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CANADIAN FINISHING & COATINGS MANUFACTURING MAGAZINE

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MAY/JUNE 2015



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AkzoNobel

“Colour is key - and so is the partnership I have with my Chemcraft Distributor.”



Michael Harrison, President
Yorke Towne Supplies Limited

Louie Forestieri
Multiflex Custom Cabinet & Millwork Solutions

Sam Cesario, Sales Representative
Yorke Towne Supplies Limited

“With the current trend having moved from laminate to paint, accurate and consistent colour matching is more important than ever. Usually, our jobs begin by meeting with interior designers and reviewing the colour palette they’ve selected for a project. From there, we begin collaborating with our Chemcraft Distributor.

Their colour team works alongside myself and my colour finisher to recommend the substrates, products and finishing techniques that will bring the designer’s colour vision to life. Our reputation depends on accurate colour matching, and our Chemcraft Distributor provides the products and support that helps us deliver the results our customers expect. It’s a great partnership.”

Louie Forestieri
Multiflex Custom Cabinet & Millwork Solutions
Toronto, ON

Founded in 1977, Multiflex Custom Cabinet & Millwork Solutions provides high-quality custom crafted cabinetry and millwork to the corporate, hospitality, retail and high-end custom home markets. Their Chemcraft distributor is Yorke Towne Supplies Limited in Richmond Hill, Ontario.

Visit chemcraft.com to locate your nearest distributor.

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from the **EDITOR**

Bug Proof



One thing I don't mind about the colder weather is the absence of bugs. With spring comes all of our little flying and crawling friends who get in all the places we don't want them to be. Including all over our car coatings. But it is hard to believe that a bug could affect the airflow of a large plane.

NASA researchers, working with Boeing's ecoDemonstrator Program, are testing non-stick wing coatings designed to minimize insect residue and help reduce aircraft fuel consumption.

The Boeing ecoDemonstrator 757 flight test airplane at the Shreveport Regional Airport in Louisiana will undergo 15 planned flights to assess how well five different coatings prevent insect remains from sticking to the leading edge of the 757's right wing.

Studies have shown that keeping the flow smooth over a wing can reduce fuel consumption as much as six per cent. Even something as small as a bug on a leading edge can cause turbulent wedges that interrupt laminar flow, resulting in an increase in drag and fuel use.

Engineers at NASA's Langley Research Center in Hampton, VA, developed and tested several non-stick coatings in a small wind tunnel and on the wing of a NASA Langley jet. They selected the best for the ecoDemonstrator 757 tests. The NASA Langley researchers will work with Boeing pilots and engineers to test the coatings on two of the leading edge slats on the airplane's right wing during the flights. The team will establish a bug baseline by using uncoated surfaces to capture insect accumulation rates. Then they will fly untreated control surfaces along with engineered surface samples of the five coatings being tested.

NASA's hopes to determine which coating is most effective in decreasing the amount of bug residue, and to provide data that will allow engineers to measure how reducing the size and specific locations of bug strikes affect laminar flow and help improve fuel efficiency.

According to Boeing, the ecoDemonstrator Program plays a key role in the company's environmental strategy by testing and accelerating new technologies that can reduce fuel use, carbon emissions and noise. In collaboration with NASA and TUI Group, Europe's leading travel group, the ecoDemonstrator 757 began flight tests in March 2015 with a focus on improving aerodynamic efficiency. In 2014, the company tested more than 25 technologies on the ecoDemonstrator 787. In 2012, Boeing tested 15 ecoDemonstrator technologies on an American Airlines 737-800.

Much of the NASA knowledge gained through the ecoDemonstrator research will be publicly available to benefit the industry.

Meanwhile, welcome to our May/June issue. Please don't hesitate to contact me with any questions, concerns, news releases, or if you would like to write as an Industry Expert for the magazine.

sandra.anderson@cfcma.ca

Association News

CPCA Announces Outstanding Achievement Award Recipient for 2015

The Canadian Paint and Coatings Association's (CPCA) highest honour, the Roy Kennedy Outstanding Achievement Award for 2015, will be presented to Mark Kurschner, President of Product Care Association. The award will be presented at CPCA's upcoming Annual Conference and AGM in Niagara-on-the-Lake on May 27-29, 2015.

CPCA presents this award annually to an individual who epitomizes Roy Kennedy's dedication to the paint and coatings industry and his outstanding volunteer service to the association and its members.

Kurschner is the President of Product Care Association, a non-profit industry association that manages extended producer responsibility (EPR) and product stewardship programs across Canada and in the U.S. His educational background includes both science and law. After 12 years as a corporate lawyer in Vancouver, Kurschner "shifted gears" into business association management and was appointed President of Product Care Association in 2002.

"I am delighted to see Mark receive this recognition," commented Gary LeRoux, CPCA's President. "Mark's strong leadership, vision and dedication to the paint and coatings industry were vital in securing approval for Product Care as the new program operator for post-consumer paint in Ontario. Product Care is instrumental in the paint industry recovering approximately one kilogram per Canadian of leftover paint annually."

Past recipients of the Roy Kennedy Outstanding Achievement Award include Mike Klein, (Dominion Colour Corporation), Dale Constantinoff (General Paint Corporation), Darrin Noble (Home Hardware), Brian Edwards (DuPont Performance Coatings) and Wink Vogel (Cloverdale Paint).

