produces a harder, more dense and consistent coating.

“It’s not a glycolic acid-based product, but made up of six organic monomers,” states Byron Estes, the company’s vice-president for global solutions. “With this, people can run their process at a higher current density, which helps provide greater throughput. With an additive in the bath, especially when there are a lot of additives, there’s a tendency towards burning. AA 200 reduces this substantially.”

There are economic advantages to it as well, he states. If an anodizer were to take a 1000-gallon tank use standard, glycolic acid-based additives, it would take 20 to 40 gallons to charge the tank. With AA 200, he says, the user would typically need four to six gallons to charge the same tank.

In addition to offering AA-200 as a stand-alone additive, the company also offers its CHEMEON AA-200 Anodize Process, which combines the benefit of the additive with process control elements to succeed where conventional anodizing fails. For example, the technology was licensed to Visteon Automotive for use on its slip in tube (“SIT”) drive shaft for the Jeep Grand Cherokee.

The process was required to pass tests necessary to convert this part from steel to aluminum for the first time ever. CHEMEON is jointly listed with Visteon Automotive in the US patent for this particular application.

There are limitations with hard anodizing. There is generally less availability of dyes, and esthetically, the finish can look rough. The various process are primarily recommended for applications where strength and hardness are more critical criteria than the appearance.

Additionally, not all metals and their alloys can be hard-coated. Also, there is a cost factor, which is why it tends to be employed with higher value-added items, such as aerospace parts

That said, the corrosion resistance and tolerance of temperature extremes and harsh sunlight make it an appealing option for tougher jobs. It has created a number of permanent niches for itself from which it is unlikely ever to lose. ■



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The main anodizing line at Romet.

# Building a Precision Anodizing Business

**SOMETIMES, A COMPANY** sets out to exploit a particular market, and sometimes it ends up building some of its business because of capabilities it developed along the way. That's how Romet Ltd., which set out to sell rotary gas meters, ended up in the custom anodizing business.

The company, based in Mississauga, ON, was founded by John Grzeslo in 1972 to produce the meters for the natural gas industry. He saw an opportunity to manufacture a preci-

sion, positive displacement meter, and was soon successful with his design.

However, one difficulty was that a meter has to be a very durable and reliable piece of equipment. As a measuring device it is subject to official standards that require a high level of accuracy in the finish, since a defective or poor quality coating can produce low-quality results, or even cause the meter to fail.

"Initially, the anodizing was outsourced, and the quality was a problem," says Bill Cameron, Romet's business development manager. "It's a measuring device, so it was highly scrutinized and regulated. As a result, the company started doing its own anodizing."

Metering tolerances need typically to be plus or minus one-half a percent in accuracy. The meters might operate in the field for a period varying anywhere between 20 and 40 years, so the finish has to be extraordinarily good.

Today, the company also produces proprietary electronic volume correctors, temperature and pressure instrumentation, and auxiliary equipment for use in the natural gas industry. It also reconditions older rotary meters.

Cameron himself worked for the company's competition for many years, but after retirement was invited to use his experience in helping build Romet's market presence.

Once other companies found out Romet had a quality-focused anodizing shop able to provide such requirements,



Toan Lam and Bill Cameron.



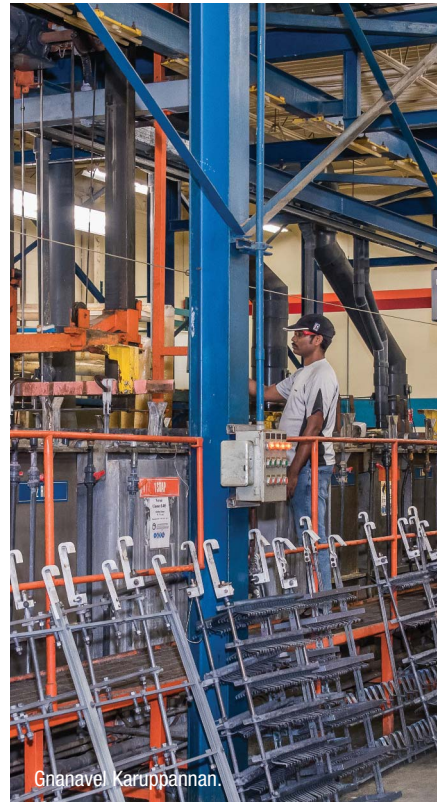
Guest and Andrew Pugacewicz.



Gilberto Rocas.



Zlatko Bejedic.



Gnanavel Karuppannan.

they began knocking on its doors, asking for help with their own metal coating problems. This was a particular problem for companies in the aerospace and medical fields, where exacting standards exceed the industrial norm.

“Today, those segments make up about 50 and 75 percent of our third-party anodizing business,” Cameron says. “While meters are still a significant part of our business, we want to expand our third party custom anodizing. Our sales territory for anodizing is all of Canada, and into the north-eastern US. Our value proposition is high quality, quick turnaround, particularly with clear anodizing requirements.”

The company is not going after run-of-the-mill anodizing or chromating work, though it is not ruling out any

business its operations are equipped to handle. But it plans to make itself a presence as a supplier serving the more demanding applications out there.

The capacity of its equipment will hold most of the components for aerospace and medical applications, although it also caters to other industries with demanding or unusual anodizing needs. It does colored coatings when required, and can anodize parts up to a maximum 72x36 inches.

“We can also handle parts as small as one inch across,” points out anodizing supervisor Toan Lam. “We do both regular anodizing and chromating on a conversion line. The anodizing line has 18 tanks, and the conversion line has 11.” The quantity of tanks allows considerable versatility in the specific process used on any given set of parts.

Romet has invested a substantial amount recently in new rack capacity for the anodizing shop, so it is ready for a wider variety of jobs. The anodizing area also has its own lab to monitor the condition of fluids in the various tanks, with each one being checked at least once a week to ensure consistent results.

“Romet’s anodizing operation is semi-automated and does not require a lot of manpower to staff its lines and we have some upside on capacity based on order sizes and volumes,” Cameron says.

