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Is the NAFTA Season Over Yet?

Earlier this year, I was talking at a trade show with a US sales manager about market conditions and current business dynamics. Oddly, when I asked him about NAFTA, he was at a loss. He'd spent his entire career in a post-NAFTA world, and had no conception of how things would work with tariffs, duties and other barriers to North American trade. It wasn't in his mental vocabulary, any more than comprehending the minute workings of the laptop I'm writing on are my concern.

Have you followed all the twists and turns in the NAFTA saga? Me neither. And I spend at least half an hour every day updating myself on economic issues.

As I write this in early September, the negotiations are stalled (again), the White House might be posturing (again) and Canada might be trying to call what it sees as a bluff, and hang on to certain cherished positions (again). I think. By the time it's too

late to change this editorial, everything will have changed (again).

It ain't over till it's over, and that means when Congress has its say, and when Mexico, which soon installs a new president, ratifies the deal, and so on. Today's headlines are always tomorrow's "Yeah, but then..."

In practice, international trade is never simple. Open, unfettered commerce is elusive, and pursuing it always causes economic casualties. The original, two-nation Free Trade Agreement 30 years ago was widely predicted to cause misery for small to medium-sized firms, and the prophets were partly right. Yet both the US and Canadian economies benefitted overall, and in time, Canada adjusted, even if the deal left pockets of the country disadvantaged.

Abandoning NAFTA would be hugely complex, given how interwoven the partners' economies are. Automakers have been screaming

about the cost of a rewritten deal for many months, and that's just one sector. Simply disentangling current arrangements would take until the next US presidential election, and part of Canada's strategy is probably to hang on long enough, so things at that level change anyway.

In the end, we will have a renewed deal, under the present governments or their replacements. It's nigh impossible to separate closely aligned national economies, as the UK has found in trying to negotiate its way out of the EU. The problem isn't the final deal, so much as the disorder ensuing before it's in place, and people can learn the new rules.

At a time when a thriving economy across the continent should be bringing cheer to all, that's just frustrating. And no, I don't have any good suggestions to pass on. Do you, by any chance?

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Quebec Firm Automates Spray Painting

Spray painting is still, except in larger plants with high volumes, a manual operation. Now, a Quebec-based company has produced the OmniPainter, a robotic system that customers can lease, and which can be used in plants handling medium production volumes.

This uses artificial intelligence to learn its tasks, and it is designed to be affordable by smaller companies. The first system is to be installed for beta testing this fall.

Omnirobotic, based in Laval, QC, is headed by Francois Simard, who was formerly a shareholder in AGT Robotics (Trois Rivieres, QC), a supplier of robotic systems for welding.

"I was leading a small group of developers and researchers committed to self-learning technology," he says. "We could not justify the team operation budget within AGT and agreed to split off from AGT in 2016."

There are no formal ties remaining between the two companies, though people in the two firms remain friends. Omnirobotic has no distribution agreement with AGT, and AGT does not have any IP rights over Omnirobotic's AI engine.

"Omnirobotic is an autonomous industrial robot manufacturer, not a robot integrator," Simard adds. "We got \$1-million in funding from Element AI, Real Ventures, Alexandre Taillefer and Genik to develop the OmniPainter and penetrate the painting industry."

This is the first industry on which his company has focused its AI. It aims to become a significant player in this space before moving on to another manufacturing sector.

The company's AI engine is used to convert painting into a chess-like game, Simard explains. For any and every object passing through what he calls a 3D reconstruction station, its 'brain' is analysing the object shape and evaluates several painting strategies in real time.

For each scenario, a simulation is performed to determine what would be the outcome of that decision, just as for assessing a move in chess. At any point, the AI can go back into the decision tree and explore alternative scenarios to find a better one leading to a wholly painted part with minimal waste of time and paint or powder.

At this point, the system is still under development, gathering data for its next iteration. The company plans to install three systems before the end of this year.

"We always start with a rental, of up to three



Laurier Roy, chief technical officer of Omnirobotic, with an OmniPainter.

months, then we let the customer choose to buy or lease the unit for a longer term," Simard says. "Of course, the customer can stop the trial at any time if the OmniPainters are not performing well enough for his production."

Omnirobotic is targeting manufacturers with high part diversity, and operating two shifts a week – 16 hours over five days a week – or more.

"We ask for 16 hours of operation a day when we rent each OmniPainter at \$25 an hour," Simard explains. "We expect the product to be hanging on an overhead conveyor. But some customers operating eight to 12 hours per day are looking to buy the OmniPainters, even if the ROI is slightly longer."

DCC LANSCO Announces Next Steps for Merger

DCC LANSCO has taken further steps in the merger of the two companies. Since April 8, the combined teams report significant progress, the next move being to align the global sales and customer service teams.

Since July 1, the combined company's sales outside the US have been managed by Peter Baggen, vice-president of sales, and all customer orders are now processed by customer service teams in the UK or Canada.

Effective August 1, the combined company sales and customer service within the US will be managed by Frank Lavieri, executive vice-president and general manager, from DCC LANSCO'S offices in New York and Rhode Island. Bob Neu and Jon Morrison in sales and Priyesh Khatri in customer service will be joining the DCC LANSCO USA team.

In the coming months there will be local inventory of DCC manufactured goods stocked in the LANSCO USA warehouses, and LANSCO products in European and global distribution warehouses.

Axalta Expands Texas Facility

Axalta Coating Systems is expanding its Jacksonville, TX, production facility. The 30,000-sq ft expansion is to be completed in the first quarter of 2019, and will increase the company's liquid industrial coatings production capacity in North America by approximately 1-million gallons a year.

"We're enthusiastic about the continued investment and development in the site's manufacturing and formulation capabilities" said David Heflin, Axalta vice-president, Global Industrial Coating Systems. "This expansion will allow our team to continue to deliver high volume and world class solutions that address the evolving needs of our customers."

The plant has seen continued growth over the past year, the company said. It specializes in waterborne, low-VOC and solvent-based coatings, in addition to other products.

RadTech Announces New Technical Conference

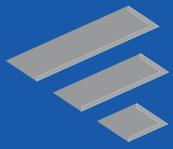
RadTech, the association for ultra-violet and electron-beam technology, has announced a new conference for 2019, to be called BIG IDEAS for UV+EB Technology. This will take place March 19-20, in Redondo Beach, CA.

BIG IDEAS replaces the regional uveb West event, to focus on the ideas for UV+EB rapidly emerging on a global scale. This two-day conference and table-top exhibition will feature leading-edge conference sessions focused on concepts such as moving from 3D printing to additive manufacturing with UV technology, developing data-driven materials, the increased use and development of UVC LED, new applications for UV+EB, and other emerging technologies.

BIG IDEAS aims to offer the industry a forum to discuss the future of UV+EB technology, while exploring more of the applications and science that will enable developments two years, five years, and 10 years down the road.

AkzoNobel Invests in Biomass Additives

AkzoNobel Specialty Chemicals is working with Renmatix (King of Prussia, PA), one of the winners of the company's Imagine Chemistry challenge in 2017, on biomass-based performance additives for paints and construction materials. The two companies have signed an agreement to collaborate on research and development related to Renmatix's Crysto Cellulose, a form of crystalline cellulose the firm isolated.



FABTECH

FABTECH 2018 Offers Advancement for Your Finishing Operations

With a short time to go until the show opens its doors, the FINISHING Pavilion at FABTECH 2018 is sold out with nearly 200 exhibitors. 35,000 attendees are expected to visit the show floor that covers over 650,000 net square feet of exhibit space. More than 1,500 exhibitors showcasing everything from welding, forming, fabricating, and stamping to finishing will share the exhibit floor! The CCAI FINISHING Pavilion is packed with suppliers that will bring countless products, services, innovative ideas and equipment to attendees interested in all aspects of the finishing industry.

FINISHING Pavilion Exhibitors (as of August 28)

1stSource Products, Inc./Tycon Bearings
 ABL-TECHNIC N.A.
 Accudraft Paint Booths
 ACT Test Panels, LLC
 AFC Finishing Systems
 Air Power, Inc.
 AkzoNobel Powder Coatings
 Alabama Washer and Oven
 Alconox, Inc.
 Alexandria Metal Finishers
 Alliance Manufacturing, Inc.
 American Industrial Sales, LLC
 Amiberica, Inc.
 Andreae Team, Inc.
 Apel International Inc.
 Argon Masking, Inc.
 ASCO Carbon Dioxide, Inc.
 Assured Testing Services
 Atotech USA LLC
 Axalta Coating Systems
 AZZ Metal Coatings
 Baril Coatings USA
 BASF Corp.
 BCI Surface Technologies/Bulk Chemicals, Inc.
 BEKO Technologies
 BEX Spray Nozzles
 Blast Cleaning Technologies
 Blast Services Inc.
 BlastOne International
 Burleigh Industries
 BYK-Gardner USA
 Calvary Industries Inc.
Canadian Finishing & Coatings Manufacturing
 Caplugs, Inc.
 Carlisle Fluid Technologies
 Castrol
 Catalytic Industrial Systems
 CCAI
 Chemetall
 Chemtec North America, LLC
 Circle-Proscio, Inc.
 Clean Air Technology Solutions, LLC
 ClearClad Coatings, LLC
 Col-Met Engineered Finishing Solutions
 Columbus Industries, Inc.
 Combustion and Systems, Inc.
 Coral Chemical Co.

CPR Systems
 CTI Systems S.a.r.l.
 Custom Fabricating & Supplies
 D&B Plating
 Decoral System USA Corp.
 DeFelsko Corporation
 Delfin Industrial
 Diamond H2O
 Dinamec Systems LLC
 DMP Corporation
 DuBois Chemicals
 Duroair Technologies Inc.
 Durr Systems, Inc.
 DV Systems
 Dynabrade Inc.
 Echo Engineering & Production Supplies, Inc.
 Eisenmann Corp.
 Elcometer Inc.
 The Electrocoat Association
 EnviroServe Chemicals, Inc.
 EPSI Masking Solutions
 Ervin Industries Inc.
 ESMA Incorporated
 Euroimpianti SRL
 EUROSIDER SAS DI MILLI OTTAVIO & C.
 FAMIS Inc.
 Fandeli Coated Abrasives
 FANUC America Corporation
 Fischer Technology Inc.
 Flex Trim USA
 Fostoria Process Equipment, div. of TPI Corp.
 Frost, Inc.
 Galv-Pro Products
 GAT Finishing Systems
 Gema USA Inc.
 General Fabrications Corp.
 George Koch Sons, LLC
 Global Finishing Solutions LLC
 GMA Industries
 Goff, Inc.
 GPA INNOVA-DLYTE
 Graco Inc.
 Graphic Products
 Guspro Inc.
 HafcoVac
 Hammond Roto-Finish
 Hedson Technologies North America Inc.

Henkel Corporation
 Hentzen Coatings Inc.
 Heraeus Noblelight America LLC
 Herr Industrial, Inc.
 Houghton International - Surface Finishing
 Hubbard-Hall Inc.
 IFS Coatings, Inc.
 Infiniti Coating Solutions
 Intek Corporation
 IntelliFinishing
 International Thermal Systems, LLC
 Intertek
 Iowa Area Development Group
 IST America
 IST International Surface Technologies
 IXS Coatings
 Jackson Oven Supply
 Jamestown Coating Technologies
 Jervis B Webb Company
 Keyland Polymer UV Powder, LLC
 Klinger Paint Co
 LDPI, Inc.
 LPI, Inc.
 LS Industries, Inc.
 M L Filters
 Magic Rack/Production Plus Corp.
 MAXAIR Systems
 Michigan Metal Coatings Company
 Micron Fiber Tech
 Midwest Finishing Systems, Inc.
 Mighty Hook Inc.
 Mighty Lube Systematic Lubrication
 Mode Kartela Boya Ltd. Stl.
 NikoTrack
 Nordic Air Filtration
 Nordson Corp.
 Novacel
 Omnirobotic Inc.
 Parker Ionics
 Patriot Metal Finishing System
 Peening Technologies
 Pneu-Mech Systems Mfg. LLC
 Pollution Control Products Co.
 Polymer Molding, Inc.
 Porcelain Enamel Institute, Inc.
Powder Coated Tough
Powder Coating

Powder Coating Institute, The
 Powder-X Coating Systems, LLC
 PPG
 Precision Color
 Pretreatment Equipment Manufacturing Inc.
Products Finishing Magazine
 Prona Tools Inc.
 Raptor Blasting Systems
 Richards-Wilcox, Inc.
 Rohner
 RollSeal, Inc.,
 S.E.F. ITALIA SRL
 SAMES KREMLIN
 Sata Spray Equipment
 Scheugenpflug Inc.
 Selas Heat Technology
 The Sherwin-Williams Co.
 sia Abrasives
 Sigma Abrasives North America
 Southern Equipment & Services
 Southern Fluid Systems, Inc.
 Spray Systems, Inc.
 Spraying Systems Co.
 Spray-Tech / Junair
 Sprimag Spritzmaschinenbau GmbH & Co. KG
 Sunkiss-EPI, Inc.
 System Technologies, Inc.
 Tanis Inc.
 TCI Powder Coatings
 Technotrans America
 Therma-Tron-X, Inc.
 Transmet Corporation
 Trimac Industrial Systems, LLC
 UniCure Spraybooths
 Uni-Spray Systems Inc.
 V & S Galvanizing LLC
 Valmont Coatings
 Vapor Technologies
 Viking Blast & Wash Systems
 Vitraccoat America Inc.
 voestalpine eifeler coatings
 Vogel Industrial Coatings
 Vulkan Blast Shot Technology
 W Abrasives
 Wagner Systems, Inc.
 Washington Mills Ceramics Corp.
 Webb-Stiles Company

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FINISHING Education Program at FABTECH to Include New Sessions

CCAI's FINISHING Education Program at FABTECH 2018 is the most innovative yet. With 11 entirely new sessions and updated information in many others, FABTECH includes programming for newcomers and industry veterans alike.



Why Attend the Education Program?

- FABTECH brings together experts from all aspects of the finishing industry resulting in a diverse and high-quality program.
- With 20 sessions comprised of 41 presentations, it is the single most comprehensive program in the industry.
- The program covers a wide variety of finishing technologies, from liquid to powder coating to electrocoat, along with essentials like pretreatment, masking, racking and curing.

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.

FINISHING Conference Schedule-at-a-Glance

TECHNOLOGY	8:00 AM - 10:00 AM	10:30 AM - 12:30 PM	1:30 PM - 3:30 PM
FINISHING		C20: Building Blocks of Powder Coating B	C30: The ABC's of Infrared B
		C21: Fundamentals of a Successful E-Coat Operation B	NEW! C31: First Things First - Hanging and Masking I
		C22: Pretreatment Challenges I	C32: New or Improve - What's Best for Your System I
WEDNESDAY, NOVEMBER 7			
TECHNOLOGY	8:00 AM - 10:00 AM	10:30 AM - 12:30 PM	1:30 PM - 3:30 PM
FINISHING	C40: Optimizing Batch Powder Coating Operations I	NEW! C50: Powder Coating and Industry 4.0, Really? I	NEW! C60: Automation - Is It for Everyone? I
	NEW! C41: Blasting Your Way to Success I	C51: Identify and Solve Finishing Defects: See It, Touch It, Fix It I	NEW! C61: Safety - It Works for All of Us I
	C42: Architectural Coatings - Building a Lasting Finish I	NEW! C52: Developing a Liquid Coating Knowledge Base B	NEW! C62: Improving Performance of Pretreatment Processes I
THURSDAY, NOVEMBER 8			
TECHNOLOGY	8:00 AM - 10:00 AM	10:30 AM - 12:30 PM	1:30 PM - 3:30 PM
FINISHING	NEW! C70: Top 10 Tips for Maintaining Your Powder Coating Operation I	NEW! C80: Key Elements of Spray Booth Design I	
	NEW! C71: From E-Coat to Top Coat A	C81: All About Ovens I	
	NEW! C72: Advancements in Pretreatment I		

B = Basic **I** = Intermediate **A** = Advanced

Register now at www.fabtechexpo.com



Renmatix plant in King of Prussia.

Renmatix uses a proprietary process to convert biomass into cellulosic sugars and bio-fractions. These can then be used in the manufacture of products that would traditionally be made using less sustainable materials.

“I am impressed by Renmatix’s thinking and their development of a biomass conversion technology that is not only disruptive technically and economically, but also enables green chemistry,” said Geert Hofman, general manager of AkzoNobel Specialty Chemicals’ Performance Additives business.

“We look forward to working with AkzoNobel Specialty Chemicals to advance their sustainability initiatives,” added Mike Hamilton, Renmatix CEO. “This agreement is significant because it demonstrates a bright future for plant-based ingredients in the industrial materials segment.”

Renmatix was one of three startups that won joint development agreements through the 2017 Imagine Chemistry program. The firm was awarded the opportunity in response to its novel method of isolating bio-fractions by breaking materials down using only hot, pressurized water.

The companies expect the agreement to result in biomass-derived components for architectural paints and construction materials.