Editor's Note: Coverage of the CPCA Conference will appear in the September/October issue of CFCM magazine.

SurFin 2015

Now in its 97th year, NASF SUR/FIN is the manufacturing and technology conference and tradeshow connecting hundreds of surface finishing professionals to the industry's best business opportunities, latest innovations and most

influential leaders.

June 8-10, 2015, SUR/FIN returns to Donald E. Stephens Convention Center, Rosemont, Illinois, the venue of some of its most well attended shows. The theme this year is "The Future of Surface Technology." Join top engineers, academics and business leaders as they explore emerging technologies, processes and product and service developments set to revolutionize industrial surface finishing.

Whether you're looking to strengthen your network, learn something new, grow your business or all of the above, you'll find it at SUR/FIN 2015. Each year, this highly sought after tradeshow and conference offers 3 days of valuable networking, seventy in-depth conference sessions and direct access to over one hundred fifty leading suppliers.

Company News

Unipex Acquired

KODA Distribution Group (KDG) and the Unipex Group announced KDG's acquisition of Unipex Solutions Canada, a leader in specialty chemicals distribution in Canada. The acquisition exemplifies KDG's strategy of focused growth in

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DeVilbiss Announces Return To Racing and Upcoming Events

Finishing Brands, manufacturer of DeVilbiss industrial finishing equipment, is pleased to announce a return to racing with the sponsorship of the DeVilbiss CRP Audi R8 LMS Ultra. This sponsorship brings a brand new look to the car's exterior, complete with DeVilbiss logo and spray gun on the DeVilbiss orange finish.

DeVilbiss Racing is competing in Indy, World Challenge and Vintage race events.

Their Canadian date was May 15-17 — SpeedFest, Canadian Tire Motorsports Park, Toronto ON Canada (World Challenge).



specialty chemicals.

Unipex Solutions Canada, headquartered in Quebec, is a division of the Unipex Group. It is a leader in the Canadian market with a strong focus on technical sales and support, customer service, and environmental health and safety.

Frank Bergonzi, CEO and President of KDG, commented, "Unipex is a perfect fit for us. Our strategy has always encompassed growth geographically, and this acquisition expands our reach in the Canadian market. Along with Tempo, we can now service a broader customer base."

Jean-Pierre Pelchat, GM of Unipex Solutions Canada, will continue to lead this autonomous, Canadian division and report to Frank Bergonzi.

Sansin line of Water-Borne, Long-Lasting Interior and Exterior Wood Finishes

The Sansin Corporation has announced that Southpointe Paint & Décor in Calgary, Alberta, will carry its full line of Enviro Stain wood finishes for interior and exterior surfaces. Southpointe Paint & Décor is located at 414-4600 - 130th Avenue in Calgary.

SouthPointe Paint & Décor has been the area's number one independent, locally owned and operated paint and design center since 2006. They offer personalized customer service and a premium line of paints and stains. www.southpointepaint.com.

The EnviroCentre in Ottawa, ON will also carry its full line of Enviro Stain wood finishes for interior and exterior surfaces. www.envirocentre.ca.

Miltec Turns 25

Miltec UV, Stevensville, Maryland, USA is celebrating 25 years of business in the UV Industry. Founded in December of 1989 by Joe and Marilyn Blandford as a distributor of UV curing products, they were joined shortly there-

after by sons, Bob and Charles Blandford. The Board of Directors is Marilyn Blandford, CEO, Robert (Bob) Blandford, President, Joe Blandford, Vice President of Global Sales, and Charles Blandford, Senior Vice President.

During those 25 years, Miltec grew from four employees as a distributor, to over 65 employees and is now a global UV equipment manufacturer. Miltec is unique in that it offers both microwave powered and arc lamp systems to its customers, who represent about 30 major industries. Miltec's research and development division, Miltec UV International, LLC is a major part of the business, always looking at innovative ways to optimize the use of UV technology.

Chemetall acquires Aluminium Finishing Business of Chermal GmbH & Co. KG

Chemetall, a global business unit of Albemarle Corporation announced today that it has acquired the business of Chermal GmbH & Co. KG, based in Hamm, Germany. This transaction will enhance Chemetall's integrated portfolio for the Aluminium Finishing industry.

Founded in 1975, Chermal GmbH & Co. KG specializes in research and development of surface finishing chemicals for aluminum and its alloys with emphasis on anodizing and pretreatment technologies. With an extensive history of success, Chermal has become a reference point for the surface finishing of aluminum.

"Consisting of advanced pretreatment and anodizing technologies, Chemetall is one of the few players globally positioned with a comprehensive product range for the Aluminium Finishing industry," says Joris Merckx, President Chemetall. "This transaction will expand our expertise in this market and, combined with strong technical services offered by our wholly-owned subsidiaries around the world, will enable us to further expand our presence in a key market."

Chemetall has achieved a growing reputation in the Aluminium Finishing industry. With chrome-free pretreatment technologies, such as the zirconium-titanium Gardobond X and the silane-based, multi-metal Oxsilan technology, the company has taken a leading role in launching innovative and high quality processes to the market. "Our customers expect us to deliver a full portfolio of solutions to meet upcoming environmental legislation and achieve process cost savings," says Martin Ings, Global Segment Manager Aluminium Finishing. "With the completion of this acquisition we can offer differentiated products and services to bring true value for our customers with minimal investments," Ings added.