Romet was purchased in 2013 by Signal Hill Equity Partners, a Canadian investment firm that has looked for ways to expand the company’s market footprint. One indication of Romet’s management commitment to customers was its being picked as one of consulting company Deloitte’s Top Ten list of Best Managed Companies in 2017. The 2017 Best Managed program recognizes the best in class of Canadian-owned and managed companies with revenues over \$15-million demonstrating strategy, capability and commitment to achieve sustainable growth. ■



# SurFin 2017 Show



Mark Axford, Fabco Plastics

The 2017 Surface Finishing show and conference was held at the Georgia World Conference Center in Atlanta, GA, in June. More than 180 surface finishing industry suppliers exhibited at the show, and there were over 80 technical presentations during the three-day event. On these pages is a selection of photos of visitor and participants. Take a look, and see if you recognise yourself or your industry colleagues.



Glen Russell and Maria Abad, Kontek Process Water Management.



Jeff Brassard, Melissa Starchild, Daryl Spindler, Mike Burke, Palm Commodities International.



Tim Tan and Don Groszek, De Nora Tech.

# SurFin 2017 Show



Gino Lastoria, Empire Buff and Gene Torcoletti, Atotech.



Alex Howle and Brooke Roahrig, Echo Engineering.



Benjamin Stratton, Reg Chevalier, David Stratton and John Stratton, Corrotec Inc.



Craig Ellison, Mike "Bowtie" Faulman, Savannah "Cookie Monster" Faulman, Kyle Faulman and Katherine Faulman, Associated Rack Corporation.



Connie Dawson, Jody Richards and Edgar Whitby, Process Technology.



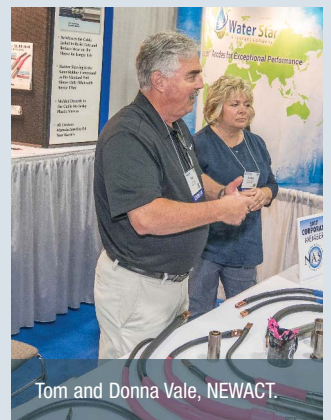
Cliff Roop and Ryan Schlincke, Custom Fabricating and Supplies.



Jay Kunick, Fischer, Mehdi Jalili, Dana Canada, and Bill Brecher, Fischer Technology.



Nolie Johnston, Praher Plastics.



Tom and Donna Vale, NEWACT.



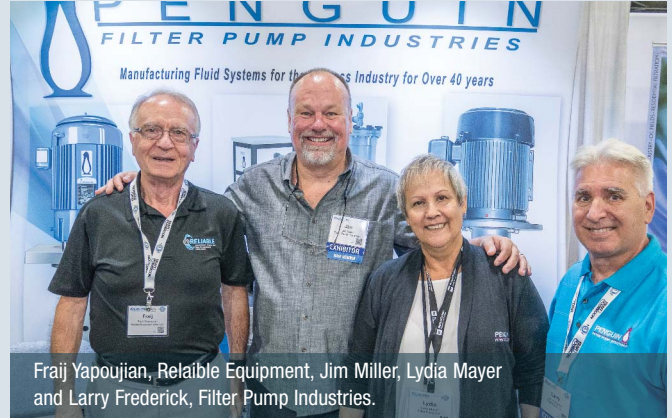
Richard Thibodeau, Peerless Custom Rack, Serge Labbe, Heroux Devtek, and Vish Nadesar, Peerless Custom Rack.



Jared Reid, Gred Reid and Mike Cipicchio, Ion Process Controls.



Ralf Daube and Kevin Hughes, JBC Ltd.



Fraj Yapoujian, Reliable Equipment, Jim Miller, Lydia Mayer and Larry Frederick, Filter Pump Industries.



Jeff and Brad Hatcher, The Dangler Guys.



Gary Federwitz, Abby Grommet, and Gordon Johnson, Therma-Tron-X.



Lorenzo Lamana, Stewart Tymchuk, Charles Morris and Dennis Rogers, Dynamix Incorporated.



## Calendar of Industry Events

**September 19-21, 2017:** Aluminum Anodizers Council Conference, Westin Westminster Hotel, Westminster, CO. [www.anodizing.org](http://www.anodizing.org)

**September 26-27, 2017:** 2017 Electrocoating Seminar, at the Cleveland Airport Marriott in Cleveland, OH. [www.electrocoat.org](http://www.electrocoat.org)

**October 4-5, 2107:** Canada Woodworking West 2017, Tradex, Abbotsford, BC: [www.canadawoodworkingwest.ca](http://www.canadawoodworkingwest.ca)

**October 31-November 2, 2017:** The Chem Show, at the Jacob Javits Center, New York, NY. [www.chemshow.com](http://www.chemshow.com)

**November 2-4, 2017:** WMS 2015, the Woodworking Machinery & Supply Expo, International Centre, Toronto. [www.woodworkingnetwork.com](http://www.woodworkingnetwork.com)

**November 6-9, 2017:** Fabtech 2017. At McCormick Place, Chicago. [www.fabtechexpo.com](http://www.fabtechexpo.com)

**November 15, 2017:** Canadian Association for Surface Finishing, annual conference, Hilton Garden Inn, Vaughan, ON. [www.CASF.ca](http://www.CASF.ca)

**December 7, 2017:** Canadian Paint and Coatings Association Christmas Luncheon, Toronto Airport Hotel and Suites, Mississauga, ON. [www.canpaint.com](http://www.canpaint.com)

**March 14-15, 2018:** Minnesota Paint and Powder Coating Expo. Century College, White Bear Lake, MN. [www.ccaiweb.com](http://www.ccaiweb.com)

**April 24-26, 2018:** ECOAT 18 Conference. Innisbrook Golf & Spa Resort, Tampa Bay, FL. [www.electrocoat.org](http://www.electrocoat.org)

**May 23-24, 2018:** Canadian Paint and Coatings Association Annual Conference and AGM. Toronto (Venue to be announced). [www.canpaint.com](http://www.canpaint.com)

**June 12-14, 2018:** Fabtech Canada 2018. Toronto Congress Centre, Toronto. [www.fabtechcanada.com](http://www.fabtechcanada.com)

**November 6-8, 2018:** Fabtech 2018. Atlanta, GA (Venue to be announced). [www.fabtechexpo.com](http://www.fabtechexpo.com)

## in the NEWS

continued from page 20

Antony Burgmans, chairman of AkzoNobel's Supervisory Board, commented: "It is with great regret that Ton is stepping down due to health reasons. He has been an outstanding leader for AkzoNobel, transforming the company and setting it up for future success. His focus on delivering for our customers and operational excellence has driven outstanding leader for AkzoNobel, transforming the company and setting it up for future success. His focus on delivering for our customers and operational excellence has driven profitability to record levels, increasing returns to shareholders.