Partnership Buys IGM Resins

Astorg and Arsenal Capital Partners has partnered with Astorg and IGM management, and signed a definitive agreement to acquire IGM Resins. The purchased firm is a global manufacturer and innovator of UV-curable materials, previously owned by Arsenal.

The transaction is expected to close in the second quarter of 2018 and is subject to customary closing conditions and regulatory approvals. Financial terms of the transaction were not disclosed.

Headquartered in Waalwijk, the Netherlands, IGM offers a full platform of complementary UV curable material solutions (photoinitiators, acrylates, and additives) for the high growth UV coatings and inks market. It lays claim to particular

strength in graphic arts (inkjet / 3D printing, printings inks for low-migration food packaging), electronics, optical coatings, and adhesives.

Edward Frindt, CEO of IGM, said, “We are pleased that Astorg has recognized IGM’s value creation strategy and look forward to partnering with them to continue our focus on providing our customers new products and technologies across the product portfolio. Astorg has significant experience in the specialty chemical sector and a broad and experienced team, which will ensure a seamless transition.”

Nicolas Marien, director at Astorg, commented, “IGM has established a truly unique position in the UV curable materials space thanks to its strong focus on innovation and unrivalled customer intimacy. We have been impressed with what has been achieved by the brilliant and dedicated management team, enabling the company to grow significantly over the past few years. We are glad to accompany IGM during the next phase of its ambitious development plan through the provision of adequate capital resources and enhanced M&A capabilities.”

Sal Gagliardo, an industry & operations partner of Arsenal, said, “We are proud of the transformation of IGM from a specialty chemicals distribution company to a leading global UV-cure technology provider. During our partnership with the management team, we completed four strategic acquisitions and executed an aggressive organic growth strategy. Through these initiatives, the Company has become the leading global producer of photoinitiators with the most comprehensive breadth of technologies serving high growth UV cure applications.”

Astorg is a European private equity firm with total funds under management of over €4 billion. It seeks to partner with entrepreneurial management teams to acquire European companies and create value through the provision of strategic guidance, experienced governance and adequate capital.

Arsenal Capital Partners is a private equity firm that specializes in investments in middle-market specialty industrials and healthcare business services companies. Since inception in 2000, it has raised institutional equity investment funds of approximately \$3-billion. Arsenal invests in industry sectors in which the firm has significant prior knowledge and experience.

Dangler Guys Moves to New Plant

The Dangler Guys has moved to a new, larger facility, not far from its previous headquarters. It is now located at 620 9th Ave., Tawas City, MI, 48763. Other contact information remains the same.



The Dangler Guys’ new plant.

According to general manager Brad Hatcher, growth in the company’s need for manufacturing space, as well as more warehousing, required the move. “This plant is 27,000 sq ft,” he says, “which is almost three times the size of our old one in East Tawas.”

Dow Chemical Expanding Ethers Capacity

The Dow Chemical Co. has announced a series of phased, incremental investments to expand its global glycol ethers capacity, to meet increasing demand in key end-markets and applications. Once complete, the additions will have nearly doubled Dow’s current capacity for these product lines.

Dow plans to increase its production capacity of select p-series and performance glycol ethers product lines, including DOWANOL glycol ethers, through a series of seven debottlenecking and incremental expansion projects. These phased investments will begin in 2018 and are expected to continue over the next several years. The first increments of the new capacity will become available by the end of 2019.

Demand for glycol ethers continues to rise as a result of urbanization, a growing middle class, evolving and stricter regulations and increasing sustainability challenges. Glycol ethers are used in a variety of applications to deliver improved performance and reduced health and environmental impacts of end products.

“Our announcement to increase glycol ethers capacity reflects our long-term commitment to these product lines and the industries that utilize them,” said Ester Baiget, business president for Dow Industrial Solutions. “These developments will continue to position Dow as the most reliable and customer-centric of all global suppliers.”

Anguil Celebrates Four Decades

Anguil Environmental Systems Inc. marked its 40th anniversary in August with a celebration in its hometown of Milwaukee, WI. The company, founded in 1978, offers industrial air pollution control and wastewater treatment.

The night included a multimedia presentation focused on Anguil's Recipe for Success: Vision, Expertise, Leadership, Employees, Resilience, Fun, Community, and Family. Dinner and dancing will follow a series of speeches by key Anguil personnel. Throughout the past four decades, the company has made several moves into increasingly larger facilities, established international operations, developed of an extensive global sales representative network, and won awards like the employee-driven Top Workplace distinction and the Environmental Business Journal Achievement Award.

Anguil has over four decades of experience with the design, manufacturing, service and installation of thermal and catalytic oxidizers for the destruction of VOCs, hazardous air pollutants (HAPs), process odors and nitrous oxides. Anguil also specializes in energy recovery systems that



Gene, Deb and Chris Anguil

reduce a company's operating costs, lower their carbon footprint and decrease energy consumption by utilizing waste heat from manufacturing processes. On the water side, Anguil Aqua provides turnkey water treatment systems that target solid or liquid pollutants from industrial and remediation applications.

Following the Road to Success!

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PPG Boosts Prices

PPG will implement a price increase of up to six percent on all of its industrial coatings technologies in North America. The change is effective July 1, 2018, or as permissible by contract, and applies to all industrial coatings end-use segments. Kevin Braun, PPG vice-president, industrial coatings, Americas, said continued increasing cost pressures from raw materials and labor drove the need for further price adjustments.

“PPG continues to be aggressive in its efforts to control costs through enhanced operational efficiencies,” said Braun. “While these efforts have been successful in many regards, rising costs throughout the supply chain require that we modify our pricing at this time. These price increases ensure that we can continue to deliver the industry’s most innovative coatings solutions along with the value-adding support of our exceptional technical and service teams.”

PPG sales representatives will communicate details to their customers for all affected products.

CoatingsTech Seeks Abstracts

The American Coatings Association (ACA) is seeking submission of abstracts for its 2019 CoatingsTech Conference, which will be held April 8-10, 2019 at the Westin Cleveland Downtown in Cleveland, OH. The theme of the 2019 conference is “Making Sustainable Ideas Happen: Coatings for the Future.”

This biennial conference features a multi-track forum, industry awards, and presentation opportunities for both industry professionals and students. It also offers industry experts a forum for sharing new research, and will feature advanced half-day short courses focusing on varied audiences. In addition to technology-focused sessions, the conference will also address regulatory and legislative developments impacting manufacturing, product innovation, and sustainability. The CoatingsTech Conference enables coatings manufacturers, their suppliers, universities, and government representatives to share ideas, collaborate, and advance the coatings industry. Conference sessions will be categorized to provide attendees with an opportunity to focus on individual interests and specialization.

Canada Woodworking East Coming in October

Canada’s only bilingual show for the cabinet and furniture industry is coming in October, and organizers say they are thrilled with the response

from the industry. Canada Woodworking East (Bois ouvré de l’est du Canada) will be held at the BMO Centre at Espace Saint-Hyacinthe in Saint-Hyacinthe, QC, on October 24 and 25.

The event will once again include an educational program featuring a diverse seminar series presented by industry experts. The seminars will take place on location and will be free of charge to all show visitors.

Visitors interested in attending are invited to register online now at www.CanadaWoodworkingEast.ca. By pre-registering, visitors will save 50 percent, and fast-track their entrance directly into the show.

“We are very excited about the growth and momentum of Canada Woodworking East 2018, this year’s lineup includes more exhibitors and a lot more machinery on the show floor,” said Mike Neeb, show manager. “The positive response from exhibitors and visitors about our new venue in Saint-Hyacinthe has been amazing, and this year’s event is shaping up to be the largest yet.”

The year 2018 marks the third edition for this biennial woodworking industry event. BMO Espace Saint-Hyacinthe features 60,000 sq ft of dedicated exhibit space as well as lots of free parking. The show, which occurs in a major furniture producing area, attracts members of the secondary woodworking industry from across Quebec and Eastern Canada, including cabinet manufacturers, furniture manufacturers, architectural woodworkers, millworkers, custom wood product manufacturers and more.

New Windsor-Detroit Bridge Comes Closer to Reality

The Windsor-Detroit Bridge Authority has announced the Bridging North America consortium as the preferred proponent to build and operate the Gordie Howe International Bridge.

Construction of the bridge is expected to begin later this year.

The bridge consortium, which includes ACS Infrastructure Canada Inc., Dragados Canada Inc., Fluor Canada Ltd. and others, beat out two other groups.

Bridging North America’s plan for the bridge calls for a six-lane, 2.5-kilometre cable-stayed design.

The bridge authority said it still needs to negotiate the final contract details.

The cost of the project, design details and expected construction schedule are expected to be announced once the contract has been awarded and signed.

TCI Changes Company Name

TCI Powder Coatings, which produces thermoset powders, has changed its name to plain TCI, and has adopted a new, pyramid-style logo. This, the company says, reflects the way in which it is expanding its coatings portfolio. The company has been part of RPM, which owns over 800 brands in a wide variety of markets since 1996.

“Our new brand positioning represents our new customer-centric market approach that leverages our relationships with fellow RPM companies to meet specific needs with a broad portfolio of products and coatings resources,” said Jack Bostock, vice-president of TCI. “RPM has enabled us to bring a full complement of technologies to strengthen ties with large, internationally recognized companies while continuing to provide dedicated service and technical support to smaller powder coating customers.”

TCI is making a major investment in its Ellaville powder manufacturing facility. This will increase capacity, reduce lead-times and improve yields.

The company has also announced plans for a new powder coating facility and innovation center in the greater Charlotte area. This is scheduled to be operational in 2020.

Further, TCI has been granted an exclusive rights agreement to sell BASF’s CathoGuard, a cathodic epoxy electrodeposition coating, in the general finishing segment. This will enable TCI to bundle powder and liquid coatings with electrocoat and provide greater options in OEM finishing.

Debro Enters Partnership with AkzoNobel

Debro Inc., a Canadian distributor of specialty chemicals and raw materials based in Brampton, ON, has announced a new partnership with AkzoNobel Performance Additives. Effective September 1, Debro will represent AkzoNobel’s ELO-TEX and Bermocoll range of products in central and eastern Canada. These technologies cater to a variety of applications, including adhesives, construction products, paints, specialty coatings and drilling fluids.

“AkzoNobel — Performance Additives brings to Debro best-in-class redispersible polymers and a broad range of cellulose ethers backed by strong technical and lab support,” said Bill Heise, president and CEO of Debro. “The determination and persistence of AkzoNobel Performance Additives to support technically is crucial in enabling Debro’s

technical sales force to continually provide our customer base with the highest level of problem solving customer service and capabilities.

“From our first meeting with their team, it was clear that we had an opportunity to represent a market-leading principal that would provide quality offerings, ethical solutions and innovative technologies whose goals were complementary to Debro’s.”

Added Steven Grant, commercial manager North America – Performance Additives Ethylene and Sulfur Derivatives: “Our Performance Additives business has had a strong presence in Canada so when we began the process of selecting a new distribution partner a major criterion was to find a technically savvy firm whose industry knowledge, reputation and level of service capabilities would complement and be closely aligned with our strategic vision.”

IMCD Purchases E.T. Horn

IMCD N.V. has successfully completed the acquisition of 100 percent of the outstanding shares of US specialty chemicals distributor E.T. Horn Co. The agreement on the acquisition was announced on June 12, 2018.

Horn fits with IMCD’s US activities and supports the strategy of offering to its suppliers and customers an organization with national US coverage and dedicated segment expertise. It was established in 1961 and is a leading specialty chemicals distributor in the United States with focus on coatings, construction, plastics, personal care, human and food nutrition, animal nutrition, nutraceuticals, and other specialties. With a head office in La Mirada, CA, Horn represents various suppliers and is primarily focused on the west and southwest US.

PEOPLE

The CPCA awards:

The Canadian Paint and Coatings Association (CPCA) honored ten individuals for their contributions to the industry at its Annual Conference and in May. The awards were presented at the annual Chair Awards Dinner at the Hockey Hall of Fame. The association’s highest honor, the Roy Kennedy Award, was presented to Pete Wilkinson, founding publisher of Canadian Finishing and Coatings Manufacturing magazine.

“Pete Wilkinson has been a fixture in the



CFCM’s Pete Wilkinson,
Roy Kennedy Award winner for 2018.

Canadian finishing and coatings industry for many years,” said CPCA president and CEO Gary LeRoux in announcing the award. “Pete is tireless in his efforts to cover all aspects of the coatings industry and I’m very pleased to see him receive this recognition. His work clearly represents the main source for coverage of the compa-

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nies, the people and the events across the full spectrum of the coatings industry.”

The Industry Achievement Award was presented to Eric Bos (Sansin Corp.), Chris Currie (John E. Goudey Manufacturing Ltd.), Eric Vaillancourt (Canlak) and Steve Sides (American Coatings Association). This award is given to an individual or an organization that has demonstrated exceptional achievement in advancing the interests of the industry and the association’s objectives.

Bos is the managing director of privately held Canadian-owned Sansin Corp., which has invested in the development of a waterborne stain since 1985 leading to the launch of its flagship Sansin Classic wood stain. He is an active member in the CPCA, Ontario Wood Export Association, Canadian Wood Council, Forest Products Association, Canadian Green Building Council and others.

Currie is the CEO of one of Canada’s oldest family-owned and operated businesses, in the Greater Toronto Area. For 65 years the company has manufactured interior stains and lacquers. Vaillancourt has been with the Quebec-based company Canlak for almost 20 years. Canlak opened in 1981 with only three employees to manufacturer lacquers and varnishes. The company has grown to more than 120 employees shipping products throughout North America and around the world from its operations in Daveluyville, QC.

Steve Sides is a long-standing vice-president of the American Coatings Association with a strong background in chemicals management and environmental policy. He has led numerous efforts on behalf of the ACA to advance the interests of the global coatings industry with his extensive involvement in the Secretariat for the International Paint and Printing Ink Council (IPPIC), an organization representing coatings associations globally.

In addition, the Industry Statesmen Award was presented to five individuals who were retiring from their respective companies but have made a significant contribution to these companies and the industry generally. These were Ron Nakamura (PPG Canada), Ed Thompson (L.V. Lomas), Jeff Danneman (Reichhold), Jean-Guy Rosa, (PPG Canada), Ed Linton (Cloverdale Paint) and Rennie Herry (Goudey).

Cloverdale Paint Changes Board of Directors

Cloverdale Paint Inc. has made changes to its board of directors. Wink and Noelle Vogel have retired from the board of directors and will not be standing for re-election. To maintain the family structure of the board, Tracy McDonald and Randy Vogel have replaced them. This new structure maintains the balance of three family directors, three management directors and three external directors.

Wink Vogel will assume the position of honorary chairman. His son, Tim Vogel was nominated as chairman and will hold the positions of chairman and CEO.



Timo Vogel

Heraeus Noblelight Chooses New President

Heraeus Noblelight America (HNA) has named Pradyumna Kumar (P.K.) Swain, Ph.D., as its president. Dr. Swain will be responsible for providing leadership to grow HNA’s business in areas of radiation technology, such as UV curing, packaging disinfection, and air and water treatment, and maintain its market leadership position. In addition to his role as president, he will also serve as the global head of innovation for Heraeus Noblelight’s UV division.

Before his new appointment, he served as the



P.K. Swain

chief technology officer and vice-president of technology for HNA (formerly Fusion UV). He was responsible for development of innovative technology platforms leading to the generation of photons for UV curing applications. His responsibilities also included defining new and emerging applications using UV photons.

Before joining HNA, he worked for over 12 years at Sarnoff Corp., where he was involved in the development and commercialization of various innovative technologies and business endeavors in the areas of advanced imaging, nano-technology, and biometrics.

Swain earned his Masters and PhD in Physics from the Indian Institute of Technology in Kanpur and New Delhi.

Gema Names New Engineering Manager

Gema USA Inc. has promoted Phil Flasher to engineering manager. With over 20 years’ experience with the Gema team, he has extensive application expertise, product knowledge, and customer involvement.



Phil Flasher

Flasher will be responsible for management of the project engineering team, supervision of systems and retrofit engineering, and directing the Gema customer application lab.

CASG Appoints Officers for 2018-19

The Canadian Association for Surface Finishing has appointed officers for the coming year, as well as confirming the slate of directors. At its annual meeting in May, Bob Smith of MacDermid Enthone was elected president, replacing Mike Kuntz of KEI, who becomes immediate past-president.

Stewart Tymchuk of Dynamix is now vice-president. Association secretary is Mike Tingle of Ortech, treasurer is Mary Lukic from MacDermid Enthone, and Stephanie McCallum is government liaison.

Board members are: Mike Hullinger (MacDermid Enthone); Jim Sutherland (Acadian Platers); Tom Casselman (Coventya); Jonathan Holland (Peerless Custom Rack); Gene Torcoletti (Atotech); Kevin Janitz (Atotech); Rob Newman (Moores Industrial); Peter Schmied; Paola Battiston (Seneca College); and Brigitte Roth

(Acclaims Environmental). Richard Thibodeau has stepped down as a board member, but remains as a special adviser to the board.