Albemarle Corporation, headquartered in Baton Rouge, Louisiana, is a premier specialty chemicals company with leading positions in attractive end markets around the world. www.albemarle.com

Chemetall Surface Treatment, a global business unit of Albemarle Corporation, is a leading global supplier of specialty chemicals with a focus on processes for the surface treatment of metals and plastics. www.chemetall.com

GM Canada Engineering Centre in Oshawa Now Hiring, Expanding and Partnering for the Future

GM Canada president and managing director Steve Carlisle announced that GM's Canadian Engineering Centre is growing into an innovation hub for the "connected car" and green technologies, two areas of growing importance for automotive customers and the future of the auto sector.

The Oshawa-based centre is now hiring for the addition of more than 100 software and controls engineers to support a new mandate related to "connected car" systems, environmental and urban mobility solutions.

GM Canada manages approximately \$190 million research and development work per year

with a wide range of leading Canadian suppliers and universities. Work at the GM Canada Engineering Centre in Oshawa and its cold-weather testing facility in Kapuskasing, Ontario is helping to make the automobile more connected and environmentally sustainable. These activities include the development of new software and active controls that allow customers to take advantage of high-speed data links between automobiles and mobile networks. "Connected car" technologies are enabling an exciting range of new safety, environmental and infotainment applications. Innovation at the Canadian Engineering Centre also focuses on the use of alternative fuels, light-weight and advanced materials which help improve fuel economy and offer customers new and more sustainable technology solutions.

To invite Canadians to be part of creating the future with the connected car and green technologies, GM Canada will be using social media to engage students, professors and teachers, and other Canadians with our innovation team. Headquartered in Oshawa, Ontario, General Motors of Canada Limited (GMCL) employs more than 9,000 people across the country and is a recognized leader in green manufacturing. GMCL markets the full range of fuel-efficient Chevrolet, Buick, GMC and Cadillac vehicles and related services through Canada's largest automotive dealer network. www.gm.ca

Camaro to End Run in Oshawa November 2015



On November 20, Oshawa Assembly production will move from six vehicles to five - when the Chevrolet Camaro ends its run in Oshawa and thereafter will move from four shifts of production to three shifts.

At Oshawa Assembly, almost 60 per cent of hourly workforce are nearing retirement. Working with union partner Unifor, the company will manage production and employment changes by offering retirement incentives to eligible Oshawa hourly workers, as set out under the

terms of our agreement. This affords an opportunity to avoid layoffs. Qualified Oshawa hourly employees who elect to retire this year will do so with deep appreciation for their years of outstanding work producing some of the highest quality and most reliable vehicles in our industry. This was a generation of Oshawa workers who achieved numerous industry productivity and quality awards including the coveted JD Power Founders Award.

After November 20, 2015, Oshawa Assembly

will continue to produce five vehicles and shortly thereafter will move to three shifts. The Flex Line will run on two shifts, and the Consolidated Line, on one shift. By comparison, the majority of all industry assembly plants in North America currently run on two shifts.

The company remains focused on the longer term future at Oshawa Assembly and are working with partners in Unifor, government, suppliers and communities to build a positive case for the future.

New Aerobell 168 Rotary Atomizer



Ransburg, the pioneer of electrostatic spray technology, continues to lead with new innovations.

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Orion Engineered Carbons and Andicor Form Distribution Partnership in Canada for Coatings, Polymers

Orion Engineered Carbons and Andicor Specialty Chemicals have formed a new distribution partnership. Andicor is now the exclusive distribution partner in Canada for Orion's specialty carbon blacks, concentrating on advanced and premium products for Coatings and Polymer systems.

Orion Engineered Carbons is an innovative, global producer of high quality carbon blacks, focusing on collaborative partnerships with customers in rubber and specialty applications.

Andicor Specialty Chemicals Corporation of Mississauga, Ontario is a full-service national distributor of specialty chemicals and packaging for the Coatings & Ink, Construction (including Adhesives & Sealants), Consumer Care, Composites, Oilfield, Plastics & Rubber, and Industrial Specialties markets.

www.andicor.com

www.orioncarbons.com

People

Fielding announces Dr. Rui Resendes as its Chief Technology Officer

The Board of Directors of Fielding Chemical Technologies Inc. announced the appointment of Rui Resendes as the company's Chief Technology Officer.

"Rui has distinguished himself across Canada as an authority in technology development and commercialization. We are thrilled to have him join us to lead business innovation," says Ian McGregor, co-owner of Fielding.

"Rui is globally recognized as a thought leader in sustainability. Like Fielding, he is driven by the vision of a world where economic prosperity, human health and environmental sustainability can exist harmoniously. We are so proud to have him join Fielding's Executive team," says Fielding CEO and co-owner, Ellen McGregor.

Rui says, "I have known and admired Fielding for years. Rarely, does one encounter a 100 year old company with an unwavering commitment to people, planet and profit. Fielding is uniquely positioned for tremendous growth - growth that will be catalyzed through innovation."

Fielding is Canada's leading producer of recycled chemicals and refrigerants serving markets around the world.



Michael Christodoulou

Walter Surface Technologies Appoints new President and COO

Company focuses on expanding key markets and product lines

Walter Surface Technologies today announced that Michael Christodoulou has been appointed as President and Chief Operating Officer of the company.