Büchner himself commented, "It was a privilege to work for AkzoNobel and I am extremely proud of all the achievements the team delivered during my five years at the company. AkzoNobel is full of highly engaged, talented and passionate people who deliver every day for our customers and I want to thank all of them for their contribution and support over the years."

He joined DuPont in 1988 and held a number of senior positions both in Europe and the US, including vice-president of Performance Coatings, and business manager of Refinish Systems across Europe, Middle East and Africa.

His successor as head of Specialty Chemicals will be announced in due course.

### Ivancic Named Director with Powder Coating Institute

The Powder Coating Institute (PCI) recently named Sue Ivancic, an account executive in Nordson Corp.'s powder coating division, to its board of directors. Ivancic begins her term immediately. Prior to being appointed a board member, she served as PCI's education committee chair and as the PCI events subcommittee chair.

"The board's vote to appoint Sue came as a result of her level of involvement in PCI and dedication to our ongoing efforts to promote powder coating technology," says Trena Benson, PCI executive director.

Ivancic has worked in the powder industry for more than 38 years. In her role at Nordson, she guides the aftermarket support for the company's powder coating equipment direct accounts in the United States. In addition, she supports trade show activity and handles the execution of powder coating basic workshops.

Ivancic also manages the newly opened Nordson University (NU) in Amherst, OH. NU is a powder coating education center, backed by

Nordson's experienced and qualified professionals. It provides a hands-on learning environment to teach best practices relating to powder coating equipment and processes to industry professionals.

"The PCI board of director's position was always a goal of mine," Ivancic says. "I really consider it an honor and feel very fortunate to work with – and learn from – all the other industry experts on the PCI board."

PCI represents the North American powder coating industry, promotes powder coating technology and communicates the benefits of powder coating to manufacturers, consumers and government. A non-profit organization, PCI works to advance the utilization of powder coating as an economical, non-polluting and high quality finish for industrial and consumer products.

### Hale Celebrates 30 Years with Gema



Gema's Jeff Hale.

Jeff Hale is celebrating 30 years of service with Gema USA Inc. Hale, currently the marketing director for Gema, has held a variety of positions within the company including engineering, project management, product management, territory sales, and distribution sales. He has given numerous presentations, has written several articles for various societies and trade publications, and is an active member of the Powder Coating Institute. He is a 1987 graduate of Purdue University with a Bachelor of Science degree in Mechanical Engineering Technology, and is a United States patent holder.

# CASF CONFERENCE 2017: Surviving or Thriving in the Trudeau and Trump Era



We are living in politically charged and uncertain times! CASF Conference 2017 is an excellent opportunity to discuss with fellow industry finishers, suppliers and professional service providers if they are 'just surviving or happily thriving' in today's environment of rising taxes, regulation and red tape. More importantly, what decisions can you make today that will help to secure the future of your business? Our expert speakers will educate you on the latest trends and developments affecting our industry. Don't miss out on Canada's premier one-day surface finishing event!

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**Special Guest Speaker and Keynote Address:** Christian Richter, Executive Vice President, National Association for Surface Finishing (NASF) and President, The Policy Group in Washington, DC.

Christian will provide an insider's glimpse into American politics and their potential impact on Canadian business and policy making in addition to a global perspective on surface finishing.

#### Government Programs Designed to Aid Manufacturers with GHS Emissions Reductions

Nancy Coulas – Director, Energy & Environment Policy Canadian Manufacturers & Exporters (CME)

#### Canadian Industry Programs for Energy Conservation & Incentives.

Richard Janecky – Sr. Industrial Officer, N.R. Canada / CIPEC

#### Advances in Recycling & Recovery Technologies in the Finishing Industry

Allen Hayes – President of Chemtech Systems, Muskegon, Michigan

#### CASF Update & Canadian Environmental/Regulatory Outlook

Michael Kuntz, Bob Smith – President/VP, CASF  
Stephanie McCallum – Government Liaison, CASF

#### Changing Materials Without Reducing Performance

Keith Legg – Chief Technology Officer, Corredesa LLC

#### New Technology Overview in the Surface Finishing Industry

Dr. Sebastian Kuehne – Engineering & R&D Manager, Atotech

#### Economic, Financial & Commodity Markets Outlook

Sarah Howcroft – Economist at BMO Capital Markets

#### Nickel Development: Research & Risk Update

Dr. Hudson K Bates – Executive Director & Toxicologist, NiPERA

*...and other important topics that are affecting our industry today!*

#### Who Should Attend?

Business owners, supervisors, managers, continuous improvement and environmental systems personnel, sustainability managers, and employees, consultants or professional service providers responsible for reducing costs and liabilities through innovative surface finishing technologies.



# Switching to **Quick Color Change** Powder Coating

**POWDER COATING LENDS** itself well to high-volume jobs. In a well-planned shop, it gives finishers the capability to reclaim waste material so that significant reductions in waste are possible compared with the overspray that has to happen in liquid paint operations.

Quick color change systems for powder coating are increasingly practical and user-friendly. However, there are still various considerations to examine in implementing quick color change technology.

“Problems that arise in quick color change systems are

no different than what is experienced in a traditional powder system,” observes Jeff Hale, North America marketing director with Gema USA Inc. “Users must deal with their specific environmental conditions as it relates to temperature and humidity.”

As an example of this, he cites the fact that when the powder coating system is operated in environmental conditions outside the industry recommended range (60 to 80 deg. F, and 40 to 60 percent relative humidity) the operators must make the necessary adjustments to maintain film thickness



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Nordson ColorMax 2 system in action.

control. They must also make sure that proper and effective cleaning procedures are followed during all color changes.

“Even with simple and easy to perform procedures, operators must be alert and diligent in following the proper step to minimize cross contamination,” he says.

Another issue that all powder coatings users must address is the variation of powder chemistries and formulations. For any color change system, the variation of materials may

increase the time and effort required to complete a color changeover.

“Not all powders are created equal,” Hale says, “so each powder will react differently during the color change process. Fillers and other ingredients can require more attention and time during the changeover process. Engaging your powder supplier and powder equipment manufacturer in discussion about best color change practices based on your equipment and powder materials is a good idea.”

This said, he points out that there are many advantages to a quick color change system. The primary one is improved productivity due to reduced downtime associated with reclaim-to-reclaim color changes.