MacDermid Selects Vice-President

MacDermid Performance Solutions (MPS), has promoted Mike Goralski to vice-president, global supply chain. In this role, he will manage the full supply chain for all five MPS business units including Industrial Solutions, Electronic Solutions, Graphic Solutions, Offshore Solutions and Alpha Assembly Solutions. He will report directly to the president of MPS, Scot Benson.

Goralski began his career with the former MacDermid in 2001 as a financial analyst and held several positions within the company's finance organization, including vice-president of finance and operations for North America. In this position he had overall responsibility for the North American supply chain organization. He was later promoted to vice-president of the Americas and assumed commercial responsibility for the Industrial Solutions and Electronics Solutions businesses of MacDermid. Since 2015 he has been the vice-president of MacDermid Enthone Industrial Solutions Americas.

Additionally, MacDermid Enthone Industrial Solutions (MEIS), a division of MacDermid Performance Solutions, has promoted Richard Lynch to vice-president of the Americas. He has more than 30 years in the business, and has held various roles in technical, sales and operations, most recently holding the position of director of marketing & business development at MEIS. In his new role he will be responsible for the MEIS business in the Americas, leading the commercial strategy to keep the business at the forefront of the industry. In addition, he will continue to develop the corporate approach to sustainable technologies for the industry.

Commenting on his appointment, Lynch said: "The Americas region is one of the most important markets for MacDermid Enthone Industrial Solutions, with plenty of exciting developments in the pipeline – opportunities that I'm looking forward to leading in my new role. We have built an exceptional business, with a field team that has more than 2,500 years of collective field experience and directly supports our customers to provide the unrivaled innovation and service they require.

"We are committed to supporting our customers' position as the leading applicators for our industry. It is my aim to build on these founda-

tions and continue investing in our people and programs, to enhance the value we bring to customers, and ensure we remain the leaders in surface finishing technologies."

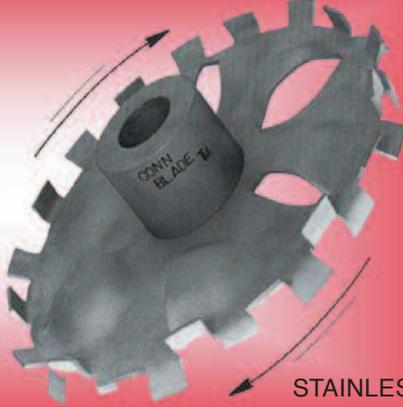
Based in the Waterbury, CT, office, he will lead a team of 200 colleagues. He takes up this new position with immediate effect.

PPG Names Senior Vice-President

PPG has appointed Rebecca Liebert as senior vice-president, automotive coatings, effective June 25. Liebert, who will report to PPG chairman and CEO, Michael McGarry, will also oversee the Latin America region and will join the company's operating committee. In this role, Liebert will succeed

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Gary Danowski, current VP, automotive coatings, who will become VP, global automotive refinish, effective July 1. Danowski will replace John Outcalt, who has announced his intent to retire, effective Aug. 1.

Liebert joins PPG from Honeywell UOP, where she served as president and CEO. During her career with Honeywell, she also served as SVP and GM, catalyst absorbents and specialties, UOP; SVP and GM, gas processing and hydrogen; and VP and GM, electronics materials. Prior to joining Honeywell, she served as president, Reynolds Food packaging, Alcoa KAMA. Liebert began her career as a Six Sigma Top Gun development engineer with Nova Chemicals.

“Rebecca’s wide-ranging experience and proven leadership capabilities will be invaluable for the automotive OEM coatings business,” McGarry said. “Gary’s leadership skills, his perspective and his knowledge of the refinish business will serve him well in this new assignment.”

Danowski joined PPG in 1982 as a production engineer at a former automotive glass fabrication plant. He held various roles as an automotive glass sales engineer and superintendent of engineering. In 1994, he moved to Paris as director, market development, for PPG’s European glass business, returning to the U.S. in 1997 as plant manager of PPG’s former Meadville, PA, glass manufacturing facility. He was appointed director, new products and services, flat glass, in 2001; director, production, automotive OEM glass, in 2003; and director, global operations, aerospace, in 2007. He was named VP, performance glazings, in 2009. In 2011, Danowski relocated to PPG’s European headquarters in Rolle, Switzerland, for his role as VP, automotive refinish, EMEA; and in 2017 became vice president, automotive coatings.

During his 35-year career with PPG, Outcalt has held positions of increasing responsibility in the automotive OEM coatings and automotive refinish businesses. Outcalt joined PPG’s automotive OEM coatings business in 1983 as marketing services manager. After progressing through various marketing, marketing services, technical, sales and management positions within automotive OEM coatings, he became director of network sales for automotive refinish. Outcalt served as director of collision center operations and director of sales, North America, refinish, before joining PPG’s insurance and services business as GM. He became general manager, refinish, United States and Canada. In 2007, Outcalt was named VP, automotive refinish, Americas, and in 2010, his

role was expanded to encompass global responsibility for the refinish business.

“John’s capacity for building relationships with our refinish distributors, as well as his passion for results made him a key executive in contributing to the company’s success,” McGarry said. “PPG is a better company today because of the industry-leading global refinish business that John has nurtured and grown during his tenure.”

Applied PhotoChemical Appoints Sales Vice-President

Ultraviolet/UV coatings supplier Allied Photo-Chemical has hired Michael Kelly as vice-president of global sales. His responsibilities include marketing and customer engagement.

Dan Sweetwood, CEO of Allied PhotoChemical, said, “Having Mike re-join Allied Photo-Chemical after a seven-year absence, brings an innovative and refreshing approach to our overall Sales & Marketing approach. Over the past seven years, Mike has been involved with multinational companies, driving innovative customer solutions that deliver long-term ROI to their problems.”

Kelly’s most recent position was managing North American sales and marketing for Schuler, Inc., a large German metal forming company, delivering over \$400M in annual sales. He has significant overseas experience, with international assignments in Australia and Europe. He holds a BS in Engineering and MS degrees in Management, and International Finance.

“I am very excited to rejoin the Allied Photo-Chemical team, and provide the discipline and experience to the sales and marketing organization, plus driving home the “Customer First” experience for our great Customers,” he said.

Allied provides UV coatings technology to pipe and tube customers worldwide, plus industries including cosmetics, composites, wood, metal tanks, and others.

www.alliedphotochemical.com

AMETEK Brookfield Appoints Global Marketing Director

AMETEK Brookfield has appointed Vicki Case to the position of global marketing director, and Hitesh Shah to the position of global vice-president, sales.

Shah has over 25 years’ experience in sales and executive positions in North America, India, the Middle East and Asia. He has worked for General Electric, Meggitt Sensing Systems and most recently served as Global Sales Director with



Hitesh Shah

Novanta. The company says he brings strong engineering, sales, business development and operational experience to AMETEK Brookfield where he plans to grow business through effective team leadership and customer relationship development.

He has a graduate degree in Mechanical Engineering and was honored with a gold medal for concentration in Turbomachinery. He also served on the Engineering faculty at the Mahara-ja Sayajirao University of Baroda.

Case spent the past 12 years at Sealed Air in Saddle Brook, NJ. For the past three years, she was vice-president of marketing, global e-commerce and fulfillment solutions, responsible for market strategy, demand generation, business development and implementation of new business models for the e-commerce sector. She is a graduate of the University of Michigan with a Bachelor of Science degree in Chemical Engineering.

AMETEK Brookfield produces measurement and control systems for liquids and soft-solid fluids.

NASF Presents Industry Awards

The National Association for Surface Finishing presented several industry awards during its annual trade event, the 2018 SUR/FIN Manufacturing and Technology Tradeshow and Conference. This was held at Cleveland’s Huntington Convention Center in June.

The NASF Presidential Award, which focuses on extraordinary service by an NASF member who is actively participating on the national level, went to James Lindsay (pictured). He was recognized for outstanding and unique contribution to

NASF and the industry through his management of NASF/AESF Foundation publications.

The Silvio C. Taormina Memorial Award is an honor given to an individual who has performed outstanding service to the finishing industry over many years. This year it went to Joelle Zak. Her industry participation started with her local chapter and culminated with her election as the first president of AESF. She has also served as Government Affairs Committee Chair.

The Award of Merit is given to members of the industry who show meritorious service and achievement on the local and national level. Eight were made in 2018, as follows:

Manuel Acosta, for his tireless effort and contributions at Control Electropolishing; Stacey Bales, for her active support and guidance of the NASF Chicago Midwest Chapter; Major Robert Baugh, US Army (Retired), for his 24 years leading the Texas Association for Metal Finishing (TAMF); Lina K. De La Cruz, for her success in guiding Control Electropolishing, the family business through the technology revolution; Paul L. Frank, for his work in re-organizing NASF's Palmetto SE Chapter, and for his service as past President of AESF; Jim Miille, for his strong leadership in regulatory compliance and his role on the NASF board representing the MFANC; James W. Sullivan, for his dedicated and active engagement in the industry through the TAMF and national board; and Wesley Turnbow, for his dedication and commitment to solve AQMD issues in California.

Three people were named NASF Fellows. This award recognizes outstanding service, contribution and long-standing commitment to the NASF/AESF for the advancement of the best interests of the surface finishing industry. The NASF Fellow honor is modeled after the AESF Fellow, which was established in 1997.

The recipients in 2018 are Pat Gleason, Eric Olander and Bill Wiggins.

Miltec Chooses Director of Engineering

Miltec UV, which makes arc and microwave UV curing systems, has named Mark Walter as its new director of engineering. He brings over 20 years' extensive knowledge in microwave technology, plasma physics, engineering, and leadership.

He obtained his BS in Physics Engineering from the US Military Academy, West Point, and also received a MS in Engineering from the Department of Nuclear Engineering at the Uni-

versity of Michigan.

Miltec's systems serve a broad diversity of industry-specific applications and market segments. Among applications supported are: optical fiber, metal decorating, hardwood flooring, luxury vinyl flooring, automotive products, as well as other industries.

Specialty Polymers Hires Director of Operations

Specialty Polymers, Inc. has hired Aaron Hughes to be the company's new director of operations. He will be responsible for overseeing the company's production sites in Chester, SC, and Woodburn, OR. His responsibilities cover all aspects of the company's operations, including quality control, safety and maintenance.



Aaron Hughes

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CFCM Co-founder Brian Jones Dies

Brian Jones, vice-president of Canadian Finishing and Coatings Manufacturing magazine, has died at home, after a long battle with cancer. He was 65 years old.

Born in 1952, Jones earned his MBA from McMaster University in mid-career. He worked with various companies in his life, as well as later earning a living as a consultant on business and financial matters.

Through having the MBA, he was also able to teach at Ontario's Sheridan College. He served as CFCM's vice-president of accounting, circulation and sales from the publication's inception in 2006.

Jones was an avid golfer, who loved get-aways to Palm Springs and Scottsdale, and enjoyed music, movies, and books. He is survived by Lorraine, his wife of 35 years, and his older brother Bob.



"Aaron is tremendously experienced and extremely knowledgeable," Sheryl Southwell, Specialty Polymers' president said. "He's a natural leader and a perfect fit within our organization."

Hughes worked for more than 20 years for Omnova Solutions in a variety of positions. Most recently, he was director of operations for their Chester, SC location. He graduated from North Carolina State University with a degree in Chemical Engineering.

Demico Promotes Arneson

Deimco Finishing Equipment, a designer and builder of custom finishing systems, has promoted Tom Arneson to vice-president and general manager. The position was created to support the continued growth of the company in the coming years.

Cindy Shirar, CFO and co-owner of Deimco stated, "We are excited that Tom Arneson has accepted the position of vice-president and general manager. Tom's 24 years of experience engineering custom finishing equipment is irreplaceable to both Deimco and our customers."

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Tom Arneson

Arneson began working at Deimco Finishing Equipment in 1994 and has a Mechanical Engineering degree from the University of Iowa.

Tom Arneson said, "I'm grateful for the opportunity to serve as vice-president and general manager of Deimco Finishing Equipment. I look forward to applying my many years of experience to meet our customer's needs with the highest quality finishing systems. This includes innovative technology, on-time deliveries, and unyielding integrity in all we do."

Additionally, the company announced three new hires: Karol Smigowski – senior engineer, Shannon Lwe – electrical engineer, and Jacob Shirar – sales engineer.

Smigowski joins Deimco after 11 years at US Concepts Inc. as a project engineer, and has a master's degree in Agricultural Engineering from the University of Agriculture in Krakow, Poland. He will be leading the development of additional automated sanding technologies and guiding the company's adoption of new machining technologies.

Lwe obtained her electrical engineering degree from Iowa State University in December of 2016. She will develop custom controls and integrate new technologies to automate processes for Deimco's customers.

Shirar joins Deimco after graduating with a Mechanical Engineering degree from Iowa State University in May of 2018. Jacob is the son of the owners, Kirk and Cindy Shirar, and has worked in different roles within the company throughout the past. Jacob will be heavily focused on strengthening customer relationships and new business development.

"We're thrilled to add such high character people and such high caliber engineering talent to our team," stated Kirk Shirar, president. "We believe the time is right to make these significant investments as we execute our strategy to be the first choice finishing solutions provider."

Calendar of Industry Events

October 10-12, 2018: Pacific Northwest Society of Coatings Technology, Coatings-Fest 2018, The Inn at Laurel Point, Victoria, BC. <https://pnwscst.org>

October 22-23, 2018: RadTech Fall Meeting, Renaissance Cleveland Hotel, Cleveland, OH. www.radtech.org

October 24-25, 2018: Canada Woodworking East, Espace St-Hyacinthe, St-Hyacinthe, QC. www.canadawoodworkingeast.ca

November 6-8, 2018: Fabtech 2018, Georgia World Congress Center, Atlanta, GA. www.fabtechexpo.com

March 19-20, 2019: BIG IDEAS for UV+EB Technology conference, Redondo Beach, CA. www.radtech.org

April 1-4, 2019: Powder Coating 2019 conference and tabletop exhibition. Renaissance Orlando, Seaworld, Orlando, FL. www.powdercoating.org

April 8-10, 2019: American Coatings Association CoatingsTech Conference, at the Westin Cleveland Downtown Hotel, Cleveland, OH. www.paint.org

June 3-5, 2019: Sur/Fin 2019, Rosemont, IL. www.nasfsurfin.com

October 31-November 2, 2019: WMS Woodworking Machinery & Supply Conference and Expo, at the International Centre, Mississauga, ON. www.woodworkingnetwork.com

November 11-14, 2019: Fabtech 2019, in Chicago, IL. www.fabtechexpo.com



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A Glimpse at Issues Facing the Coatings Industry

Every month the Canadian Paint and Coatings Association keeps its members informed of vital information from government, industry, and media through a number of publications and bulletins such as the Members Only Regulatory Radar. This e-newsletter keeps members up to date on the development of and compliance with regulations in Canada and abroad, member Action Alerts, as well as CPCA advocacy activities, and industry developments. The following is a sampling of articles published in Regulatory Radar.

CPCA Seeking Member Input on Canadian Countermeasure Tariffs on Steel/Aluminum and Aerosol Containers

In June, CPCA provided a formal submission to the Department of Finance regarding the proposed list of Canadian retaliatory tariffs on US goods in response to US tariffs on Canadian steel and aluminum. CPCA noted the proposed tariff on imported US steel drums and cans (proposed Tariff 7310.29) could be interpreted to include pails, cans, vats, and totes used by Canadian paint and coatings manufacturers. With very few Canadian manufacturers of these pails and cans, particularly for architectural paint and aerosol sprays, Canadian-based manufacturers would face millions of dollars in higher input costs in relation to competing finished products imported from the United States.

As a result of CPCA's intervention, the proposed tariff was excluded from the final list of Canadian countermeasures, which came into force on July 1, 2018. Included in the final list of Canadian countermeasures are HTS Code 7612.90.99 (aluminum casks, drums, cans, boxes and similar containers), and HTS Code 7612.90.10 (aerosol containers, excluding three-piece cans without inserts having a base diameter of 50 mm or more but not exceeding 80 mm). CPCA is analyzing the impact of these Canadian tariffs on our members to determine our next course of action.

Please note that members in the US and Canada are reporting surtaxes being charged on the U.S. manufactured drums, pails and other containers resulting from US tariffs on imported steel and aluminum from Canada and other countries. Interventions on these tariffs must be made to the US Department of Commerce.

CPCA Reaction to the Government Response to the Recommendations of the Parliamentary Committee on Environment and Sustainable Development

The federal government tabled its updated response to

the Parliamentary Standing Committee on the Environment and Sustainable Development (ENVI) legislative review of the Canadian Environmental Protection Act (CEPA). The committee report included 87 recommendations, many calling for significant changes to Canada's Chemicals Management Plan (CMP) including a shift from risk-based to a hazard-based approach. The environmental NGO community, represented by a 25-member coalition, was very active in gaining Committee support for the drastic shift to hazard-based assessments and continues to lobby the government to adopt such changes.