Prior to joining Walter, Michael was President of Cummins Eastern Canada LP, the distributor for Cummins Inc., a worldwide leader in the design, manufacturing, sale and service of diesel engines. He began working for Cummins in 1985 as General Manager - Parts. His career within this company took him from Regional Sales Manager to President (Cummins Diesel of Canada), including the position of Executive Director, PACCAR Business (Cummins - USA), before becoming head of the Cummins Eastern Canada business.

Over the course of his career, Michael had the opportunity to manage Finance, HR, sales, marketing, manufacturing and distribution teams, as well as Research and Development operations. He has managed teams of up to 500 employees, and has had solid success in each of his roles.

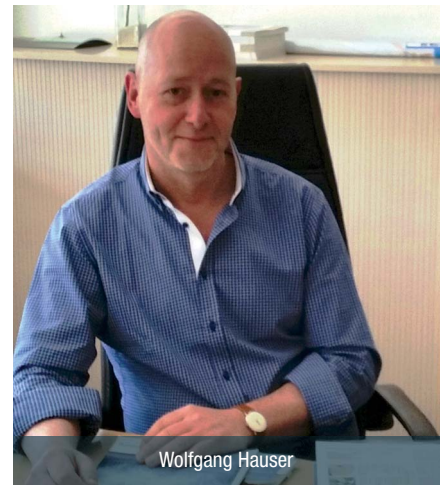
Michael has lived in six countries and resided in the U.S. for many years. He obtained a degree in business administration from Rollins College, in Winter Park Florida. He returned to Canada to continue his education and received an MBA from the University of Windsor in Ontario. Trilingual, Michael is fluent in English, French and his native Greek.

Wolfgang Hauser Sales Manager at Venjakob Maschinenbau GmbH & Co. KG in Rheda-Wiedenbrück

Wolfgang Hauser, who worked as key account manager for the plastics and automotive industry for many years, started working as Sales Manager for Venjakob in March 2015.

Hauser is now responsible for worldwide sales & distribution at Venjakob, the specialist for fully automatic coating plants with its headquarters in Rheda-Wiedenbrück/North-Rhine Westphalia.

After 20 years with Venjakob, Hauser is now taking on the challenge of coordinating the entire distribution and developing new sales strategies.



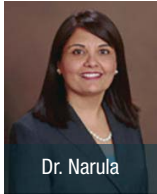
Wolfgang Hauser

Following his degree in mechanical engineering with a specialisation in production processes, he acquired extensive expertise through employment in construction and distribution at competing companies, and as Key Account Manager of the Plastics Division at Venjakob.

Sartomer Americas Names Narula Business Development Director

Sartomer Americas, a business unit of Arkema Inc. and a global leader in specialty acrylate and methacrylate monomers and oligomers, has named Poonam Narula, Ph.D., business development director of Sartomer Americas. In her new role, Dr. Narula will be responsible for developing new business opportunities and introducing Sartomer's innovative, industry-leading specialty chemicals to formulators in new markets. She will report directly to Kenny Messer, regional group president of Sartomer Americas.

Dr. Narula brings to Sartomer more than 15 years business management experience in the



specialty chemical sector. Starting as a senior scientist for InnoCentrive Inc. in 2002, her responsibilities grew as she became program manager for Thermo Scientific in 2004. Between 2008

and 2011, Narula co-founded and acted as COO for BioEnergy Planet, a MIT-based start-up that commercializes waste to chemicals. Since 2011, Narula has expanded her leadership by taking on roles as global business development and marketing leader for Sensata Technologies (Attleboro, MA) and global strategic product management leader for Nalco Champion (Houston, TX).

Narula earned her Ph.D. in chemistry from Wake Forest University in 1997. She then went on to receive her post-doctoral fellowship in inorganic chemistry from UNC Chapel Hill in 2000, and her MBA in innovation and global leadership from the MIT Sloan School of Management in 2009.

calendar of INDUSTRY EVENTS

June 15-17, 2015: Western Manufacturing Technology Show, Edmonton EXPO Centre, Northlands, Edmonton, AB, www.wmts.ca

June 25, 2015: OPCA Golf Classic, The Country Club, Woodbridge, ON, 11:30 am registration and lunch, 1:30 pm Scramble Start. www.opcatrusted.ca

September 28-October 1, 2015: Canadian Manufacturing Technology Show (CMTS) 2015, The International Centre, 6900 Airport Road, Mississauga, ON, www.cmts.ca

October 5-7, 2015: 2015 Polyurethanes Technical Conference, Orlando, FL, www.americanchemistry.com

October 7-8, 2015: Canada Woodworking West, Abbotsford, BC, www.masterpromotions.ca

October 28, 2015: UV LED 2015, at Hilton Garden Inn in Troy, NY, www.radtech.org

November 5-7, 2015: WMS Woodworking Machinery & Supply Expo, International Centre, Toronto, ON, www.WoodworkingExpo.ca

November 9-12, 2015: FABTECH 2015 McCormack Place, Chicago, IL, www.fabtechexpo.com

CPCA News



CPCA's Paint and Coatings Working Group Discussing Strategies for the Risk Management of Multiple Substances with Health Canada

On April 10, CPCA met with Health Canada officials at CPCA headquarters to discuss options for non-regulatory risk management instruments that might be used in the sector with respect to codes of practice for a number of CMP-3 substances. The first ever code of practice for a consumer product in Canada was issued for the paint and coatings industry for butanone oxime or MEKO. Another Code is

now being consulted for DEGME. PCWG members expressed ideas and preferred options prior to the meeting. As the Government moves into CMP-3 they see a deluge of chemicals coming down the pipe and therefore Health Canada is seeking options in the paint and coatings sector, in lieu of regulations, given the fact the industry has shown it's willingness and ability to deliver in this regard. The Government officials are open to ideas or suggestions provided by CPCA and its members given the success of the first code and one likely to be approved soon. This helps the government in its ongoing efforts to reduce red tape or administrative burden for

industry given the fact that the Red Tape Reduction Act was recently passed.