“Operational cost are improved due to higher material utilization, increased color change flexibility, and reduced risk of rejects associated with color cross contamination,” he explains. Additional benefits realized are associated with better airflow management. In automated facilities, the booths provide better management of the booth containment air, thus reducing the impact on the automatic spraying occurring in the application zone of the booth.

“Another advantage,” Hale says, “is the improved powder management that reduces the amount of powder that is in process. With less powder in process, the system particle distribution is balanced better, when compared to

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a traditional powder system; and the first pass transfer efficiency improves.”

In implementing an automated powder coating system, an important point he says companies should consider is that one system can provide more flexibility than traditional roll on/off pow-

der coating systems. Color changeover time is significantly less with the new quick color change systems, and will require less labor.

“Another aspect of the quick color change systems is the smaller and more flexible footprint,” he adds. “Improved

powder management gives users the ability to manage short production runs that consume less powder as well as significantly improve the management of reclaim and virgin powder mixtures associated with longer production runs.

“For those products that require manual touch-up, some quick color change systems provide operators with improved accessibility. This allows them to be up and close to the product for improved ergonomics and application coverage.”

The quick color change system from Nordson Corp. the ColorMax 2 powder spray system, is, the company says, optimized for efficient, repeatable powder application and fast, contamination-free color change.

For example, it has optimized powder recovery and recycling, a streamlined canopy and booth design to minimize powder in process, and a pre-assembled utility deck that speeds installation time. The AeroWash base cleaning system and AeroDeck air distribution system ensure minimal powder build up.

The unit’s iControl integrated control system provides closed-loop digital control of atomizing and flow rate, and the Encore automatic guns are cleaned automatically. The Encore powder feed center provides fully automatic powder delivery, recovery and color change for maximum powder usage. Additionally, the system meets applicable NFPA safety requirements.

Nordson also offers the compact Lean Cell fast color change powder coating booth, which minimizes floor space and conveyor line gaps. This system’s open-face canopy allows for maximum operator access to parts being coated, plus flexibility of movement based on part size and shape for highest-possible transfer efficiency.

The company says it offer a color change in 20 seconds or less, and features an easy-to-use operator interface. It also asserts that the booth offers a higher CFM capacity than conventional booths, and a 28-color capacity per operator.

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**“Even with simple and easy to perform procedures, operators must be alert and diligent in following the proper step to minimize cross contamination.”**



Gema's OptiCenter automated powder coating system.

It features high-density powder, low-velocity (HDLV) air dense phase powder transport, a Prodigy manual spray gun, and Prodigy Color-on-Demand. Instant Color Selector. This, according to Nordson, sets a high standard in lean powder coating, with high coating performance and efficiency, as well as the fast color change.

SAMES KREMLIN Inc. has seen solid growth in recent years with its SAMES EasyDrive Fast Color Change Process. This automatic powder application system can, the company states, provide 100 percent coverage of parts with minimal manual adjustments. It uses fixed automatic powder guns with low powder flow and high electrostatic effect instead of using guns mounted on reciprocators. Features and benefits of the system include superior transfer efficiency, fast color changes with reduced waste, and a smaller footprint than competitive systems.

In addition, it is designed to offer lower operational costs, and to recycle more powder than competitive booths. The system provides part detection which will automatically move the fixed position guns in and out based on the size of the parts going into the booth for the best coating operation. The sensors will also trigger the guns at the correct times to allow for high first pass transfer efficiency.

The company states the benefits of SAMES include faster

color changes with reduced waste, superior transfer efficiency, and the ability to recycle more powder than competitive booths. It also points out the system's small footprint and low operational costs.

The system provides part detection which will automatically move the fixed position guns in and out, based on the size of parts going into the booth, for the best coating operation. The sensors will also trigger the guns at the correct times to allow for high first pass transfer efficiency.

Implementing this type of technology requires proper preparation, beyond just dealing with cost estimates. There is a learning curve involved, both in terms of keeping a system going and in learning how to exploit its more advanced features.

But increasingly, set-up and control of quick color change are becoming both simpler and more flexible to use. Once a powder coating company believes it can make the investment based on its current or expected volumes, the advantages more than justify the expenditure. ■



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# Color Fashions and Technical Trends

**LISTS OR ANNOUNCEMENTS** regarding 'colors of the year' are marketing moves, not kick-off points for deep social analysis. But this year, calming shades seem to be all the rage. Or, rather, all the anti-rage.

Sherwin-Williams, for example, chose a shade it calls Poised Taupe SW 6039 as its favorite. The company stated that it "creates a cozy lifestyle and brings a sense of sanctuary into our homes. It diffuses the stresses of the world outside our doors — so much so that we feel restored and in balance when we walk across our threshold."

The company added,

"At a time when perfection can seem like the ideal, a space that celebrates a well-lived life can be a sanctuary. Our story of taupe is simple. Earthen brown combines with conservative grey and the result is a weathered, woody and

complex neutral that celebrates the imperfections and authenticity of a well-lived life."

Behr Paint went for full-on mindfulness, with In the Moment T18-15 – its color of the year for 2018, to be precise. Erika Woelfel, vice-president of color and creative services at Behr, stated:

"In The Moment speaks to our society's desire to disconnect and be present. Spruce blue, soft gray and lush green coalesce into a fresh shade that evokes a sense of sanctuary and relaxation amid our always-on lives. In The Moment crosses multiple design styles – global, coastal, modern – and pairs well with other subdued colors to create harmony for interiors or exteriors."

Breaking out a little from the pack, Benjamin Moore announced its 2017 Color of the Year as



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Shadow, a deep, saturated purple. Ellen O'Neill, Benjamin Moore's creative director, said of it:

"Allusive and enigmatic, Shadow is a master of ambiance. It is a color that calls to mind a 'past,' yet it can also make a contemporary, color-confident statement."

The assumption with the first two shades is that the stresses of the past year call for something soothing. Benjamin Moore's selection decides to look past all the problems.

To what extent colors influence public and private moods

is debatable, of course. A paint company is delivering a practical product, not a can of cut-price psychotherapy.

And while customers opt for the colors that do make them feel more content in their homes, there are plenty of practical considerations to look at. The ever-present issues of mold and mildew are both practical matters and consumer concerns.