While CPCA supported the vast majority of recommendations that will improve the efficiency and flexibility of the Act, it could not support over a dozen recommendations that would negatively impact the industry without actually improving protections for human health or the environment. CPCA stated these positions in a formal submission to the government and numerous meetings with officials.

CPCA was pleased that the Federal Government's response was measured and addressed many of the concerns put forth by industry over the past year. The government also stated that it would not consider amendments to CEPA during its current mandate, but would address a number of issues under the current legislation using administrative and program approaches under CEPA. This would be done by the established risk management approach employed under the CMP for chemical assessment.

Many of the government's initiatives have already been started and will continue post-2020 after the current phase of the CMP concludes. CPCA and other associations continue to engage with officials conducting chemical assessments related to the 500 substances, of the total 1550, used by the paint and coatings industry.

For example, one recommendation made by the Parlia-

mentary Committee related to labeling (Recommendation 15) stated: "...following stakeholder consultations on the implementation of hazard labelling, CEPA be amended to require mandatory hazard labelling of all products containing toxic substances." In response, the government noted the importance of improving access to information for Canadians related to the products they use and would consider product labelling as one of the risk management tools to help in this regard.

However, the government's report noted that there are already existing authorities used for this purpose such as the Products Containing Mercury Regulations and other Acts that manage chemicals in consumer products, for example, Canada Consumer Product Safety Act, Pest Control Products Act, and the Food and Drugs Act. Further, they note the many good initiatives already taken related to the CMP using modern communications, progress reporting using plain language, internet access to essential data, etc. and with more such initiatives to be taken in future.

CPCA Presses Health Canada for Action Regarding the HPA Section 14 Requirement to Retain a True Copy of the Hazardous Product Label

CPCA is seeking flexibility from Health Canada regarding onerous record-keeping requirements included in recent amendments to the Hazardous Products Act (HPA).

According to Section 14 of the HPA, all distributors need to prepare and maintain "true copies of hazard labels" for six years. A true copy of a label or safety data sheet must accurately reflect the original document in shape, size, and color. A true copy could be a color picture if the resolution is sufficiently high.

The government suggests putting a ruler beside the product and filing a digital picture of the label and ruler as the true copy. CPCA argues that this highly burdensome, continual document creation/production and retention requirement on industry does not appear to add any positive worker safety or hazard communication benefits.

In a letter sent to Health Canada, CPCA stated that such requirements do not exist in the US, Europe, or in other countries. It further noted that in addition to the paper burden, the requirements create product security issues. The regulations create widespread, potentially uncontrolled access to a manufacturer's true labels, greatly increasing the burden on third parties interested in illicitly labeling counterfeit goods when counterfeiting the manufacturer's brand-name goods. The manufacturer's immediate loss of copyright for label artwork and valuable branding elements upon releasing 'true copies' would be also be enormous.



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CEA Review: Government to Amend Toxic Substances Management Policy (TSMP)

The Federal Government plans to amend the Toxic Substances Management Policy (TSMP) of 1995, which was the formal policy that led to the amendments to CEPA 1999. While policies are not law, CPCA believes that the TSMP forms the basis for laws and regulations.

There are three existing policies under CEPA: Toxic substances management policy (TSMP), a compliance and enforcement policy and Pollution prevention planning (which relates to P2 Plans). TSMP objectives relate to the virtual elimination of PBITs releases to the environment (Track 1 contains 12 substances like DDT, etc.) and to the management of other toxics and substances of concern throughout their life cycles to prevent or minimize environmental releases (Track 2).

Confidential Business Information Concentration Range Amendment Published

Following the advocacy efforts of CPCA and other like-minded industry associations on Health Canada's Current Issues Committee, on measures to significantly restrict the use of Confidential Business Information (CBI), the final Hazardous Products Regulations (HPR) amendment is now effective. It allows the use of prescribed concentration ranges to protect trade secrets related to concentrations and concentration ranges of materials or substances in hazardous products. Effective immediately, the final rules allow manufacturers to combine only two of the specified concentration ranges if the actual concentration used varies no more than 30 percent w/w. However, CPCA reminds readers that manufacturers and importers must continue to report the actual concentration, or actual concentration range, of hazardous ingredients that are not subject to CBI claims on their Safety Data Sheet.

TiO₂ Update

The European Union decision regarding the classification of titanium dioxide (TiO₂) as a carcinogen is an issue that could have global implications for the paint and coatings industry. CPCA is engaged on this issue through its membership in the International Paint and Print Ink Council (IPPIC).

EU officials held two meetings in June. A meeting of the competent authorities for REACH and Classification Labelling and Packaging (CARACAL) was held on June 12, and a meeting of the REACH Committee was held on June 27. No formal consensus was reached across EU member states at either meeting on finalizing the classification of TiO₂ that would lead to further regulation.

It is important to consider that any risks profiled in the scientific evidence are attributable to dust (inhalation) exposures, and not to exposures from formulated products, like paint, where the dust is embedded in the mixture and not available for exposure. IPPIC members including CPCA, have provided published studies and technical information of the industry's long-standing safe use of TiO₂ in paint. This included good manufacturing practices and numerous exposure assessments showing that TiO₂ and all insoluble, inert (particulate) raw materials used in the particulate form, are unavailable for exposure during surface preparation or application of the finished paint.

PPIC and the American Coatings Association (ACA) are working with their European counterpart, CEPE, and the Titanium Dioxide Manufacturers Association to engage delegates from EU Member States to advocate for further evaluation and to delay a final decision until additional sound scientific information becomes available. ■

Rectifiers Show Continuing Improvement

RECTIFIER AND POWER SUPPLY technology for plating and anodizing is continuing to acquire greater precision and user-friendliness. Superior digital controls, methods that use less energy and an overall willingness to reconsider an established technology is changing the landscape of power control.

Process Technology has a broad range of rectifiers, one recent introduction being the DTX 2400 series. These units utilize switch mode technology to put 2400 watts of output power into a 2U high, half-rack wide, environmentally sealed enclosure.

With bipolar output capabilities from 24 volts at 100 amps to 100 volts at 24 amps, they are controlled through a multi-button, menu driven 4.3-in. full color display. Standard features include ampere time and real time cycle control, an output ramp, output tolerance settings and alarms, Ethernet & analog communications, digital I/O, and universal AC input.

There are electronic overload, over-temperature and short-circuit protection, and units are cooled by forced air. The switch-mode design allows for a small footprint, and units have a rugged, environmentally sealed enclosure.

Recently, the company purchased competitor Dynatronix.

“That was the big thing for us recently,” says Dynatronix’ vice-president Dave Osero. “We’ll have new products coming out next year following on from this.”

Dynatronix has implemented an ethernet/IP protocol that works with PLCs in various applications. It makes the systems easier, Osero says, to integrate into new plating lines.

KraftPowercon Inc. is a Swedish-based firm that has made increasing international inroads in recent years. Managing director Fredrik Walldal points out that many metal finishers, their rectifier “is just a black box providing DC power to an electrochemical cell.

“While this maybe true to some extent, there is a lot



An SCR rectifier from KraftPowercon.

more going on than meets the eye and your choice of DC power supply will have an effect on several performance parameters crucial to any business within the metal finishing industry.”

Energy consumption, he points out, is determined by the amount of AC power consumed by a plating cell to achieve the intended result, and is directly related to the efficiency of the rectifier. Where efficiency is the power-out (kW) divided by the power-in (kW) expressed as a percentage value, the higher the value, the better for the user.

“A modern switch mode rectifier typically offers efficiency as high as 90 percent at rated voltage and so do most well-designed SCRs,” Walldal says.

It is important to note the strong correlation between a rectifier’s efficiency and how it is operated. A general rule of thumb, he adds, is that the efficiency of a rectifier decreases when the operating DC voltage is decreased.

This curve (energy efficiency decrease) is steeper for an SCR type rectifier than for a comparable switch mode unit. For that reason, a switch mode rectifier can retain that 90 percent efficiency rating over a much wider output range than that of an SCR.

“A modern switch mode rectifier typically offers efficiency as high as 90 percent at rated voltage and so do most well-designed SCRs.”

RECTIFIERS

It is common practice, he observes, to purchase oversized SCR rectifiers to cater to multiple processes and to be 'on the safe side' if future needs change. This has led to the high number of inefficient rectifiers in use today. "As an example," he says, "KraftPowercon conducted a real life test in a plating environment comparing SCR type rectifiers (from 1989) to modern switch-mode rectifiers that revealed the switch mode consumed 34 percent less electricity to produce the same ampere hours as the SCR." To determine the potential cost savings to be made upgrading to a switch mode; you must first determine the efficiency of your current setup at normal operation. If a plant has SCR type rectifiers running at voltage substantially lower than what they were initially rated for, chances are quite good that an upgrade to switch-mode rectifiers or a better fit SCR can offer a substantial reduction in energy consumption. This can range from 10 percent to over 30 percent in some cases.

"Another sign of poor efficiency is if the rectifiers in operation are running hot, potentially in need of additional external cooling or overheat during normal operation. Heat is the number one efficiency loss for any type of rectifier, and excessive heat loss is one of the main 'features' of a poorly designed unit."

Cracking, poor adhesion, uneven plating thickness, over-plating and under-plating are all quality issues Wall-dal says are directly or indirectly related to the quality and accuracy of the provided DC power. While this is only one of many variables, it does play an important role.

"For ripple sensitive processes such as hard chrome, decorative chrome, precious metals or copper plating, the quality of the DC power directly impacts the quality of the finished product," he states. "High and/or variable ripple is known to cause poor adhesion, uneven deposition rate and cracking.

"By design, SCR technology delivers high ripple content on the DC output, which is why it is most often necessary to invest in a ripple filter when this technology is used. Furthermore, the ripple content of an SCR also varies with the output voltage, which in turn means that it varies with the resistance of the electrochemical cell. Resistance is in turn related to amongst other the concentration of the chemical solution, the temperature and the distance between the electrodes."

Intentionally, a switch-mode rectifier offers very little ripple content, typically of less than two percent across the output range for a well-designed unit and less than one percent at intended operation. This means that a switch-mode power supply more or less eliminates the ripple variable from the complex equation of producing high quality parts.

"If you are struggling to achieve repeatable plating results and are experiencing variable plating thickness, over plating, under plating, cracking or poor adhesion; do not rule out your rectifiers and their operation as a potential source of variation or failure," he says. "Modern rectifiers offer the opportunity to more or less eliminate this variable."

A somewhat different approach is taken with Green Power Products, a range developed in Brazil some years ago, and launched in North America in alliance with A Brite Co. in 2014. The latest addition to the product line, the G 121-P 3000/12 pulse rectifier, features a control panel run remotely via a wireless signal, and improved energy efficiency.

"We over better quality plating and more brightness in the finished product," says Josue Zazulla, the owner of Green Power. "The energy efficiency combines with increased speed to improve results."

The range offers electronic switch mode DC and pulse rectifiers that are designed for harsh environments. The company claims that replacing a working silicon-controlled rectifier (SCR) with a pulse rectifier offers better current distribution, higher thickness in low-density current regions, higher energy savings than DC-type rectifiers and reduced plating times, which in turn increases line production.

The finer grain plated structure produced offers

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“Another sign of poor efficiency is if the rectifiers in operation are running hot, potentially in need of additional external cooling or overheat during normal operation.”

improved corrosion resistance, better adhesion, better ductility, higher hardness and abrasion wear resistance and improved brightness. Green Power Products offers 10 types of standard pulse rectifiers with 10-volt output, eight models with 20-volt output and three standard DC rectifiers with 10-volt output.

North American Rectifier offers a further alternative with its partnership with Plating Electronic, which began in 2015. German-based Plating electronic dates back 30 years, having started with a determination to develop linearly regulated desktop and other compact rectifiers that used switch-mode technology. It has obviously expanded its concept over the years, but still works to the same core principle.

The units offered by North American Rectifier, says president Kevin Hewitt, do not need to use a modular format. They lay claim to long-term reliability, and replace-

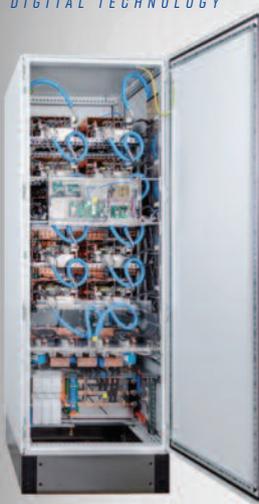
ment of modules is not therefore a requirement.

“We are 100 percent digital in these systems,” he says, “and not everyone in the field can say that. A lot of suppliers still offer internal analog technology. And analog can’t monitor all the things our system can.”

Overall, he suggests, industry is moving towards ethernet IP for communications. The company’s IGBTs use silicon carbide, and he believes no other supplier is presently using that.

The manufacturer of those also makes high-end LEDs, he says, which are highly energy-efficient, so that kind of efficiency can transfer over to the rectifiers’ operations.

Some things about rectifier technology cannot change, but the level of precision does. The new units on the market today offer hitherto unachievable accuracy and reliability, and there is still room for even these to offer further improvements in the years to come. ■



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Anodizing with **COLOR**

USE OF COLOR IN ANODIZING has been with us for many years. The decorative potential of the anodizing process is one reason it has remained as a prominent option in the metals finishing marketplace.

The general technology is well established, though there are still improvements being made in the properties of adhesion and color brilliance. Often, colored anodized parts can fade with time, regardless of the amount of care taken with the process.

Many of the dyes used to give color to freshly anodized parts are similar to those used to color textiles and other substrates. The traditional measure for such dyes is a light-fastness scale of 1-10 for fastness, which identifies a particular dye's ability to withstand exposure without degradation, primarily from UV light, but also from chemical attack and excess heat.

Anodizing dyes tend to start at a fastness rating of eight, with those exposed to constant UV light – say in boats, or auto exteriors – calling for higher ratings. For parts such as electrical connectors used indoors, but which can easily

be subjected to temperatures of several hundred degrees, a higher heat fastness rating may be essential.

Basic black dyes are useful to provide adequate protection against both problems while bright colors might not provide sufficient protection against light, heat, and chemicals.

Following dyeing, the anodic structure needs to be sealed so that the pores in the metal's surface retain the dye. Sealing of dyed anodizings is often done using a heated solution of nickel acetate.

This hydrates the aluminum oxide and swells the tops of the pores so that they shut. In this way, the coloration is retained.

There are always refinements arriving, naturally, since no technical field of industry fails to change with time. Mostly, the shifts are towards a greater variety of shades of color, as well as greater light-fastness in the finished result.

New from Clariant is a product the company says it is the first long-lasting, bluish-red heavy metal-free dye for anodized aluminum. The product is free of heavy metals, borax and nickel. eye-catching colored anodized aluminum options

This new magenta shade, according to Thomas Heber, who handles technical marketing for aluminum in Europe for Clariant's pigments business unit, has "a unique level of light and weather fastness that is perfect for adding long-lasting vibrancy to indoor and outdoor applications.

"Adding to its appeal, the single dye formulation is heavy metal-free, non-bleeding and easy to handle. It shows good dye bath stability and enables a stable dyeing process."

As a general comment on decorative anodizing, he commented: "Aluminum lends an extra touch of quality to a wide range of applications. As segments such as electronics, cosmetics packaging, appliances, automotive and transportation, sports goods and also architecture focus on creating enhanced consumer experiences, we are pleased to draw on our long history of supporting the anodizing industry worldwide and introduce easy-to-use vibrant, eye-catching colors that extend designers' creativity and increase end-user value perceptions."

There are always refinements arriving, naturally, since no technical field of industry fails to change with time. Mostly, the shifts are towards a greater variety of shades of color, as well as greater light-fastness in the finished result.

"You can have different coloration in exterior parts," says Tim Muldoon, vice-president of Bright Dyes, a division of Kingscote Chemicals Inc. "Sometimes the color used plates out with the UV rays. The market is looking for more light-fast color."

This is a stable business, he notes, going up and down

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with the fortunes of the metalworking industries in general. The companies that succeed are the ones that have learned the fine points of applying dyes, but also those that take sufficient care in prepping the materials.

“Putting the color on the anodized product is part science and part art,” he says. “It’s not hard, but prepping the formulation is the key. Color can’t hide a poor finish.”

Bright Dyes’ own colors are all proprietary, the company supplying around 30 different ones. Blacks account for a half-dozen of the selections.

“A lot of these are for exterior applications,” Muldoon says, “some of them being for the military. We have sand-type camouflage shades, for example.”

It is important to point out that a dye is a stain, not a paint. It goes right into the surface of the anodized metal, and doesn’t affect the dimensions of the part itself in the way a layer of an external coating would.

Orco Aluminum has a range of dyes for use in anodizing of Type I, II, and III aluminum. These, the company says, are suited for many different applications such as jewelry, architectural, military, automotive parts, office accessories, transportation, sporting equipment, electronics and medical equipment, just to name a few.

Proper usage of the dyes, Orco says, requires rinse tanks, a dye tank, and a sealing tank. All tanks must be of an inert



Even mundane items can benefit from color. Photo: Nassau Plating.

material such as stainless steel or plastic, and oil traps should be used to prevent contamination of dye solution.