CPCA Resends Lists of Organic UVCBs for Compositional Data Collection at the End of March

CPCA members were expected to review all spreadsheets for initial UVCB substances and groupings of substances made by Environment Canada and Health Canada officials. The Government is open to discussing the UVCB groupings, timing, data requests and welcomes sectors willing to directly fulfill their actual request for any preliminary data (voluntary engagement).

BDTP and Ethylbenzene FSARs Delayed to Summer 2015

CPCA recently learned that the publication of BDTP and Ethylbenzene final screening assessment reports is delayed until the summer and that both FSARs will likely be published on the same date. The actual review and approval stage of the two reports has reached the Ministerial level. Little information can be communicated

by government officials to industry stakeholders once the documents pass a certain stage.

CPCA Confirmed RCC Webinars and the Publication of Work Plans

RCC Chemicals Management Work Plan webinar concluded in April and it shared valuable information on the final work plan for the Regulatory Cooperation Council's (RCC) Chemicals Management commitments and provided an update on ongoing and upcoming work plan activities, including the launch of two Multi-stakeholder Technical Working Groups. This initiative will be important for CPCA members - and indeed non-members - to monitor as it will ultimately impact the way regulations are implemented on both sides of the border.

Two working group webinars were held by the RCC on SNAC/SNUR and on multi-stakeholder risk assessment. These are important for RCC's work on chemicals management related to reports on Significant New Activity (SNAC) for substances in Canada or in the case of the U.S. Significant New Use (SNUR). The first meeting of

the SNAC/SNUR working group allowed for discussion on a draft terms of reference for the group and provided an introduction to the results and findings of a comparative analysis of SNAC and SNUR jurisdictional, regulatory and functional differences. These are important matters for CPCA to monitor and ensure that the coatings industry has relevant input throughout.

Publication of the Proposed Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012

On April 4 the Government of Canada published in Canada Gazette Part I the proposed Regulations Amending the Prohibition of Certain Toxic Substances Regulations, 2012. The proposed amendments would amend the Prohibition of Certain Toxic Substances Regulations, 2012. The publication of the proposed amendments is subject to a 75-day public comment period, ending June 18, 2015.

The Prohibition Regulations are a multi-substance risk management instrument used to prohibit the manufacture, use, sale, offer for

Value-Added Membership

As the recognized voice of the paint and coatings industry in Canada, CPCA has been dedicated to taking collective action for more than 100 years. Consider just a few of the issues before the industry:

Globally Harmonized System for Labeling

How much will proposed new labeling regime for chemicals in the workplace cost you and how can it be reduced?

Low-level VOC Emissions

Will your products survive further reductions in VOC limits and still perform and sustain your business over the long term?

Chemicals Management

Are you aware of the current, ongoing assessment of the chemicals used in your products with new risk management actions required for many? Are your products compliant and do you care about which products might be banned or regulated in future and how that will be done?

Product Stewardship and Sustainability

Are you compliant with stewardship regulations and do you want to help shape the future of new regulations imposed by government on your business?

Top 3 Reasons to Join

- 1 Know what is being done to your business now, not after the fact
- 2 Take action and provide input to ensure your business can grow and prosper
- 3 Share the responsibility to counter measures that threaten your paint and coatings business and future trade

Stronger Together: CPCA provides the strength, commitment and resources to help you get informed, stay connected and sustain your business.



www.canpaint.com/membership

sale and import of 22 toxic substances and products containing these substances, with a number of exemptions. The proposed amendments would add five key substances.

Currently, there are no risk management instruments in place respecting preventive or control actions for HBCD in Canada. The proposed amendments would prohibit the manufacture of HBCD in Canada as of the coming into force of the amendments. By January 1, 2017, the amendments would prohibit the manufacture, use, sale, offer for sale or import of HBCD, as well as expanded and extruded foams containing HBCD used in building/construction applications.

PBDEs and PFOS are substances that are currently managed under the Polybrominated Diphenyl Ether Regulations and the Perfluorooctane Sulfonate and its Salts and Certain Other Compounds Regulations, respectively. The proposed amendments would expand the scope of the existing prohibitions for PBDEs to cover all PBDEs (including decabDE). In the case of PFOS, the proposed amendments would maintain similar regulatory requirements and revise exemptions.