Sherwin-Williams' Paint Shield Microbicial interior latex paint is, the company states, the first EPA-registered


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**“The technology allows oil-based paint properties to be achieved using water-borne paint formulations.”**

microbicidal paint that kills greater than 99.9 percent of *Staphylococcus aureus* bacteria, as well as MRSA (Methicillin-resistant *Staphylococcus aureus*), *E. coli* (*Escherichia coli*), VRE (Vancomycin-resistant *Enterococcus faecalis*) and *Enterobacter aerogenes* within two hours of exposure on painted surfaces.

It continues to kill 90 percent of these bacteria even after repeated contamination on painted surfaces. The effectiveness reportedly lasts for up to four years as long as the integrity of the surface is maintained.

Obvious applications include hospitals, clinics, schools or daycare centers. However, the company sees Paint Shield having uses in kitchens and bathrooms in homes as well.

Just as with any interior paint, two coats are required over a previously primed or painted surface. It can be applied with traditional paint brushes and rollers. And the company has prepared 550 shades of Paint Shield to meet consumer desires.

Waterborne paints are a primary area of interest for suppliers, given environmental and health-related pressures to remove solvents in household products. Reducing solvents in solvent-based paints is not always as precise a business as people might think, and earlier this year four paint companies – Benjamin Moore & Co. Inc., ICP Construction Inc., YOLO Colorhouse LLC and Imperial Paints LLC settled with the US Federal Trade Commission on charges they deceptively promoted products.

The companies had claimed their products offered zero or trace levels of solvents, terms the FTC disputed. The actual products involved were the lines in question are Benjamin Moore's Natura line, Imperial's Lullaby and ECOS lines, ICP's Muralo Paints and various products in Colorhouse's line.

In part, the issue here was advertising claims rather than actual toxicity. In a public statement, Colorhouse said it is committed to being transparent with its customers.

“As a result, we are in agreement with the proposed actions by the FTC to make labeling for VOCs clearer for consumers,” it stated. “Going forward, Colorhouse will make our VOC Content and VOC emissions statements as well as the third-party laboratory tests used to determine the safety of our products more prominent on our paint can labels and marketing materials so our customers can make more informed decisions regarding the paint for their home.”

These firms at least did not encounter the issue facing

Valspar in the UK. There, consumers complained of a ‘cat urine’ smell in paints Valspar produced for the B&Q proprietary line of paints. As a solution, Valspar recommended repainting the walls with two coats of an alkaline sealer, then putting a coat of the paint on the top.

The problem came, it turned out, from bacteria growing in the paint cans. Tightened restrictions on additives led to removal of an additive that might have prevented the problem. The bacteria produced both hydrogen sulfide and ammonia which produced the resultant offending odor.

The problem is most pronounced on walls that are highly porous, and where the wall is exposed to heat and/or direct sunlight. The odor reportedly will gradually wear off over time.

One new initiative in the field of lowered solvents comes from GreenCentre Canada and Lorama Group Inc. GreenCentre Canada is based at Queen's University in Kingston, ON, and it is claiming its technology allows oil-based paint properties to be achieved using water-borne paint formulations.

A paint company is delivering a practical product, not a can of cut-price psychotherapy.

Originally invented by Professor Philip Jessop at Queen's University, such materials reportedly create high quality films without the use of traditional solvents. They are water-soluble in carbonated solutions, allowing them to be stored and sprayed as liquids.

Once the paint is applied to a surface, the CO<sub>2</sub> quickly evaporates and the material switches to its insoluble form. It thus creates a uniform film, as if it employed an oil-based solvent.

“GreenCentre is very pleased to partner with a global leader in the paint formulation solutions. Lorama's commitment to sustainable chemistry, its global distribution capabilities, and commitment to customer service in the sector make them great partners for commercialization of this exciting technology,” said Pete Pigott, executive director of GreenCentre Canada. “Lorama's established distribution channels into the market are truly global in nature and will allow GreenCentre unprecedented access to these larger markets.”

Whether this approach proves commercially viable in the long term remains to be seen. The ideal paint product from a consumer standpoint will perhaps never exist. But at least the supplier community is trying to address the problems as creatively and innovatively as it can. ■

# CAD Transforming Hooks and Racks

**HOOKS AND RACKS** change slowly – but changing they are. As increasing use of CAD systems is brought into the field, turnaround for customers is becoming faster and the designs themselves are becoming more versatile.

“There is no doubt that CAD systems are having an impact on hook and rack design,” says John D. Gill, international sales engineer with Caplugs. “The ability to quickly model a hook or rack in three dimensions and then add the customer’s part to that 3D CAD model, helps ensure that hooks and racks can be designed right first time.

“The ability to analyze uncoated

parts on a rack and see how a rack will fit together, before any metal is cut, brings significant benefits to the completed hook and rack system. It also helps the manufacturer ensure that hooks and racks can be manufactured efficiently.”

There are not a lot of new materials coming in. However, the choice of metals or alternative materials is not just a matter of suppliers opting for their own preferred solutions.

“Hook and rack materials are generally matched to the paint or coating process and the environment they will be used in,” Gill explains. “Changes in

materials are likely to come from changes in surface finishing processes, such as lower temperature curing.”

Customers, he adds, do not always appreciate what their hook and rack suppliers can bring to the table in terms of expertise.

“It’s important for everyone involved in both the design of the parts and the finishing process to understand the relationship between racking the parts and masking them. A badly designed rack or mask can cause many problems with the efficiency and quality of the coating or painting process.