“It is important to dye immediately after rinsing of freshly anodized aluminum,” the company points out. “It is best practice to use three separate rinse tanks.” Aluminum should be added into dyebath set at 140 deg, F and at the proper pH. The pH level can be adjusted using acetic acid to lower it, and sodium acetate or sodium hydroxide to raise it.

The aluminum should be run in the dyebath for desired amount of time, which is typically around 10 minutes, assuming good dyebath agitation to promote levelness. The next step is to move the aluminum to a hot sealing tank bath set at 200 deg F for 10 to 25 minutes. This bath should contain 0.5 percent nickel acetate. If it is necessary to minimize smutty deposits, 0.5 percent of boric acid can be added.

During sealing, the pH should not go below 5.3, as the dye can leach from the microscopic pores of the oxidized layer. ■



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Fabtech Canada 2018

Fabtech Canada 2018 was held in June at the Toronto Congress Centre. On these pages is a selection of photos of some of the exhibitors at the event.



The Global Finishing Systems booth, with Charles Makad (L) and Zane Arato.



Gary Efronson (L) and Jim Hudson on the Fischer stand.



Ian Townshend-Carter (L) and Paul Hamilton at the Caps 'n Plugs booth.



Pneu-Mech Systems' Kara Cass (L) and Cayla Burke.



Jason Jiang, Lucy LU (center) and Grace Liang at the Prona Tools booth.



Nick Polemini (L) and William Zehr on the Nilfisk Canada stand.



Pat Jenetta of Ventcor, on the Jervis B. Webb booth.



Richard Dooley (L) and Tim O'Leary at the Mighty Hook booth.



The Gema booth, with Ryan Allen (L) and Greg Taylor.



Sanjay Tangri (L) and S.T. Rajan on the SAMES-KREMLIN stand.



Stewart Irvine and April Chadwick, of SATA.



The TTX booth, with Ted Duda (L) and Jacqueline Hilbert.

Keeping Anodizing **COMPETITIVE**

FULL-SCALE AUTOMATION of anodizing is still a business for large operations with long production runs. However, to remain competitive today, it is necessary to ensure that control of production is increasingly closely monitored.

This is not just an issue in terms of digitally measuring thickness or surface quality, but also applies to moving parts around the shop floor. A clear-cut division between manual and automated anodizing does not really exist, though and most anodizing firms are always looking to build more speed throughout their plants with labor-saving equipment. Just as all but the most highly automated ones have to use muscle-power for some operations.

Pretreatment washers come in a broad range of styles. Amiberica says its recirculating spray washers with continuous, overhead conveyors are increasingly popular, because of the efficiency of the approach.

The process uses a pump and piping system that transfers chemical solution from a reservoir tank to a set of risers. Attached to the risers are nozzles which direct a jet or swirl of solution onto the parts that physically, as well as chemically, removing soils or producing the conversion coating on the part substrate.

“High efficiency levels of cleaning and conversion are possible,” the company states. “The recirculating action keeps solutions that contact the part fresh, and temperature may be reduced, resulting in possible energy savings.

“Chemical concentration can also be minimized.”

It also offers recirculating washers with continuous mesh belt conveyors, for cleaning parts that cannot be suspended from an overhead monorail conveyor system. Here, the belt surface conveyor has the product riding on the top surface of the belt.

Belt conveyors can handle parts ranging from less than a pound to hundreds of pounds, and consist of a plastic or wire mesh belt of suitable width running over a drive and idler pulley.

For low-volume applications, the company offers a spray-wand system.

For moving parts around the shop, Technic Inc. engineers and manufactures a wide range of traditional-style hoist systems. These range from small manual hoist lines with load capacities of up to 100 lb, 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.



An anodizing line installed by Amiberica.

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.

Jessup Systems produces a selection programmable automatic plating hoist systems. The computer-controlled plating hoists, the company says, improve productivity and quality for all barrel, rack, and basket processes, and their rugged construction and integrated support systems reduce labor, utilities, water consumption, and improve operational uptime.

The range of equipment includes single and multiple lift plating hoists up to 15,000 lb capacity, at cycle rates up to 36 loads per hour. Automated plating barrel load and unload material handling equipment options may include vibratory feeders and scales, and noise abatement enclosures.

Process tank materials include poly, fiberglass, stainless steel, and lined or unlined steel, selection depending on a customer's process temperature and chemical resistance.

Precision Process Equipment offers automatic and manual barrel plating equipment and loading systems and rack plating equipment, its racking stations providing a chest height fixture for loading and unloading of parts. Hand terminals allow operators to enter lot information locally, and signal the handling system to retrieve the load for entry in the plating line.

Its automatic barrel loading systems measure out and

dispense repeatable part amounts. The barrel loader can be integrated with the plating line control software.

PPE's automated hoist systems are controlled by its proprietary Automotion 8000 software suite.

Automotion, the company states, integrates seamlessly with PLC controls from all manufacturers, and includes an integrated HMI interface tailored to the requirements of the machine and customer.

Alternatively, Automotion can be used with popular HMIs like Wonderware, WinCC, and RSView. For manual systems, local and/or remote controls are available for hoists and process equipment.

Hoist positioning is accomplished through rotary optical encoders or laser distance meters, optical encoders being, PPE says, being a time-tested traditional method of hoist positioning.

"Laser distance meters provide many advantages, including non-contact measurement, robust analog or digital signaling, elimination of troublesome cabling, and absolute positioning," it adds, "with no homing required. Optionally, redundant station position flags are available for the highest level of safety."

PKG Equipment's finishing systems, for rack and barrel processes, can be manual or fully automated. Systems can include tanks, secondary containment, mezzanines and catwalks, control panels, ventilation and waste treatment systems, and accessories for the tank line. These include heaters and controllers, pumps and filters, rectifiers, bussing, chillers, and dryers.

"Our wet benches and sinks are custom designed based on our knowledge of wet processes, a customer's chemistry, and temperatures," the company says. "They can be customized with a variety of controls and features such as digital instrumentation, removable tanks, ventilation, ultrasonics, and built-in rectifiers. We have provided wet benches and sinks to customers in a variety of industries

such as aerospace, electronics, and artistic printmaking."

Company engineers can custom design equipment based on specific application requirements. Most of its equipment is fabricated in-house.

Tooling for a finishing operation can also be designed and fabricated. PKG's racks, baskets, and fixtures are designed to optimize production.

"We can provide a prototype, build new to an existing sample or drawing, or repair or modify your racks, baskets or fixtures," the company states.

As with any industrial installation, selecting the right equipment calls for careful thinking and comparison shopping. Not every automated system offers the same efficiencies or



An anodizing system from PKG.

cost benefits, and not every versatile piece of equipment offers the ease of use your workers might need.

That said, competition in the field has increased, and the chances of identifying the optimal machinery and accessories you need are getting better. If there was ever a good time to upgrade a plant with more efficient equipment, now is probably it. ■

An advertisement for PALM, a Umicore company. The top half features a photograph of laboratory glassware: two Erlenmeyer flasks containing liquids (one green, one brown) and a pile of various metal coins and discs. Overlaid on the image are three white text boxes with black text: "Chemicals" over the green liquid, "Metals" over the coins, and "Crystals & Salts" over a pile of white powder. Below the image, on a blue background, is the text: "Producer and supplier of high quality chemicals, metal anodes, equipment & supplies to the surface finishing industry for more than 35 years. Palm should be your first choice." At the bottom, the PALM logo is displayed in large, bold, black letters, with a green palm tree icon to the right. Below the logo, it says "a umicore company". At the very bottom, the contact information is listed: "615-641-1200 • www.palminc.com • 1717 JP Hennessy Dr. LaVergne, TN. 37086".

Powder Coating Quick-Change **Saves Time**

POWDER COATING is increasingly a field for high-volume production. The lack of need for clean-up, when stray powder can simply be recaptured and re-used, is a key factor in its growing popularity as a go-to process for fast, quality surface coating.

This means, in turn, that quick-change systems are increasingly finding customers. If clean-up can be faster, then speedy changeover makes the entire process even more cost-effective.

Quick color change systems for powder coating are therefore a focus for intense development and marketing among the supplier community. And customers are paying attention.

"Powder management is a key element of our quick color change systems," says Jeff Hale, North America marketing director with Gema USA Inc. "Our OptiCenter powder management center and EquiFlow booth airflow design work in conjunction to minimize the amount of powder that is in process. This enables the user to perform a color change quick and easy with virtually no risk of contamination."

Gema's color change solutions are available in a variety of options. The company has solutions for small and large volume users of powder coatings as well as solutions that handle small parts up to very large products.

"Users that are seeking a color change solutions should always purchase the equipment offering the best return on investment," Hale points out. "While the definition of 'quick' will vary from one user to another, there are many options that allow users to change colors easily and affordably."

With its patented Smart InLine Technology powder application pump, Gema has improved spraying performance and cleaning perform-

ance. The pump and electrostatic gun technology improve powder application uniformity and consistency, improving transfer efficiency and reducing the amount of powder that is sprayed. All of this makes color changes easier and faster.

The system ensures that powder output remains constant for a very long period of time. There are no wearing parts whose deterioration can decrease the powder output, and an on-board self-detection system identifies failure of key components before actual problems can arise.

There are still more improvements that could be offered, of course. Hale notes that, "By improving First Pass Transfer Efficiency (FPTE), less overspray is generated. Less overspray means less clean-up, which makes any color change easier and faster to perform.

"Other improvements will also be made in material handling facilitating better control and management of the powder while spraying and cleaning. This includes incorporating automation controls linking machines together and improved communication and data sharing for the emerging trends associated with Industry 4.0."

SAMES KREMLIN, in addition to offering increasingly sophisticated controls systems, has seen success recently with its Easy-Driver booth. S.T. Rajan, vice-president with the company, says this is made from composite materials with a honeycomb structure, which results in the absence of powder build-up on the walls.

"It has a vertical downdraft airflow," he says, "thus no powder build-up on the bottom of the booth. The automatic, removable booth achieves a fast color change of less

than five minutes."

This booth is movable by hand. Touch-up can be performed in another manual booth. The system helps achieve more color changes, handles highly versatile parts to coat. Initial investment is low, and the whole set-up enables the recycling of more powder.

"This solution has fixed sprayers and has given us great success with integrated manufacturers in diverse application markets," Rajan says.

For the future, SAMES KREMLIN is looking at further improvements to its electronic controls, which Rajan says are already very user-friendly, and easy-to-use, compact powder centers. It is also investigating automatic gun positioning systems that can maintain optimal gun-to-part distances.

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.

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.

Wagner's PrimaCube booth system is another quick-change approach

using a moncyclone recovery unit and controller. It can be combined with any application equipment and powder centers.

The booth housing uses PVC sandwich construction, and the system uses very low powder quantities in the cycle, the company says, for consistently high quality coating results. There can be rapid and easy color change, which, depending on the configuration, can be partially automated.

Additionally, Wagner has its series 12000 and series 16000 complete systems, which can be customized to include different levels of automation. Both feature variable gun arrangements.

Quick-change, like any process of automation, calls for careful planning and specification. Buyers need to know what they need, and to listen to supplier advice on what is workable as well as what is cost-effective.

Increasingly, though payback



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times are coming down, and the accuracy of the systems is increasing. Once volumes in the shop merit looking at moving beyond manual changeovers, there is an increasing variety of quick-change options available for purchase today. ■

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Sophistication

MOVES IN ON HOOKS AND RACKS

THE FIELD OF HOOKS AND RACKS looks like a very conservative one. If it ain't broke, don't fix it, is a good principle to follow with something that often functions best because of its inherent simplicity.

Yet even in something as apparently straightforward as 'bent metal,' today there is increased sophistication in form and size. Customers have come to expect their racks and hooks to be personalized for their plant's typical requirements. While the standard range of sizes and shapes is still widely available, suppliers today are very likely to spend time working on a CAD system before offering a specific rack or hook concept to a client.

"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," says John Gill, an international sales engineer with Caplugs. "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."

It is 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, he adds. 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 custom 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."

He does not see design of these essential components having reached a plateau. Designs, he is sure, will continue to evolve along with the drive to be more efficient or achieve a better-quality result.

"The merging of both the masking and racking into a single unit for example is a challenge for everyone in the industry," he says. "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 always require the most advanced types of software, but it does require more capacity to build-in complexity than many 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 provide this 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 is another supplier that maintains a staff of engineers to design custom hanging and masking solutions for customers with unique requirements. These, the company says, include some of the largest OEM and job shop coating operations in North America.

It also has an extensive stock program is designed to handle the majority of the requirements of the coating community. Its standard hanging products include hooks, racks/crossbars and load bars.

Further, it offers its patented Angle Pivot Hanging System. This allows for closer rack spacing on conveyor lines, allowing a more solid wall of finishing.

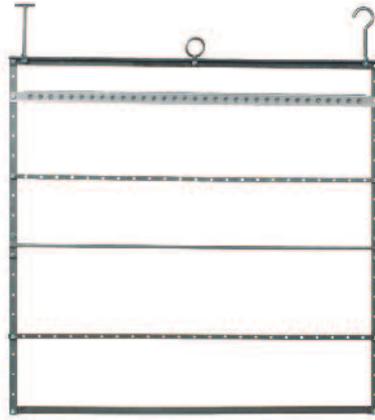
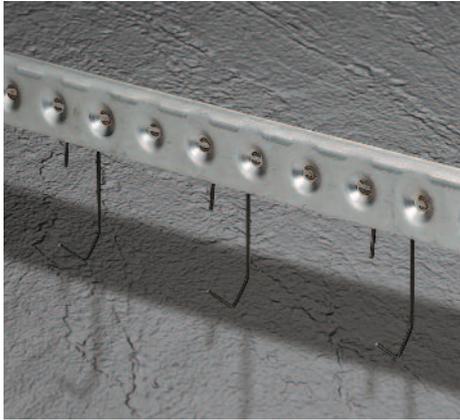
The company says this can increase productivity by 50 percent on conveyors with 30-deg. inclines or declines. These products attach to existing conveyors to create closer rack spacing and increase coating efficiency.

"The net effect," the company states, "is a 15 to 50 percent decrease in required space for hanging relatively 'flatware package' products."

Echo Engineering is another supplier that offers both a range of hooks and racks, and a broad selection of masking products. The two components for a spray line obviously complement each other's capabilities, and the logic of sourcing both from one company is inescapable.

"Echo offers hundreds of standard hooks and specializes in hook and rack design," the company says. "Our custom hanging solutions ensure you have the durability needed for every type of capacity and finishing operation. Custom hooks and racks increase productivity, reduce racking labor and provide better angles for coating."

“The merging of both the masking and racking into a single unit for example is a challenge for everyone in the industry.”



Left: VB-SH hook and rack system from Caplugs.

Right: Modular rack from Caplugs.

Another supplier of both product categories is Caps 'n Plugs. It maintains a significant inventory of the most popular sizes of paint line hooks, the company says.

“These hooks come in four basic configurations, in several different diameters of wire, depending on the part weight to be hung and a variety of hook lengths,” it states. “All hooks

are made from high quality, spring-tempered steel suitable for powder coating and e-coating processes.”

Its four main series of hooks are all designed to offer a minimal hook mark on the finished part. They offer solid metal-to-metal contact for increased conductivity, the company says, as well as consistent grounding for more cycles. There are over 120 standard sizes in its range. ■



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Coatings for Battling **Corrosion**

ALMOST ALL COATINGS are anti-corrosive to some extent. Coatings and paints keep out water and other environmental hazards that can attack structural materials, and plated or anodized coatings perform similar tasks, as well as increasing the durability of certain parts.

There are, though, materials that explicitly aim at reducing corrosive effects on metal substrates. Marine applications constitute a major segment of this market, though they are by no means the whole of it.

Lubrizol Corp. recently commercialized some new products in its Aptalon range of materials. Aptalon W8030 is a self-matting polyurethane dispersion with a naturally low gloss that enables matte coatings with little or no need for matting additives.

The product, Lubrizol says, is a waterborne, self-crosslinking resin. With hydrolysis resistance, hardness and chemical resistance that reportedly outperform other

water-borne PUR chemistries, Aptalon W8030 is a 1K PUD designed for high-performance coating applications. It is NMP, NEP and APE-free, for global regulatory compliance.

“Aptalon W8030 delivers excellent clarity in matte finishes,” stated Nick Sterne, market manager, Lubrizol Performance Coatings. “It also has great chemical resistance and forms very hard films for outstanding protection across a broad range of demanding wood coating and clear metal topcoat applications. Aptalon W8030 eliminates the need to sacrifice performance for esthetics by enabling coatings with a beautiful matte finish and fantastic properties.”

Covestro has extended its presence in this market with polyurethanes and polyaspartics, as well as some polyesters. These materials, the company said, resist abrasion, chemicals and weather, and adhere to a wide range of substrates.