Federal Government Consults CPCA Members on Use of PSSA 2 Substances

The federal government recently asked CPCA about their members' use of petroleum-based substances PSSA 2. They were not included in the Domestic Substances List Inventory Update 2 (DSL IU 2) and therefore Environment Canada does not have basic, updated information on current uses and applications. As a first step to address these substances, Environment Canada must determine the use of the substances, the sectors involved, etc. For example, they want to know if a certain substance is found in certain types of coatings. The federal government was on a tight timeline and gave CPCA members until March 24, 2015 to respond. For those in industry who have not provided input on this matter, the time has passed and an opportunity missed.

CEPA VOC Exclusion List to be Amended in Canada Gazette, Part I

The proposed Order to add compounds to the exclusion list of the volatile organic compound (VOC) definition under Schedule 1 of the Canadian Environmental Protection Act, 1999 was published in the Canada Gazette, Part I, May 2,



2015 for a 60-day comment period ending on June 1, 2015. Scientific assessments conducted by the United States Environmental Protection Agency (U.S. EPA) have concluded that 16 additional VOCs contribute negligibly to the formation of ground-level ozone, and the Government proposes to add these substances to the CEPA list of VOC exemptions to remove unnecessary limitations on the use of these compounds in product formulations in Canada. CPCA has lobbied for this list for almost two years and finally pleased that it is now a reality. It will help members achieve lower VOC levels in its products among other things.

Environment Canada Clarifies Some Labelling Requirements Under Architectural Coatings Regulations

Under paragraph 17(1)(c) of the Volatile Organic Compound (VOC) Concentration Limits for Architectural Coatings Regulations, there is the following mandatory requirement for any person that manufactures, imports, sells or offers for sale any Other Industrial Maintenance architectural coating. They must indicate the following information on the container's label or lid:

- (i) "For industrial use only";
- (ii) "For professional use only";
- (iii) "Not for residential use"; or
- (iv) "Not intended for residential use".

CPCA sought confirmation from Environment Canada as to whether or not this means members cannot sell these products to a non-

professional or if it simply means that one of the statements has to be on the label. The response from Environment Canada officials was the following: "This mandatory requirement does not infer anything else than what is written in the Regulations. Therefore, one or more of the previous statements (i,ii,iii,iv), in the case of an industrial maintenance coating, must be on a container's label or lid."

CPCA/ACA Press Health Canada to Solve Compounding Issues Related to WHMIS 2015

CPCA representatives have addressed a number of questions to Health Canada, reminding Government officials that further clarification is required on the use concentration ranges or generic SDSs among. CPCA/ACA recently sent a submission asking for a quick response from Health Canada in support of other communications pointing out the current challenges under HPR, which no longer allows the use of concentration ranges as in the old WHMIS 1988, while the HCS 2012 allows the use of concentration ranges on SDS to account for batch to batch variations and protect trade secrets. OSHA has not yet given a maximum concentration range or discussed their expectations for generic SDSs, and industry is still waiting for specific guidance. A copy of the CPCA/ACA letter is available on the Members Only section. CPCA continues to work the Health Canada and others to find ways and means of ensuring there is minimal impact on the paint and coatings industry in the GHS implementation. ■

Univar's CASE Expo a Success

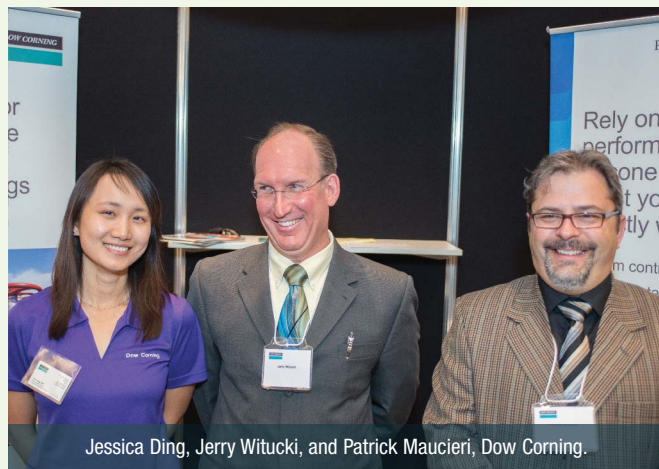
Seventy Univar Canada customers attended a one day CASE Expo April 15th at the International Centre in Mississauga, ON.

Attendees were treated to a luncheon talk on the etymology of many coating and adhesive terms by Canada's Word Lady Catherine Barber, Founding Editor-In-Chief of the Canadian Oxford Dictionary. There were 19 presentations on Coatings, Adhesives and Composites provided by over 30 suppliers and 30 Univar representatives.

Presentations included:

- Environment Canada Updates on Canada's Chemicals Management Plan and Regulatory activity on Volatile Organic Compounds in Products
- Dow Corning- Advancements in Anti-Foam Technology for Architectural Coatings
- Thiele Kaolin – Kaolin, a unique material
- Kraton Polymers New MD1648 SEBS Polymer with Enhanced Rubber Segments
- Specialty Polymers Innovative Technologies for Low VOC Coatings
- NanoXplore Nano Technology - Unleashing the Power of Graphene

- Univar ChemCare Waste Management Services
- Eastman Chemical Selecting Optimum Hydrocarbon Resins for Common Adhesive Applications and Coalescents for low VOC
- Vencorex Aliphatic Polyisocyanates for Environmentally Friendly PUR Coatings
- King Industries New Easier To Use Thixotropes for the Coatings Industry
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A woman is painting a wall with a roller. The roller is in the foreground, and the woman is in the background, smiling. The image is overlaid with a geometric pattern of white and grey hexagons.