“Our expertise is in designing cus-




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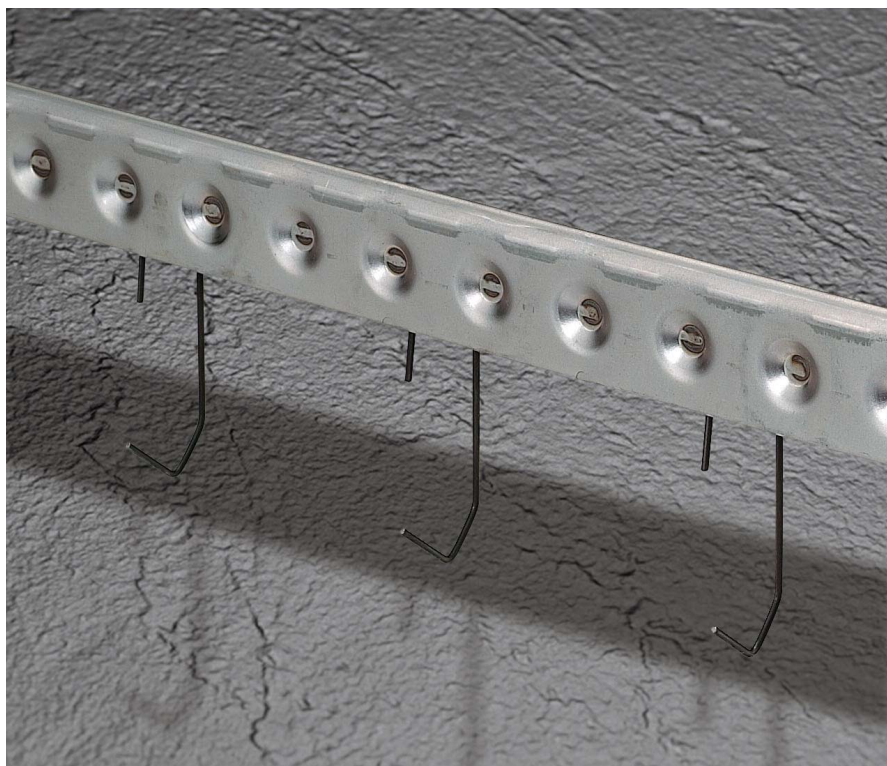
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## “Well-designed masking can help ensure better connectivity between the hook or rack and the part.”



A rack with hooks from Caplugs.

1987, and its customers include some of the largest OEM and job-shop coating operations on the continent.

“We design complete hanging systems for large scale coating operations and engineer innovative custom solutions,” the company states. “Our extensive stock program is designed to handle the majority of the requirements of the coating community, and will benefit any size or type of coating operation.”

It has large inventories of stock hanging products, including hooks, racks/crossbars and load bars. Its patented Angle Pivot Hanging System allows for closer rack spacing on conveyor lines allowing a more solid wall of finishing, increasing productivity by a claimed 50 percent on conveyors with 30-degree inclines or declines.

These products attach to existing conveyors to create closer rack spacing and increase coating efficiency. The net effect, Mighty Hook says, is a 15 to 50 percent decrease in required space for hanging relatively flat products.

Associated Rack Corp. notes ergonomic issues are a significant driver in the market today. More and more, the company states, it is being asked to design fixtures with greater consideration for operators’ health concerns.

This includes general ease of loading and unloading parts, avoiding carpal tunnel syndrome, and managing repetitive motion issues. By properly designing a fixture, it is possible to balance these ergonomic issues without sacrificing much, if any, production.

Shortened lead times, the company adds, are an increasing feature of the marketplace. Customers need to be able to react fast, so time has grown increasingly scarce.

One complication arises from the fact that the rack and hook supplier

tom masking solutions which can work in conjunction with and enhance the hook and racking system. Well-designed masking can help ensure better connectivity between the hook or rack and the part. It can prevent buildup of coating on the racks and so can help extend the working life of the racks.”

Are hook and rack designs becoming more complex? That appears to be the case.

“Designs will always evolve with the drive to be more efficient or achieve a better-quality result,” says Gill. “In no way have we plateaued.”

He adds, “The merging of both the masking and racking into a single unit for example is a challenge for everyone in the industry. Whilst that will bring about more complex designs, the payoff will be simplicity and consistency during the masking and racking process, which will lead to a more efficient and streamlined finishing process.”

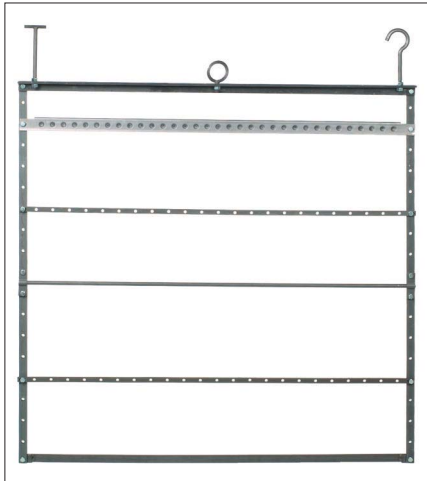
Designing racking does not require the most advanced types of software, obviously, but it does require more capacity to build-in complexity than some end-users might suppose. Optimal configurations are not the same thing as obvious configurations.

Peerless Custom Rack Co. Ltd., for example, reports using SolidWorks and AutoCAD to support tooling designs for customers. The company states it has to offer that level of accuracy, the designs being affected not only by the configuration of the parts to be painted or coated, but also by ergonomic constraints.

Materials used for racks and hooks have remained consistent over time, the company adds, even as the demands placed on them have increased.

Mighty Hook Inc. maintains its own staff of engineers to design custom hanging and masking solutions for customers with unique requirements. The company has been in business since

# “Optimal configurations are not the same thing as obvious configurations.”



A Captlugs modular rack.

does not necessarily see the parts that are to be finished. In the past, a customer would provide parts to help in fixture design. Increasingly often, in today’s climate, customers themselves are not seeing parts until they arrive at their facility to be processed.

This situation has required suppliers to do more designing from part drawings. At times, 3-D modeling is necessary to clarify the requirements and the result.

While ARC, like other suppliers, has found its general product line has not changed in any significant way, the constant striving to exceed prior performance remains a fact of the business. The company has added

transportation and WIP (work in progress) carts to its product line in recent years, to ensure that the parts are properly protected and easily transported, either within customers’ facilities, or when being shipped from the customers to their customers. In addition, it has added rack and hook stripping to its product line.

But while computerized design is only going to play an increasing role, the fact is that it can never fully replace practical experience. Hook and rack production is a metal fabricating business, not a computer-oriented one, and expertise in the field will continue to be the final determining factor. ■

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# Floors that Shine

**FLOORS PROVIDE** one of the most demanding surfaces for any finishing technology. They are subject to more friction, impacts and other hazards of everyday living than almost anything else in a home or work environment.

There are also increasing demands for a wider range of properties beyond strict functionality. Steven Reinstadtler, market manager – construction coatings, with the Coatings, Adhesives & Specialties division of Covestro LLC, says smell factors are something customers are asking to see reduced or eliminated.

“We continue to see a heightened demand for finishes that have a lower odor, particularly for interior applications as lower-odor finishes gain increased acceptance from many more professional contractors,” he says. “Initially, many floor coating contractors were skeptical of waterborne or ultra-low VOC finishes, claiming, ‘They took all the good stuff out of them.’ However, after years of proven performance, these newer formulas have become more mainstream to the benefit of building occupants.”