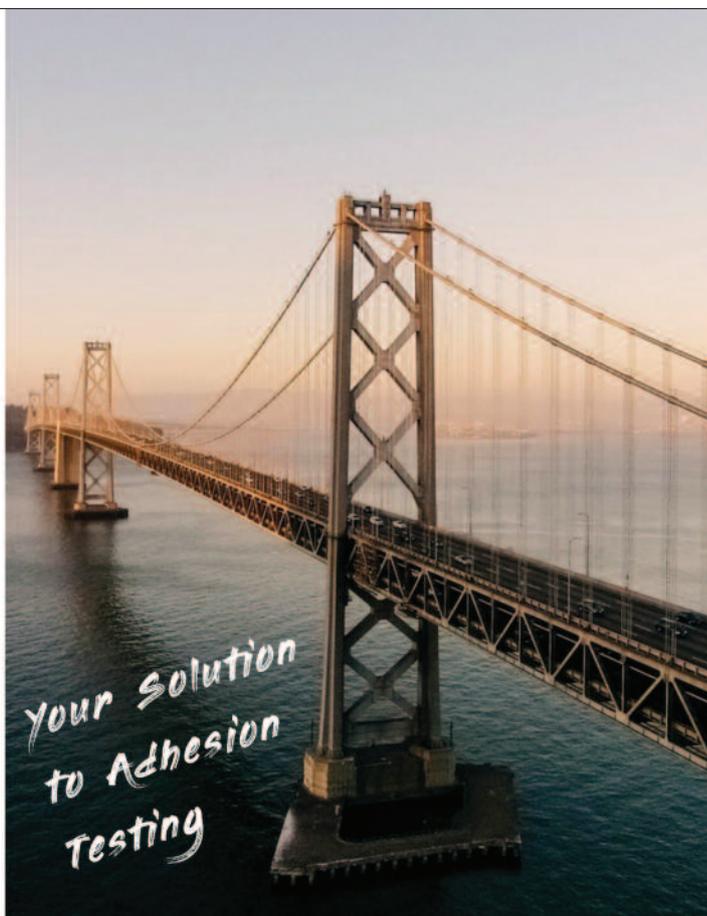
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Raw materials for coatings can be customized for different applications, from concrete floor coatings to architectural, waterproofing and roof coatings. Specifically for corrosion protection, the coatings can extend the life of small metal parts, up to items the size of the largest marine vessels.

Greenkote PLC, based in Brook Park, OH, has developed its Greenkote anti-corrosion metal coatings as ecologically better materials. Its thermal diffusion metal coating, the company stated, is a corrosion-blocking coating that eliminates hydrogen embrittlement, and offers improved adhesion over competitive systems.

"This is a technically superior replacement for zinc plating, hot dip coating, mechanical galvanizing, zinc flake dip-spin and various other competitive processes," the company stated. "In some cases, Greenkote can even replace stainless steel or chromium plating." There is no chromium-6 or chromium-3 used.

The primary cause of corrosion in basic thermo-mechanical sherardizing processes, the company continued, is the electrochemical reaction between the substrate (consisting mainly of iron) and the intermetallic Zn-Fe coating. To counter this, the Greenkote process introduces sacrificial phases to protect Zn-Fe intermetallics from direct electrochemical reaction with the substrate material.

Greenkote's aluminum-rich surface inclusions formed



Iron-supported bridge in Woolwich Township, ON. Photo: Woolwich Twp.

from Al-Fe intermetallics and Zn-Al alloys serve as such sacrificial phases. Because Al-Fe intermetallics and Zn-Al alloys are more chemically active than intermetallic Fe-Zn, they are not as likely to experience self-passivation as is aluminum. In Zn-Al alloys and Al-Fe intermetallics a continuous passivation film of aluminum hydroxides is not formed.

In addition, the products of corrosion of the aluminum-

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rich phases possess low solubility in water. They precipitate on coating defects (cracks, pores, etc.) and fill them, thereby slowing down the corrosion rate considerably.

The coatings are applied by a patented thermo-chemical surface modification (TCSM) batch process

that is fully compliant with the ASTM A1059/A1059M specification. They use a dry bulk powder formulation of zinc, aluminum and other proprietary ingredients that is thermo-diffused into the iron-based metal substrate surface of finished metal parts.

The coating forms in two basic

phases. Cleaned parts are placed in a large metal retort along with the proprietary Greenkote powder containing the key ingredients of zinc (Zn) and aluminum (Al). The retort is sealed and begins to rotate while its temperature is ramped through the required temperature profile.

With increased temperature, the zinc diffuses into the aluminum powder and also into the iron surface of the substrate. At the same time, aluminum diffuses into the zinc powder. These processes initiate a conformal Zn-Fe diffusion layer and also a Zn-Al powder with a lower melting temperature.

Cortec takes a different approach, since its products are intended for different kinds of applications. CorroLogic VpCI Filler is a custom-designed two-part product developed to fill the inside of closed environments such as pipeline casings and the inside of tubular tower structures, in order to control corrosion for long time periods. The product contains a blend of Cortec Vapor phase Corrosion Inhibitor (VpCI) technology while providing resistance to bacterial corrosion. The filler also prevents the infiltration of air and water inside the filled structures. The VpCI Filler consists of a liquid VpCI concentrate and a powder gelling agent. The liquid VpCI component (Part A) can be diluted on-site to the appropriate concentration. The powder gelling agent (Part B) is added just prior to application and causes an increase in viscosity and ultimately gel formation over a pre-determined time period. It is applied by adding the liquid VpCI concentrate to water in a mixing tank, thoroughly blending, then adding a controlled quantity of the powder gelling agent into the liquid stream as it is discharged from the mixing tank. The CorroLogic VpCI Filler is then pumped into the structure until it is filled to the desired level. ■

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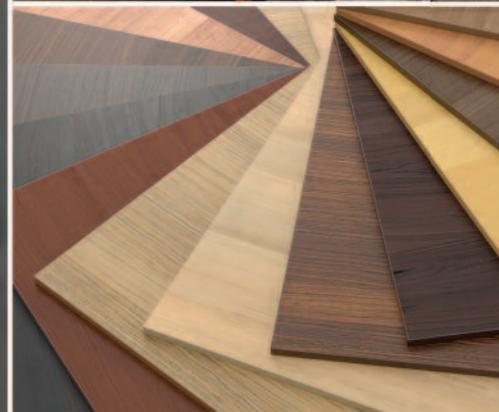


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Waterborne Wood Coatings Broaden Appeal

THE STEADY GROWTH of waterborne materials for wood coatings is unmistakable. However, coating wood with an aqueous layer produces its own problems. It also creates the need for resins with greater ease of application and wider properties.

Much of the growth is being driven by tighter regulatory requirements. Marie-Sophie Guindon, marketing and communications coordinator with Canlak, notes: "In recent years, North-America has been seeing a considerable increase in the demand for solvent-free based products. This new trend is due in part to the rules and regulations imposed by the Government.

"The biggest trend right now is UV water-based systems. Their use is becoming more and more popular in Ontario and Western Canada. Our goal is to develop and have the market accept more and more environmentally friendly coatings."

Some of these use European-developed materials. Normand Guindon, Canlak's president, notes that, "Europe is continuously bringing to market highly innovative new raw materials for waterborne finishes." These, he adds,

have enabled his company to expand its product offering into high-performance coatings.

Meeting the governmental requirements is not necessarily viewed as a burden by materials suppliers.

"Being an eco-responsible provider of industrial wood coatings is something that Canlak prides itself on," Normand Guindon adds. "We have a strong line of UV water-based products that has been very successful not only for the industry of flooring, but also for the kitchen industry.

"We always want to be the ones introducing new things to our customers regardless of whether they want to use them or not: at least they know it's available. That's how we distinguish ourselves from the larger competitors."

Maxime Rouleau, a chemist and project leader with Canlak, comments that the partnership with European companies allows the company to continuously increase the performance of its products.

"More specifically, we are doing this for the application process," he says, "which ultimately is our biggest challenge. Grain raising is the main problem when it comes to applying waterborne, so we work with new resins to help us increase the resistance and viability of our products."

But the switch to waterbornes poses both technical and financial issues. Rob Penfold, sales and marketing manager with Katilac Coatings Inc., notes that producing water-based coatings is more challenging than the conventional, solvent-based types his company has made for 50 years.

"Aside from dedicating equipment specifically for waterborne products we utilize low energy mixing with short cycle times to reduce stress on the sensitive base polymers," he says. "This results in consistent batch-to-batch properties and product performance.

Consistent efforts to extend the properties of waterbornes are paying off, as time and experience show the way. Use of unique, multi-functional base polymers along with performance-enhancing modifying resins has allowed Katilac to tailor performance to specific application and performance requirements including dry time, chemical and moisture resistance.

"KCI offers a full range of easy-to-apply stains, clear coats, pigmented products and glazes that allow applications similar to solvent borne analogs," Penfold adds. "The main obstacles with waterborne wood coatings continue to be higher end-user applied coats and more sensitive (than solvent) application conditions.

"Everyone asks about waterborne and wants to see it and try it but very few end-users are willing to make the conversion. While the performance of waterborne today is almost indistinguishable from solvent-based coatings, applications are more sensitive to technique and ambient conditions.

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WATERBORNE WOOD COATINGS

“Couple that with the increased cost, and the transition to waterborne is a step most end-users are not quite ready to make.”

That said, he affirms that properly formulated systems using the latest resin technology can result in high clarity, high-performance coatings that exhibit excellent appearance and feel. These also meet or exceed KCMA and NAAWS standards.

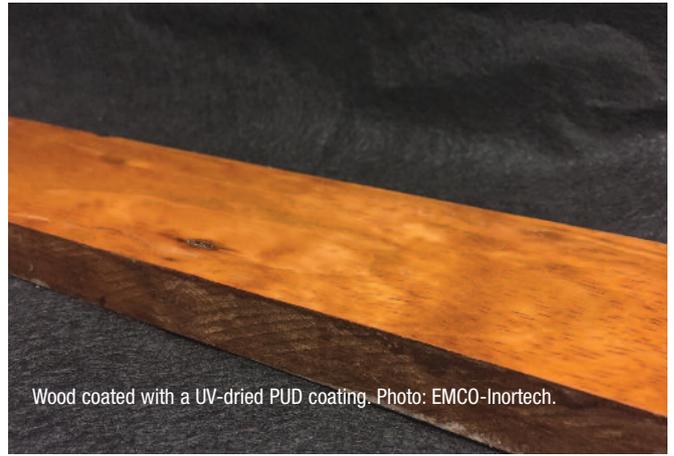
The majority of coatings for wood, notes Mickael Blais-Roberge, an R&D chemist with EMCO-Inortech, are based on either polyurethane (PUR) or alkyd resins. His company has been experimenting with waterborne cationic epoxy, UV drying PUD and high-performance alkyds. These technologies have their own advantages, he notes, and have shown promising results and new opportunities for customers.

“Wood is a porous material consist of a mixture of aromatic, cyclic and oil compounds,” he points out. “Over time, the migration of aromatic molecules, especially tannin, can lead to a change in the color of the wood. Cationic waterborne epoxy ester resins can give excellent stain blocking for wood since cationic groups can react and slow the migration of tannins. While prolonging the appearance of the wood, a one-part waterborne epoxy offers a simple drying process and hardness for decorative wood coating.”

Coatings for wood flooring, he says, are usually coated using multiple UV layers as a way to obtain a hard and smooth finish.

“To carry out the application process, low viscosity formulations are generally sprayed onto the substrate,” he explains. “Low viscosity monomers or reactive diluents are thus used, but they can influence the overall toxicity. On the other hand, PUD UV resins have low viscosity which can be furthermore diluted with water to obtain the desired viscosity.”

“Moreover, these resins can easily carry matting agents while giving a hard, scratch and chemically resistant coating. Simple changes can be done to the manufacturing



Wood coated with a UV-dried PUD coating. Photo: EMCO-Inortech.

chain to have a quick drying process with PUD UV resin, without the environmental concerns of classic UV resins.”

Exterior wood coatings such as deck stains needs to a dry quickly, and offer early water resistance. Alkyds, Blais-Roberge says, are well known for their utility in this application, because of their good early rain resistance.

“Increasing their chemical properties is now possible by merging different type of polymers,” he says. “The new generation of alkyd resins modified with polyurethane, silicone or a vinyl group can provide a quick drying time, adhesion and/or heat resistance, while keeping the good weather stability and ease of application and maintenance.”

Chemical, physical and other properties of these resins, he continues, are specific to the type of polymer they are made of. Achieving a good film formation is the key of all water-based formulations, but sometimes there is a need to extend or reach properties that are not possible using the resin only by itself.

Film hardness and scratch resistance are some properties generally targeted as goals, since wood is a quite soft material. Adding nanoparticles dispersion, he says, such as silicon dioxide (SiO₂), to the formula will embed harder materials in the coating and increase its hardness. EMCO-Inortech has been working with AkzoNobel’s nanoparticle dispersions, which are available in a multiple pH range and sizes.

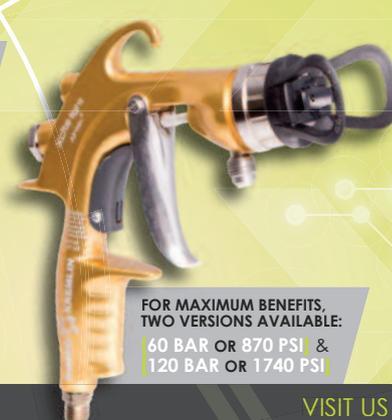
“While modified alkyds are presently providing early

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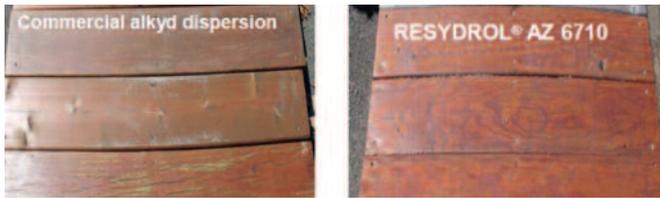
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Wood coated with regular alkyd dispersion and sample with Resydrol AZ 6710.

rain resistance,” he says, increasing the coating hydrophobicity could increase its early and long-term durability. Water soluble fluorinated polymer from Maflon can increase the coating’s hydrophobicity, repelling water and decreasing coating hydrolysis degradation.

“Duroxyn VEF 2406 and EF 2107 from Allnex are good options for waterborne cationic epoxy resins. From the same manufacturer, urethane modified alkyd Resydrol AZ 6710 is optimized for outside wood finishes applications.”

Among new materials for this field, Lubrizol Corp. has just released Solspense W100, a new dispersant from the Solspense W-Series family of waterborne dispersant technology. This is a multi-functional dispersant designed to work with a broad array of pigments across a wide range of water-borne coatings, simplifying the selection process for formulators.

It is, the company says, highly efficient, bringing pigments to optimum color development with 10 to 15 percent less dispersant than competitive dispersants require. In addition, the unique chemistry of Solspense W100 has less impact on film properties, especially water resistance, making it ideal for use in corrosion control coatings or waterproofing coatings.

“Solspense W100 delivers outstanding performance at much lower treat rates and has the ‘all-rounder’ characteristics that make it a solution to many of the challenges formulators face when designing water-borne industrial coatings,” says Dan Latas, global market manager with Lubrizol Performance Coatings. “The minimal impact on film properties will be widely applicable to many end-uses that were previously more challenging for water-borne technology.”

The company has also launched Solspense W200 dispersant, which is designed to provide rapid dispersion of organic pigments and high-performance carbon blacks into waterborne coatings systems. Solspense W200, Latas says, also brings superior color development to organic pigments and offers outstanding jetness in many of the most difficult carbon black pigments.

“Solspense W200 delivers a step-change in performance when it comes to rapid wetting of organics and carbon blacks, with long term stability and excellent rheology control,” he says. “The time savings in dispersing, ease of flow and the high level of color development offer many benefits to coatings formulators and manufacturers that were previously very challenging, if not unachievable. Initially launched in Europe, Latin America and parts of Asia, Solspense W200 will soon be available globally.” ■



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Sur/Fin 2018

Sur/Fin 2018 was held in Cleveland, OH, in June. Here's a look at some of the companies and people who exhibited. If you want to catch the next Sur/Fin, it is being held in June 3-5 2019 in Rosemont, IL.



Jose Zazulla of Green Power Products (L) and Dan Dunigan at the A Brite stand.



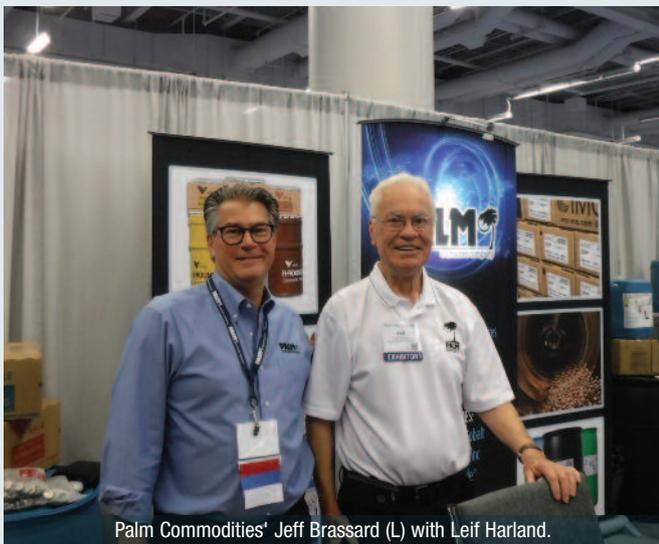
Chris Malone and Nichole Jud at the Caplugs stand.