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Univar's CASE Expo



Andrea Gibson and Kamlaish Mudhar, Univar.



Gary Robe, Eastman.



Victor Gardiman, Fiberlink.



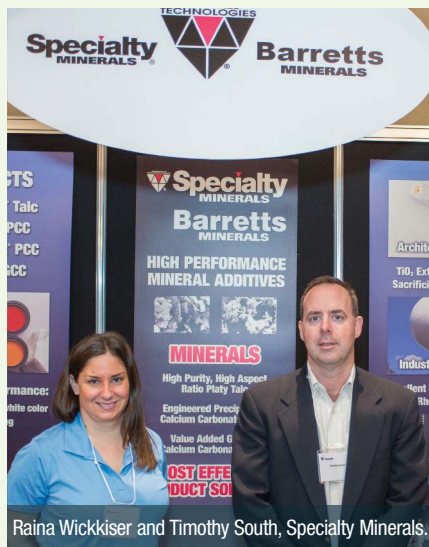
Tom Steele and Charlie Rigby, Cytec.



Greg Monaghan, Kimberley Koenig, and Brad McPhee, Specialty Polymers.



Cindy MacIntosh and Avery Watkins, Dow.



Raina Wickiser and Timothy South, Specialty Minerals.

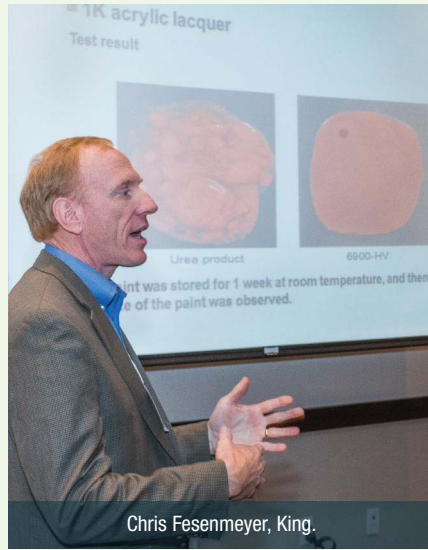


Mary Ellen Perkin, Environment Canada.

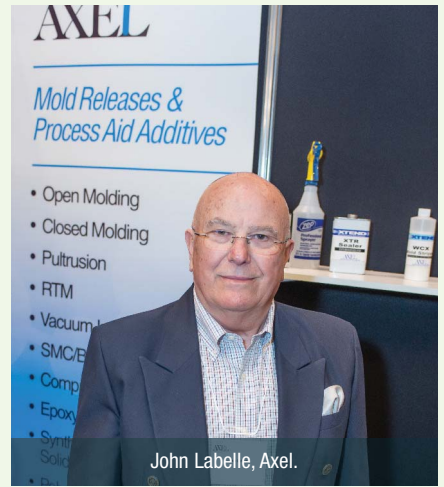
Continued on page 23



Karen McNeal, Sarah Goldsmith, and Stephanie Earley, Kraton.



Chris Fesenmeyer, King.



John Labelle, Axel.



Katherine Barber, Canada's Word Lady.



Nishat Ambareen and Soroush Nazarpour, NanoXplore.



Liz Quarm and Greg Kowalczyk, Fed Chem.



Jack Simmons, ACS.



Chris Fagouri, Thiele.



Anna Diretto and Mathias Dubecq, Vencorex.

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Electroless Nickel Plating

Technologies

Electroless nickel plating (EN) is an auto-catalytic chemical technique used to deposit a layer of nickel-phosphorus or nickel-boron alloy on a solid workpiece, such as metal or plastic. The process relies on the presence of

a reducing agent, for example hydrated sodium hypophosphite ($\text{NaPO}_2\text{H}_2\cdot\text{H}_2\text{O}$) which reacts with the metal ions to deposit metal. The alloys with different percentage of phosphorus, ranging from 2-5 (low phosphorus) to up to 11-14

(high phosphorus) are possible. The metallurgical properties of alloys depend on the percentage of phosphorus.

Unlike electroplating, it is not necessary to pass an electric current through the solution to form a deposit. This plating technique is to prevent corrosion and wear. EN techniques can also be used to manufacture composite coatings by suspending powder in the bath. Electroless nickel plating has several advantages versus electroplating. Free from flux-density and power supply issues, it provides an even deposit regardless of workpiece geometry, and with the proper pre-plate catalyst, can deposit on non-conductive surfaces.

Advantages include:

1. Does not use electrical power.
2. Even coating on parts surface can be achieved.
3. No sophisticated jigs or racks are required.
4. There is flexibility in plating volume and thickness.
5. The process can plate recesses and blind holes with stable thickness.
6. Chemical replenishment can be monitored automatically.
7. Complex filtration method is not required
8. Matte, Semi Bright or Bright finishes can be obtained.

Disadvantages include:

1. Lifespan of chemicals is limited.
2. Waste treatment cost is high due to the speedy chemical renewal.

Each type of electroless nickel also has particular advantages depending on the application and type of nickel alloy.