There is also, he notes, an emerging and growing demand for lower-sheen wood floor finishes that impart a softer, warmer look to a room.

“In the past,” he says, “the only way to achieve this type of sheen was to incorporate lots of matting agents, which compromised the durability of the finish. However, newer polyurethane coating technology allows for a lower sheen down to satin and eggshell finishes with a scratch and mar resistance similar to that of a high-gloss finish.”

Covestro has considerable legacy technology available in the polyurethanes area, as well as substantial R&D capabilities.

One issue with any wood coating is that of tannin stains. This is particularly a problem with richly colored woods such as cedar and mahogany, which are heavy in tannins.

“The staining is most noticeable when applying a solid color basecoat, because the tannins can migrate through the finish,” Reinstadtler explains. “Tannin stain-resistant primers are employed to control this issue should there be a need to apply a solid-color finish to suspect wood.”

There is growing use, he adds, of two-component waterborne polyurethane floor finishes due to their excellent durability, low odor and ability to vary the sheen without compromising other properties. Current products represent years of development and optimization over the early waterborne systems.

“They now exhibit properties equal to or higher than traditional solventborne polyurethane finishes,” he says. “This is all achieved while meeting or exceeding the tougher national and regional VOC requirements.”

The problems raw materials suppliers and formulators confront, he points out, are not really new. Rather, the expectations are higher and tougher, requiring new materials and systems that improve on past successes.

“For example,” he says, “a high-traffic pathway across an existing hardwood floor might begin to show downglossing or scratching, detracting from the overall appearance. The whole area then needs to be refurbished.

“Owners want a finish that will last longer and that won’t need this repair for many years. This is another reason decision-makers are choosing much higher-performing polyurethane finishes, as it comes down to the simple ratio of ‘per square foot per year.’”

Multi-step finishes are one trend that Doug Gilliam, AkzoNobel’s business director, wood coatings, North America, notices. These, he says are “finishes where manufacturers reproduce furniture looks in flooring with more depth of color, including staining with chemicals and physical distressing on wider and longer wood planks.

“The wood flooring industry is responding to new challenges of substitution where new products entering the market are being considered by consumers. These replacements provide interesting design elements and imitate furniture and luxury flooring looks.

“Luxury Vinyl Tile (LVT), laminates, wood imitating ceramics and wood plastic composites (WPC) are just some of the attractive flooring options for consumers. At AkzoNobel we want to help our customers create unique and lasting finishes



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for their products and that allows for differentiation in the flooring market.”

Gilliam sees a decline in the past 10 years for exotic wood types reducing demand for tannin stain resistance. However, there is definitely a strong demand for chemical staining and bleaching products.

“These react with the wood tannins to enhance the wood grain and character,” he says. “This staining offers looks and colors that you cannot achieve with standard stains utilized in the wood finish industries.”

Upcoming trends he says flooring manufacturers have mentioned are performance factors of finish clarity, surface scratch resistance and a diverse color palette. These are important to maintain as trends in flooring move toward lower gloss finishes.

“The need to introduce lower gloss topcoats with improved surface resistance was imperative in the Canadian wood flooring market,” he adds. “AkzoNobel identified this need and proactively developed a new scuff resistant topcoat offering a combination of surface scratch resistance, very low gloss and color clarity for the flooring industry.”

James Monroe, market segment manager for furniture and flooring with BASF, sees waterborne systems showing the highest levels of growth for this market. Solventborne formulations are still growing, but trailing waterbornes.

“New designs in roll coating equipment have led to a more effective way to provide an ‘inert’ environment for UV curable coatings,” he notes. “This opens the door to innovations in UV resin development.”

Primary demands for new development that BASF notices are for waterborne UV curable coatings and 2K waterborne coatings.

DSM is another polyurethanes supplier with a solid presence in wood floor coatings. Its Decovery product range is designed to exploit PURs’ durability and properties such as scrub resistance.

Dan Giles, senior technical applications manager with DSM, says the company’s Decovery HP-5100 was developed to offer high hardness values for trim areas. It has, he says, excellent scrub resistance.

“It is designed for a nice hardness, scrub resistance, block resistance and adhesion,” he states. “You can stack items on it without it marking. “It has withstood up to 2,000 scrubs in testing.”

Another DSM product is Decovery HP-2100, which Giles recommends for exterior use. In particular, it has a high crack resistance.

A third product is NeoRez R-9500. This, he says, has excellent scuff and abrasion resistance. “It needs fewer coating layers than many competing products, due to high solids. We have tried to make it as health and safety compliant as we can for the US, including California standards, which are very strict.”

This product, he adds, was designed to have a very low

reaction to tannic acids in the wood. It reduces the chance of lap marks that could result from poor application, so it can also be used as a sealer.

Last year, Michelman introduced Ecothan 4075, a waterborne, solvent-free PUR dispersion (PUD) for use in high performance wood floor coating formulations. This, the company says, exhibits excellent optical transparency, high flexibility and extremely good abrasion, water and UV resistance. These properties, combined with excellent gloss and chemical resistance, recommend it for both clear and pigmented coatings for use on wood flooring, wooden furniture and cabinets.

The product can also be mixed with acrylic emulsions. With a minimum film forming temperature (MFFT) of 0 deg. C (32 deg. F), it is well suited for very low VOC formulations. It can be used for interior and exterior applications. Ecothan brand solutions from Michelman are available as polyurethane dispersions, PU-acrylic blends and PU-acrylic hybrid dispersions. While the brand was originally developed for industrial wood production applications that require maximum durability and a beautiful finish, special Ecothan brand solutions are now available for hard surface substrates including wood and plastic, where high abrasion resistance is needed, as well as for flexible substrates including technical textiles, thread, yarn and artificial leather, where high flexibility and high bending resistance is requested.

Canlak offers a range of wooden floor coatings including its UV curing systems. This product line, which the company says is highly efficient because of its instantaneous drying time, is particularly recommended for hardwood floors.

These 100 percent solid UV products can be applied by spray, roller coater or vacuum. Solvent-based and water-based versions are available, for spray application.

Canlak also represents Italian-based Verinlegno and its range of polyester and polyurethane products. The polyurethanes in particular are formulated to take on heavy duty service.

This family of products includes both standard PUR and PUR-acrylic blends. They are available in clear or opaque systems, from ultra-matte through to high sheen finishes.