The Dangler Guys: Jeff (L) and Brad Hatcher.



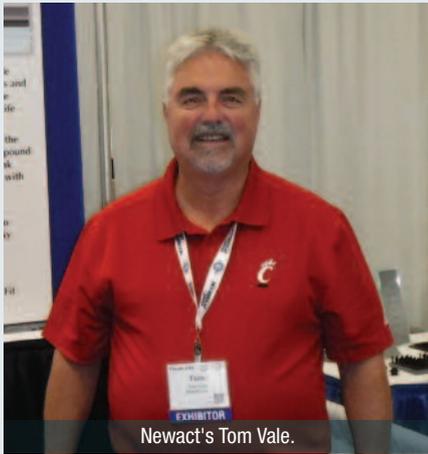
(L to R:) Carl Brown, Tom Turk and Tim Tan, of DeNora.



Palm Commodities' Jeff Brassard (L) with Leif Harland.



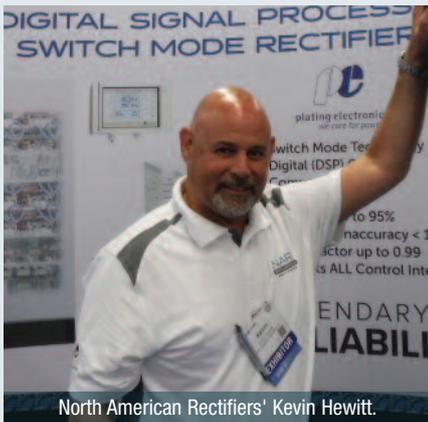
Penguin Filter Pump's Alesia Edie (L), Barbara Frederick and Jim Miller.



Newact's Tom Vale.



(L to R): Jason McGahey, Tiffany Mast and Scott Brown on the American Plating Power stand.



North American Rectifiers' Kevin Hewitt.



The Dynatronic booth, with (L to R) Chris Parker, Dave Osero, Lara Childers and Gerry Geisinger.



Bill Oney (L) and Steve Topping at the TTX booth.

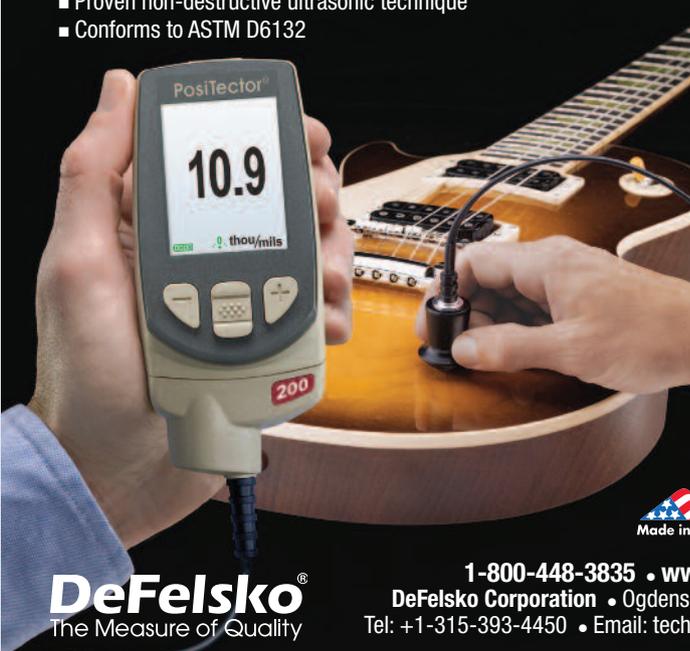


Gannon and Scott booth, with Kristine Murphy and Ray Conway.

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Death by a Thousand

Regulatory Cuts

BY GARY LEROUX

COMPETITIVENESS IS SOMETHING business must embrace and that includes riding the ups and downs over time. Overall, competitiveness drives new investment and innovation, which ultimately leads to more sustainable and high performing products.

While at times challenging, the coatings industry has thrived and grown over the past 10 years in Canada. We all know that regulation sometimes impacts company competitiveness vis-à-vis other companies and other countries. This situation is pronounced in the case of Canada with an economy highly integrated with that of our largest trading partner, the United States. Much has been revealed on that matter in the current NAFTA negotiations. CPCA and others continue to advocate for greater regulatory alignment with the United States to varying degrees of success.

In May the highly respected Canadian Chamber of Commerce released a report on the need to improve Canada's 'regulatory' competitiveness called, "Death by 131,000 Cuts". That report boldly argued, and many would agree, "that of all the skills needed to do business in Canada – for large multinational corporations and budding entrepreneurs alike – perhaps the most important is learning to navigate government regulations and bureaucracy."

To help convey the extent of government regulation across all levels of government for Canadian businesses, the federal government reported that in 2015 there were 131,754 'federal' requirements imposing an administrative burden on businesses. That number is up from 129,860 in 2014, just one year earlier. More than 58,000 of those are with three federal government departments: Transport Canada, Health Canada and Environment and Climate Change Canada.

If that number seems staggering, consider the fact that the largest economy in Canada according to Statistics Canada, Ontario, has over 380,000 regulations on the books. While many of these regulations cross all business sectors and walks of life, they all impact business and their workers in some way. Of course, the obvious ones have a clear and present requirement for companies to both understand and comply, but nevertheless, the burden can

be huge. This is viewed as one of the major reasons for the eroding manufacturing base over the past 10 years in Ontario and in other provinces to some degree as well.

The chemical industry has been especially deluged with regulations and ongoing regulatory development in recent years with a myriad of federal regulations, many of which relate to environment and transportation. CPCA members have been impacted greatly by these efforts with chemicals in commerce and related regulations being assessed by the federal government.

These chemicals are used in literally thousands of formulations for products used daily by a wide array of customers, for a wider array of uses. Many of them are used for the well being of the public and the environment. The Chamber of Commerce report describes these regulations as 'regulated capitalism'.

While many in business understand this fact, they have long argued for a rules-based economy to ensure a level playing field in fairness to all, both large and small enterprises. Yet, the Chamber of Commerce steps up to the plate and calls 'em as they see 'em. Despite the certainty regulations provide for investment they worry about, "Canada's complex network of overlapping regulations from all levels of government that has created a costly and uncertain environment in which to operate a business. Onerous compliance costs along with inefficient and unpredictable regulatory processes divert business resources away from more productive activities. This is especially true for small businesses, which lack the specialized and dedicated compliance resources of larger firms."

In recent years all levels of government attempted regulatory reform with some success, but these have been outpaced by an increasing number of new and more complex regulations despite the fact that the federal Red Tape Reduction Act was passed in 2015 to address the problem. However, this did not happen even with full federal commitment to reduce administrative burden for business, imposing a 'one-for-one rule,' wherein one regulation was to be removed for every new regulation introduced. The law is missing in action and generally ignored with more

“Death by 131,000 Cuts”



– not less – regulation since then. There was also a federal ‘Smart Regulation Initiative’ that seemed more the opposite of ‘smart.’ The Chamber argues that such escalation in regulations has reduced the productivity and competitiveness of Canadian businesses. Further it makes Canada less attractive as a place for foreign investment. OECD acknowledged this fact in ranking Canada 38 out of 137 countries on its Global Competitiveness Index.

The findings of the Chamber’s report are no surprise to many who have dealt with these regulations over the past 10 years. Nevertheless, in the midst of such doom and gloom, the Chamber has some insightful recommendations such as:

- create mechanisms to reduce cumulative burden and accelerate regulatory simplification, including increasing the scope of the one-for-one rule
- impose measures to enhance regulatory competitiveness and accountability across government
- establish regulatory economic growth and competitiveness mandates
- rebuild stakeholder confidence in cost-benefit analysis
- improve regulatory consultations that are evidenced-based and time limited and not stymied by organizations that focus on broader issues
- increase international alignment especially with the United States
- implement best practices and simplify existing regulatory frameworks

One encouraging sign in recent weeks has been the renewed commitment to an MOU for the Canada-United States Regulatory Cooperation Council (RCC), signed at the White House on June 4, 2018, by Canada’s president of the Treasury Board and the Director of the US Office of Management and Budget. It reaffirms the RCC’s role as a “practical and proven bilateral forum devoted to reducing, eliminating or preventing unnecessary regulatory differences between their two countries.” CPCA strongly supports this continuing effort and looks forward to increasing alignment in the coming months.

It is especially critical for our members given the fact that half of the coatings products sold in Canada are now imported from the United States. More alignment helps both the companies that import goods into Canada and those companies manufacturing products in Canada.

All of the Chamber’s recommendations are on point and have been noted as a means out of the current manufacturing morass. These will only work if there is total commitment to achieving the outcomes at the risk of burning up precious political capital. Some would strongly argue that political capital must not be wasted, but instead used for nation-building outcomes. What could be more important for nation building than a strong economy based on reasonable rules, attracting new foreign investment in industries that create good paying jobs for Canadians. There is no question that without a strong economy there will be strains on all three pillars of sustainability: economic, environmental and social. ■

Gary LeRoux is president and CEO of the Canadian Paint and Coatings Association, www.canpaint.com

New Pigments Expand **Color** Choices

CAREFUL CHOICE OF PIGMENTS for coloring coatings has never been more important. In a marketplace where competition is coming in from around the world, brand differentiation through distinctive use of color is increasingly critical. This in turn means the demand for high-quality pigments is only growing.

Dominion Colour Corp., which recently merged with US-based LANSOCO Colors, recently launched a new color index called Pigment Orange 86, for use in the plastics and coatings markets. Dr. Bruce Howie, global product marketing manager with DCC, said this is “part of our ongoing drive to expand the gamut of bismuth-based pigments, and strengthen our position as the global innovation leader in this technology.”

He further explained that this product is the cleanest inorganic orange pigment in the market.

“Orange ORS has outstanding durability,” he said. This includes “excellent weatherfastness, heat stability, and exceptional hiding power; and it is a good starting base for orange colour matches.”

It is recommended for use in solvent-based paints for automotive, high-end industrial and architectural applications. It is a non-warping grade suitable for plastic applications, and can be processed at temperatures up to 250 deg. C. With a total solar reflectance (TSR) of 58.8 percent, it is also well suited to be incorporated into cool coating applications.

In April, DCC and LANSOCO announced we had merged. DCC has traditionally manufactured the vast majority of its pigment portfolio in North America, with a smaller portion of the product range supplied through outsourced partnerships, and has exported these worldwide. “DCC LANSOCO sees tremendous global potential in organics as a growth engine,” Howie said. “As a result, we now have opportunities to cross-sell outsourced LANSOCO products interna-



tionally such as the high performance Disazo Yellows (PY.93, PY.95) and reds (PR.144, PR.166, PR.242), Perylene red (PR.149, PR.179) and violet (PV.29) and anthraquinone red (PR.177) pigments.”

There are also high-performance inorganic pigments such as chrome oxide green (PG.17), ultramarine blues (in the UltraBlue range), micronized and transparent iron oxides (PY.42, PR.101, PBl.11) and aluminum (PM.1) pigments. The combined product portfolio will be much broader, more diversified, and cost competitive to deliver more solutions to the combined customer base.

“The merger will create a stronger company,” Howie added, “with a more comprehensive range of products, services and locations for all our customers, worldwide.”

Sun Chemical has added several pigments to its color range recently. Michael T. Venturini, the company’s marketing director, coatings, says it has recently launched several new pigments. These include Perrindo Maroon 179.

“One of the most yellow pigment red 179 shades on the market,” Venturini says, “Perrindo Maroon 229-8834 features the benchmark transparency that is vital to producing modern, high chromatic metallic red finishes and

offers excellent light and weather fastness, rigorous process and quality control, compatibility in water and solventborne systems, and is easy to disperse.”

Another example is Quindo Red 122, which Venturini says is suitable for both water and solventborne systems.

“It enables excellent styling for highly transparent and chromatic effect shades and has excellent durability and fastness properties for automotive and high-performance coatings,” he says. “As Sun Chemical’s newest quinacridone pigment, its good rheology and broad compatibility provides easy formulating using one product for all systems, and it delivers highly pigmented bases in low-VOC, high-solid coatings.

Indofast Violet 23 235-LBP2 is a versatile pigment for general purpose use across a wide range of coating technologies for industrial and architectural end uses that features high strength, easy dispersability and improved opacity compared to other offerings. Palomar Blue 15 is specifically developed for the automotive coatings market. Palomar 248-4848 is a phthalocyanine blue designed to have a highly desirable green flop color in metallic coatings. It is non-flocculating, non-crystalizing and has excellent rheological and lightfastness characteristics.

And Sunbrite Yellow 74, the company’s newest Azo yellow, 272-4615, is for architectural coatings. It was developed specifically for decorative coatings producers and the needs of machine colorants.

It is easier to disperse than previous grades and delivers 15 to 20 percent more tint strength than comparable products. It has, Venturini says been quickly adopted because of its color point for existing and new VOC-free colorant systems.

“Sun Chemical has a global strategy of regional manufacturing and a fully integrated supply chain,” he says. “So when we’re referring to new pigments, generally those pigments are manufactured regionally in North America, Latin America, Asia, and Europe, to support the needs of both our regional and global customers. This approach is valuable, especially when there is uncertainty in the marketplace in certain regions of the world.”

BASF recently announced that it is increasing its production capacity for isoindoline yellow pigments by approximately 70 percent by 2020, as the demand for high-performance pigments grows. The company said that bright yellow tones offering a high degree of weather resistance and temperature stability are sought after, particularly in demanding applications involving industrial coatings.

“Following our recently announced expansion to production capacities for Paliocrom effect pigments, this investment of around €10-million underscores our ambitions for growth as one of the leading manufacturers of high-performance pigments,” said Dr. Alexander Haunschild, managing director and SVP for BASF’s global

pigments brand. He added that customers use isoindoline pigments, marketed under the Colors & Effects brand, to meet their needs for the automotive sector and to color plastics.

LANXESS’ Bayferrox iron oxide red pigments, which are made using its Ningbo process, have seen increasing market penetration since their widespread commercial introduction last year. Following an intensive testing phase, they are now being sold worldwide.

“This new generation of iron oxide pigments is a perfect addition to the top-selling range that LANXESS has been manufacturing by the Laux process for over 90 years at its Krefeld-Uerdingen site, said Stephan Spiegelhauer, head of IPG’s Paints & Coatings Competence Center. “All the new reds fulfill the high quality demands of the paints and coatings industry and deliver high chromaticity and tinting strength.”

In the mid-range color segment for reds, LANXESS now offers Bayferrox 520, Bayferrox 5272, Bayferrox 525 and Bayferrox 530. The new grades Bayferrox 510, Bayferrox TP 5278 and Bayferrox TP 5279 satisfy demand for more yellow-shade red pigments.

All these Bayferrox grades are produced at the site in Ningbo, China. This patented manufacturing method meets most stringent environmental standards and covers

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the entire color spectrum of iron oxide pigments in the mid and yellow-shade red color range. Effective milling, LANXESS says, reduces the proportion of aggregates and agglomerates. The new grades can be easily dispersed, even at low shear forces.

In most cases, a dissolver-based dispersion process is sufficient for this purpose. At higher energy input levels, coating systems formulated with these grades prove to be stable against the otherwise common issue of color drift. The new red pigments can be used at high loading levels, making them ideal for use in concentrated paste systems. In addition, surface-active substances, such as wetting and dispersing additives, can be easily and rapidly taken up by the pigment surface. This supports the optimal long-term stability of a coating system, because it significantly reduces any tendency towards sedimentation.

The red pigments also reportedly show impressive results for viscosity and flow behavior: coating systems formulated with them usually display only slightly pseudoplastic behavior, even at high pigment concentrations. In other words, the viscosity decreases slightly as shear forces rise, so that highly concentrated end products are still easily pumpable. Additionally, the Ningbo process significantly reduces the residual, water-soluble salt content of the pigments, making them suitable for use in corrosion-resistant coatings.

Among its other pigment products, Heubach offers anti-corrosive pigments. These are offered as alternatives to chrome-based types, which can be carcinogenic. The company says its orthophosphate, polyphosphate, organic inhibitor, wide-spectrum anticorrosive and zinc-free anticorrosive products such as calcium modified silica anticorrosive now set the standard in pigments for safe modern protective coatings.

Worldwide, Heubach adds, corrosion is estimated to destroy a ton of steel every second. Replacement costs in Germany alone exceed 20-billion euros per annum. Backed by global R&D capabilities and an existing track

record in innovative anti-corrosive pigments, Heubach set out to extend the working life of steel.

Even though the periodic table offers several alternatives to zinc that do not contain heavy metals, only a few metals qualify as suitable replacements. When making a selection, the emphasis is on possible positive interactions between calcium and magnesium phosphate compounds. Thus, a new zinc-free pigment requires effective anodic corrosion protection in solvent and water based systems; stability and universal application; good dispersion properties; and of course, cost efficiency.

Using calcium magnesium orthophosphate (CMP) offered significant gains when compared with straight magnesium phosphate. Even the protective effect of the reference sample, which contained zinc, was outperformed by using the CMP. A significant improvement in adhesion and rust creepage at the cross-section could also be achieved in this system by using CMP. The results showed that the identification and use of synergetic interactions is of benefit in developing effective anticorrosive pigments such as its Heucophos CMP.

In the carbon black sector, Birla Carbon has announced production expansions in multiple regions. These include significant debottlenecking at its factories in Egypt and Italy before the end of the third quarter of this year; restarting a production line in Thailand by the end of the fourth quarter; and installing of new production lines in India with a start date of the fourth quarter of 2019 will, it said, enable it to raise its capacities considerably.

In total, Birla Carbon will be adding 150kMT per annum of new capacity on line over the next 18 months. Furthermore, the company is prepared to expand at its newest plant in China by an additional 120kMT “at the opportune time.”

“Birla Carbon is committed to supporting our customers’ growing needs in all geographies,” CEO Dr. Santrupt Misra said. “Implementation of these projects are underway after a series of development initiatives were identified to meet market requirements. We have leveraged our latest technology to ensure the highest quality products and most reliable operations.”

Lorama is an Ontario-based company working with plant-derived feedstocks, especially polysaccharide resins. These have application in coatings calling for sustainably sourced materials.

The LPRT system (which stands for Lorama Polysaccharide Resin Technology) offers, the company states, a cost reduction in alkyd enamels, as well as VOC reduction. It also has potential for use in foundry coatings, fire-retardant coatings, sound insulation, CD surface coatings and pigment wetting.

As with more conventional pigments, it is an approach that offers yet one more option in formulating for color. ■



Demand Persists for Fire Retardants

FLAME RETARDANTS easily attract negative attitudes. Firstly, they are 'retardants,' not fire-blockers. They can slow down combustion, but they cannot prevent it.

Secondly, they often work by releasing toxic substances that cut off the oxygen supply of combustible materials, which can include some paints and powder coatings, wood substrates and sundry other things. This can mean they undergo some measure of off-gassing or deterioration over time, with possible ensuing health problems for children, frail or elderly people, depending on the ventilation in living and sleeping spaces.

And of course, when fire actually breaks out, they can be life-savers that dampen or contain serious combustion long enough for people to escape to safety.

The global market for fire retardants (FRs) is estimated by industry sources to be worth more than US \$7-billion at the present time. Of this, about 30 percent goes into construction. Regulation in this field monitors existing and emerging FRs closely, which means that introducing new types is not inexpensive.

The Fire Retardant Additives business of Huber Engineered Materials, itself a division of J. M. Huber Corp. is one of the biggest players in the international FR market. In March, it announced a major capital investment to increase production capacity for its Martinal LEO fine precipitated alumina trihydrate at its Martinswerk plant in Bergheim, Germany.

"We are pleased to announce this phase two capacity expansion at our Martinswerk operation to support the growing demand of our customers in Europe, India and Asia for our halogen-free fire retardants," said Martin Schulting, managing director of Huber's FRA business unit. "This substantial investment will increase our production capacity for the high quality Martinal LEO grades by an additional 20 percent and represents the single largest investment made over the last 40 years at Martinswerk.

"In addition to this investment, we are committed to reducing our environmental footprint and have initiated ongoing sustainability discussions with various governmental entities that we believe will result in the delivery of several sustainability improvements in line with our company objectives."

The new capacity was to be phased in via several steps, with the first incremental volumes scheduled becoming available in the second half of 2019. The expansion project's completion was slated for early 2020.

"This investment underlines the commitment we have to our customers to support their growth and our clear strategy to grow our halogen-free fire retardant business globally," added Jerry Bertram, vice-president and general manager of the FRA business.

This second capacity expansion project at Martinswerk comes only two years after Huber's acquisition of the facility from Albemarle Corp. In addition, Bertram reported, Huber was expanding fine precipitated alumina trihydrate capacity at its facility in Bauxite, AK, which was to come online in the third quarter of 2018.

The Martinal LEO fine precipitated alumina trihydrate grades serve as Huber's global product platform for its FR customers. The company has a strong global position in both alumina trihydrate and magnesium hydroxide, both non-halogenated fire retardants. Its FRA business unit has four manufacturing sites in North America and two in Europe.

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

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Buckman's Flamebloc GS series of fire retardants are formulated to provide outstanding protection for today's natural and synthetic products. Their innovative mix of unique chemistries, including amino functional ammonium polyphosphate, are clear, water-based, and contain little or no VOC. Best of all, they do not require a halogen donor to provide intumescent and char-forming substrate protection. There are many options, too, to help you meet the various standards and specifications required by your industry.

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FIRE RETARDANTS

paints, Sibelco says, still uses well-established methods.

Aluminum trihydrate is derived from bauxite ore. It currently finds use as a fire retardant filler for polymer applications in a similar way to magnesium hydroxide and mixtures of huntite and hydromagnesite.

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. Flamebloc Foam Protect is a white, aqueous-based, intumescent flame retardant coating that can be coated by spray, brush, or roll applications. It is made of two components

After proper curing, when exposed to heat or flame, the Flamebloc Foam Protect coating will intumesce, building a foam char up to 100 times the original applied coating thickness.

The foam char that forms provides a functional thermal barrier protecting the substrate against both heat and flame.

Flamebloc Foam Protect achieves flame retardant properties by blending four parts of Flamebloc Foam Protect 502 with one part of Flamebloc Foam protect 501 by volume, enabling the blended coating to cure forming a fire protective film. It features low VOC emissions, and meets the CAN/ULC S-124 Class B standard for polyurethane foam.

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

Truly new chemistries in the FR field are rare, for the reasons stated at the top. But the demand is not diminishing.

While one branch of government might be issuing cautions or contemplating new rules, another will be requiring greater fire safety. But while there is a balancing act to be maintained between competing public concerns, the fear and hurt a fire can cause is going to keep up the demand for FR materials. ■

Mobile Thickness Measurement

The pen-like Phascope Paint is Fischer's newest mobile measurement instrument. This device is designed for fast and easy coating thickness measurement and uses its own app for the data analysis.

Thanks to the very large measuring range up to 98 mils, it is suited for very thick coatings. Additionally, it takes advantage of the computing power already to the user: the readings are analyzed and reported using the simple app for a smartphone or tablet.



The Phascope Paint relies on the versatile eddy current method. For example, paint coatings can be measured on magnetizable substrates such as steel or iron, as well as on non-magnetic metals such as aluminum – without the need to switch the device or the probe.

When testing on samples of different aluminum alloys, the different conductivities of the metal can have an effect on the measurement of the coating thickness. The unit has a conductivity compensation feature, which ensures accurate measurement results. This versatility allows for a wide variety of applications, from the automotive industry to heavy corrosion protection.

www.fischer-technology.com

DCC Lansco Launches Color Matching Service

DCC Lansco has launched an expansion of its color matching capabilities for the plastics, coatings and inks industries. It has created an online Custom Colour Matching service as part of its complete customer service offering.

With over 70 years of corporate experience, the company's staff are able to match any color required. Customers can simply

insert color and technical specifications in the Colour Matching Portal on the website, and one of the staff will be in contact shortly.

DCC Lansco also offers RAL matching and brand matching services. It will also help with the search for alternatives to lead chromate pigments

www.dominioncolour.com

Electrical Steel Varnishes

Axalta Coating Systems has introduced Voltatex 1175WL and Voltatex 1175WH – low and high viscosity versions, respectively – of a self-bonding electrical steel varnish, to its Energy Solutions' product portfolio. These two new electrical steel coatings replace the standard two component system, so no addition of a hardener or mixing is required. Self-bonding characteristics have become increasingly important in the production of high-quality magnetic cores for stators and rotors. Self-bonding products offer decisive manufacturing benefits as they deliver precise and reproducible adhesion. Voltatex 1175WL and Voltatex 1175WH are designed to minimize any varnish being squeezed out of bonded stacks. Self-bonding properties are therefore in high demand, particularly for the production of wind-turbine generators, but also in the manufacture of motors for electric vehicles (EVs) and hybrid electric vehicles (HEVs).

"These two new Voltatex products offer very user-friendly handling," said Christoph Lomoschitz, global product manager for Axalta's Energy Solutions business. "Because they are one component and offer specific viscosities, there is no viscosity adjustment necessary on the line so they are much easier to process, and they have a large curing window. They ensure that our portfolio of products will continue to deliver the outstanding performance that has established Axalta's excellent industry reputation."

Both Voltatex 1175WL and Voltatex 1175WH sustain peak temperature loads up to 180 deg. C with sufficient bonding strength. And thanks to the optimized surface quality, coiling, decoiling and punching of coated electrical steel coils is easy. Voltatex 1175WL and Voltatex 1175WH offer longer shelf life and significantly improved handling with the same technical performance as standard two-component systems.

Voltatex 1175WL and Voltatex 1175WH are supplied in 200 liter drums or 1000 liter containers as a ready-to-use system without needing the addition of hardeners or accelerators.

www.axaltacs.com

Color-Matching for Powder



Sherwin-Williams has announced a new program designed to reduce the time it takes for powder finishers to match, receive, and apply powder. The Color Express program uses an affordable hand-held reader to match color against in powder products stocked at distribution centers and available at more than 70 Sherwin-Williams locations across North America. The combination of digital technology and locally stocked products can reduce the matching process from weeks down to a few days.

"Our customers often tell us the first shop to match a color wins the job," said Tabitha McLeish, global product line director for Sherwin-Williams. "Pairing digital color matching technology along with Sherwin-Williams localized support and inventory can add speed to job coaters operations that can immediately have a positive impact on their business."

The Sherwin-Williams ColorReaderPRO, powered by Datacolor, allows coaters to incorporate digital color match technology into their operation. The company says the device is simple, self-contained, and calibrated on site.

Job coaters benefit from improved match times, reduced inventory and the ability and improved customer response time. By implementing this technology paired with local in-stock inventory, coaters can reduce match and order times and begin a customer's job

request in days instead of weeks.

The ColorReaderPRO is a handheld color matching and measurement tool that allows professionals to match or measure color in their operations onsite. The portable device works stand-alone or through the Datacolor ColorReaderPRO smartphone application to provide enhanced features, such as additional color information, fan deck visualization, or quality control, on a mobile device. The ColorReaderPRO is calibrated onsite and comes loaded with Sherwin-Williams in-stock powder product matches.

Technology to measure and match color has been available for some time. Devices, such as a spectrophotometer, can effectively measure and match color right on site. However, investing the space and the capital for purchasing and maintaining the equipment is not always possible. With

advances in technology portable, accurate, and affordable color matching devices are now an option for any operation.

ColorReaderPRO currently supports the Powdura Color Card Program, with 121 in-stock products, and the RAL Powder Program, with 150 in-stock products. Additional in-stock products will be added to the Color Express powder program over time.

<http://oem.sherwin-williams.com>

Viscous Material Sensor

Highly viscous materials can clog float mechanisms, block fill ports, mask windows and cause solid material to build up on moving floats. This can result in sticking floats and frozen outputs along with inaccurate readings and costly maintenance and downtime.

Gill Sensors & Controls Ltd. recently met the challenging level sensing requirements for a varnish manufacturer. During the varnish manufacturing process, plant engineers had problems with being able to reliably measure the level of lacquer in their bulk containers because of its high viscosity and sticky characteristics. Reliability was affected by the tip of the sensors gumming up and providing a false reading.

The manufacturer sought a new sensor solution that could provide a reliable alert when the lacquer level dropped to 25 percent capacity. At that level, the containers could be topped-off with additional lacquer

to prevent empty containers halting the production process.

Gill's High Viscosity Liquid Level Sensor Model 7014 met these requirements by means of proprietary conductive technology, which is specifically designed for monitoring highly viscous (water-based) liquids. The 7014 sensor features an electrically sensitive probe surface and no moving parts or floats. With this design, there is nothing to wear, freeze or clog, allowing for a reliable signal reading while at the same time reducing maintenance costs.

The probe also features a wetted area manufactured with FEP (fluorinated ethylene propylene) that has excellent non-stick properties. The smooth sensing surface can differentiate between being immersed in thick liquids versus air (the airspace at the top of the tank or container). The variance between these two readings is used to calculate true liquid level.

"Gill's 7014 sensor technology allows engineers to 'install it and forget it'," says Paul Cain, manager of business development for Gill Sensors North America. "The unique profiling software calibrates each tank or container to obtain gauge readings where a half-tank indication truly means 50 percent of actual level."

The 7014 sensor can be used for level monitoring in water-based paint solids, lacquers, and pulp products along with other aggressive water-based cleaning chemical combinations commonly used in industrial processing. Even in extremely syrupy and sticky viscous materials, a simple service of wiping the probe clean using alcohol will reset the device for re-use.

www.gillsc.com

Complete Powder Line

A complete powder coatings system capability from Baker Perkins is designed to meet rising demand from the industry for single-source, integrated lines. The company is joined by partners providing specialist technology for each part of the process, to offer full, industrial-scale continuous lines for high-quality powder coatings with capacities reaching 2,900 kg/hour (6,400 lb/hr).

Baker Perkins ensures that the capacities and capabilities of all individual units are matched, that mechanical and electrical



interfaces are optimized, and that a centralized control system covers the whole fully automated line. Control systems provide clear, at-a-glance visualization of the process, including current status of all major components and parameters.

Continuous processing gives productivity and product quality improvements, overcoming many of the drawbacks of traditional batch processing alternatives that require time, effort and investment. Continuous processing reduces many process stages to one, lowering investment, energy, labor and space requirements with negligible waste.

In addition to the Baker Perkins extruder, a complete process line comprises mixing, weighing and feeding the mix before the extruder, and cooling, flaking and grinding after the extruder.

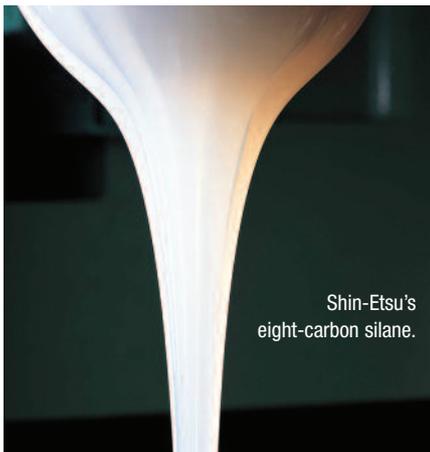
Baker Perkins works with a number of different partner companies, who can supply all the pieces of equipment required to put together a full process line. Each partner company specializes in its particular technology, so customers are assured of excellent performance throughout the process.

www.bakerperkins.com

Silane Coupling Agents

Shin-Etsu Silicones of America, Inc. recently introduced its eight-carbon silane coupling agents. New to the coatings, adhesives, and sealants industries, the KBM-1083 (olefinic functional) and KBM-4803 (epoxy functional) lines have eight carbons, creating more space between the reactive ends of the silanes.

Typical silane coupling agents have three carbons separating the organic functional group from the inorganic silicon end. These traditional three-carbon spacer silanes create



Shin-Etsu's eight-carbon silane.

a tighter, more rigid network than their eight-carbon counterparts.

The result of this 'greater space' presents benefits that can be formulated into a wide variety of chemistries. These include: increased reactivity due to easier access to the reactive group; improved adhesion; and enhanced flexibility of the cured resin. Higher filler content is enabled, there is greater alkali resistance, and more compatibility with plastics.

KBM-1083, which is olefinic functional, has a purity (GC percentage) 90 or higher, and viscosity (25C) of 1.8cSt. It enables higher filler contents, increases flexibility of cured resin, and increases alkali resistance and water resistance.

KBM-4803, which is epoxy functional, has a purity (GC percentage) 95 or higher, and viscosity (25C) of 6.6cSt. It increases adhesion and flexibility of cured resin, as well as alkali resistance and water resistance. It also enables higher filler contents.

www.shinetsusilicones.com

Low-migration Acrylates

Sartomer, a business line of Arkema, is launching a new range of LM (Low Migration) acrylate monomers and oligomers. These are specifically designed for formulation of UV curable inks and coatings, and dedicated to indirect food contact applications.

Many of the standard Sartomer products already respect the general criteria used for the selection of raw materials, including compliance towards specific regulatory standards. Nonetheless, Sartomer is taking this approach one step further, considering the presence of low-level residuals that may have a greater tendency for migration. Hence, each

grade within the Sartomer LM range is produced to exacting standards to prevent the risk of cross-contamination, while a comprehensive risk assessment has been conducted to address the presence of NIAS (non-intentionally added substances).

LM product design is also reinforced by a systematic analytical quality control procedure that ensures the finished product conforms to a detailed sales specification. All products contained within the initial offering are REACH and TSCA compliant.

www.sartomer.com

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