Katilac Coatings has a wide range of wood coatings. Its offerings for wood floor coatings include the KU (Katilac Ultra) Series, a pre-catalyzed conversion coating with 30 percent solids by weight.

This, the company says, consists of a solventborne, one component, pre-catalyzed, alkyd/amino resin-based conversion coating. It is water-white, yellowing resistant, and HAPs-free, and is specifically designed for high quality interior wood finishing.

It can be used as a self-sealing system or in conjunction with one of Katilac’s pre-catalyzed sealers, such as EK6 or EK8. It is especially well suited, Katilac says, for use with the company’s EN6 vinyl sealer for high demand interior wood finishing applications.

D Series Kativar Plus conversion varnish features 54 percent solids by weight. This is a line of solventborne, two-component, alkyd/amino resin based conversion varnishes. They are, the company states, water-white, yellowing resistant varnishes that, again, are specifically designed for high quality interior wood finishing. They can be used in a self-sealing system or in conjunction with Kativar KV6 post-catalyzed sealer or EN6 vinyl sealer.

Canlak offers a full range of wood floor coatings, including UV types. UV technology, the company says, accommodates a large variety of projects, the rapid drying time being a primary reason for its usefulness.

Additionally, the company's own chemists can assist with custom formulations, or technical problems.

The 100 percent solid UV products can be applied by spray, roller or a vacuum process. Both water-based and solvent-based coatings are offered.

The Dow Chemical Co. recently introduced a new-generation silicone slip additive that it says offers optimal compatibility with modern and traditional waterborne wood-coating binders. Dow Corning 210S Additive is designed to improve the mar and abrasion resistance and anti-blocking performance of waterborne wood coatings, while reducing the tendency for surface cratering.

Additionally, it has no impact on mechanical properties,

surface hardness or water resistance and little or no impact on recoatability and intercoat adhesion. Depending on the coating binder, it also exhibits less impact on gloss.

"At Dow, we are continually fine-tuning our silicone additive technologies to help formulators create coatings that not only meet a growing array of global safety and VOC regulations but also meet consumer desires for superior coating quality and performance," says Dow Corning Europe SA Coatings and Leather global segment leader Chris Wall.

The 210S additive is a third-generation version of Dow's ultra-high-molecular-weight silicone dispersion technology, which greatly reduces static and dynamic coefficient of friction at very low use levels. This, along with its ability to be used alone or in combination with wax emulsions, makes the additive a cost-effective choice for customizing and enhancing the performance of waterborne wood coatings.

"Dow Corning 210S Additive offers wood coating formulators the best of two worlds – the proven performance of established technology, plus a level of compatibility that extends the range of formulations where class-leading performance can be achieved," Wall says.

No coating on wood will last forever, but clearly the options are improving with every year. The look of well-prepared wood is worth conserving, and the coatings to enhance that, for every budget, are close at hand. ■

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**Publisher & Sales**  
Pete Wilkinson  
1-705-296-3030  
[pete.wilkinson@cfcfm.ca](mailto:pete.wilkinson@cfcfm.ca)

**Editor**  
Edward Mason  
1-416-423-0150  
[edward.mason@cfcfm.ca](mailto:edward.mason@cfcfm.ca)

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**Viscometer for Changing Conditions**

Paul N. Gardner Co. Inc. has introduced a new device for viscosity measurement of coatings. The ConePlate viscometer is specifically designed to provide stringent testing conditions to allow the measurement of coat-

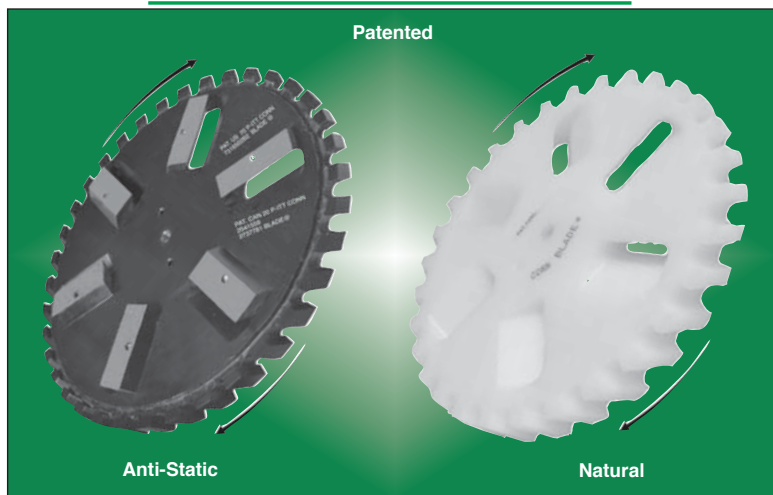
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**Airless Spray Gun**



The new SFlow manual airless spray gun from SAMES KREMLIN Inc. has been designed to make working conditions easier for painters in the field that are dealing with difficult and very long days of spray painting.

The gun is ergonomically designed for comfort and to be very easy to use. Its lightweight design of only 590 gm (1.3 lb) reduces operator fatigue and increases productivity.

The SFlow is equipped with a swivel fitting on the handle and an ultra-light two- or four-finger trigger. The filter can also be changed easily and quickly.

Using an extensive range of tips, it reportedly delivers an even coating quality. There are 64 Tip Top reversible tips available, 82 flat tips and 36 SKILL double-insert tips will be available soon. These, the company says, are thoroughly tested for high quality spraying and repetitive type jobs. The gun has a reported transfer efficiency of 81 percent.

[www.sames-kremlin.com](http://www.sames-kremlin.com)



### Acrylate Promotes Adhesion

Sartomer, a division of the Arkema Group, is launching PRO22019, a new polyester acrylate specifically developed to provide enhanced adhesion to a wide variety of plastic substrates. Its composition allows the user to formulate UV-curable inks and coatings that meet current regulatory standards for the

food packaging sector.

Stringent regulatory constraints apply to certain sectors of the UV industry, in particular relating to the use of UV inks and coatings for food packaging. It is therefore necessary for the formulator to address this aspect in addition to the fundamental requirements for high adhesion, reactivity and surface hardness.

The new product offers reportedly excel-

lent adhesion to a wide range of plastic substrates, superior cure response with both UV and LED systems, and hard-cured films demonstrating improved scratch resistance. It also offers low yellowing, and full compliance with existing food packaging regulations for the formulation of high-performance UV-curable inks and coatings.

[emea.sartomer.com](http://emea.sartomer.com)



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