Low, Medium, High

Low phosphorus treatment is applied for deposits with hardness up to 60 Rockwell C. This type offers a very uniform thickness inside complex configurations as well as outside, which often eliminates grinding after plating. It is also excellent for corrosion resistance in alkaline environments.[7]

Medium phosphorus electroless nickel (MPEN) is referred to the nickel-phosphorus

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alloy deposited by electroless/autocatalytic process in which the resulting alloy consists of medium levels of phosphorus; the definition of medium levels is different in sources of different branches of technology (decorative, industrial, ...). The range accepted as medium levels can be (percent by weight) 4-7 (decorative purpose), 6-9 (industrial sources), or 4-10 (Electronic applications). The EN bath is typically composed of (a) Nickel source [nickel sulfate], (b) Reducing agent [sodium hypophosphite], (c) Complexing agent; which are necessary to increase phosphite solubility and also to slow down the reaction speed in order to prevent the white-out phenomena but are not co-deposited into the resulting alloy [carboxylic acids or amines], (d) Stabilizers; which slow down the reduction by co-deposition with the nickel [lead or sulphur or organics], (e) Buffers [most complexing agents perform double duty as buffers], (f) Brighteners; mostly co-deposited with nickel and usually can double as stabilizers [cadmium or certain organics], (g) Surfactants; which reduce surface tension in order to reduce pitting and staining [SLS or almost any other surfactant] and (h) Accelerators; which are added to overcome the slow plating rate imparted by complexing agents and usually are co-deposited and can cause discoloration of the deposit [sulfur compounds]. Medium phosphorus treatment has a high speed deposit rate and offers bright and semi-bright options for cosmetic particularization. This is the most common type of electroless nickel applied.

High Phosphorus electroless nickel offers high corrosion resistance, making it ideal for industry standards requiring protection from highly corrosive acidic environments such as oil drilling and coal mining. With microhardness ranging up to 600 VPN, this type ensures very little surface porosity where pit-free plating is required and is not prone to staining. Deposits are non-magnetic when phosphorus content is greater than 11.2 percent. ■

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Electroless Nickel News

New Harber Coatings Facility Quadruples Productivity and Offers Cost Savings to Oil and Gas Companies

Harber Coatings Inc., based in Calgary AB officially opened its new facility May 1, 2015. The exclusive manufacturer of InnoGUARD Flakeless Electroless Nickel Coating (ENC) is focused on significantly reducing replacement costs of parts, tools, and downtime in the oilfield for customers. Their proprietary, high phosphorous-nickel coating protects raw metal parts and tools from corrosion, abrasion and salvages worn or mis-machined parts.

Replacement and repair of damaged equipment is the largest maintenance requirement in the oil and gas industry. Ken Wang, President and CEO, explains, "In this economy, customers are looking for the best long-term value to protect their assets. Our InnoGUARD ENC extends the life of critical metal items by over 20 times, even when parts and tools are mechanically impacted, exposed to sour service or placed in highly corrosive environments. We are the only company in North America to offer a lifetime no flaking or peeling warranty on a coating."

The new Harber Coatings Inc. facility is located at 6313 – 35 Street SE, occupying over 20,000 square feet of production area in the Calgary Foothills Industrial Park. This site boasts larger processing equipment and double the previous loca-

tion's production area. Wang states, "With larger equipment, we will quadruple productivity and meet rising demands of customers requiring larger parts and tools to be coated. Working more efficiently also enables us to reduce pricing by up to 15%. This is a huge benefit for companies now dealing with tight budgets." Another component to Wang's expansion plan is to use the Calgary facility as a staff training centre and open new locations globally, over the next five years.

About Harber Coatings Inc. (www.harbercoatings.com) (Founded in 2002, Harber Coatings Inc. has successfully developed its own intellectual properties and processing technologies, including InnoGUARD™ Flakeless Electroless Nickel Coating. With research and development facilities funded by the National Research Council of Canada, Harber Coatings Inc. continues to develop innovative technologies such as Metallic Ceramic Liner, Ultrasonic Electro-Thermal Spray and Laser Assisted Nano Fusion products. The company's quality assurance system is ISO:9001:2008 certified and ISNetworld approved.

Enthone Introduces ENLUBE Plus PTFE/PFOS-free Dispersion for Electroless Nickel PTFE Coatings

ENLUBE Plus PTFE advanced, PFOS-free dispersion has been introduced by Enthone. When used

in combination with an Enthone electroless nickel process, the system delivers a single, integrated solution that produces EN PTFE coatings with superior wear resistance. Engineered to meet automotive, industrial, defense and electronics application requirements, a 50 per cent increase in deposition rate with a PTFE build-in rate of up to 30 per cent may be achieved, versus conventional EN PTFE systems.

ENLUBE Plus PTFE eliminates the need to inventory multiple dispersions and EN processes while meeting exacting OEM requirements. Unlike competitive systems, ENLUBE Plus PTFE imparts extremely smooth and uniform deposits that are not prone to "orange skin" appearances or edge pull-back. Capable of plating high thicknesses, ENLUBE Plus PTFE is both PFOS-free and Cd/Pb-free and maintains a shelf-life of 12 months.

Helmut Horsthemke, Enthone Global Product Manager - Wear Resistant Coatings says, "ENLUBE Plus PTFE is engineered to provide an advanced EN PTFE coating when used in combination with select Enthone ENfinity and ENPLATE electroless nickel processes. ENLUBE Plus PTFE enables EN PTFE applicators to potentially overcome the limitations of existing technology, and thereby expand additional business opportunities."

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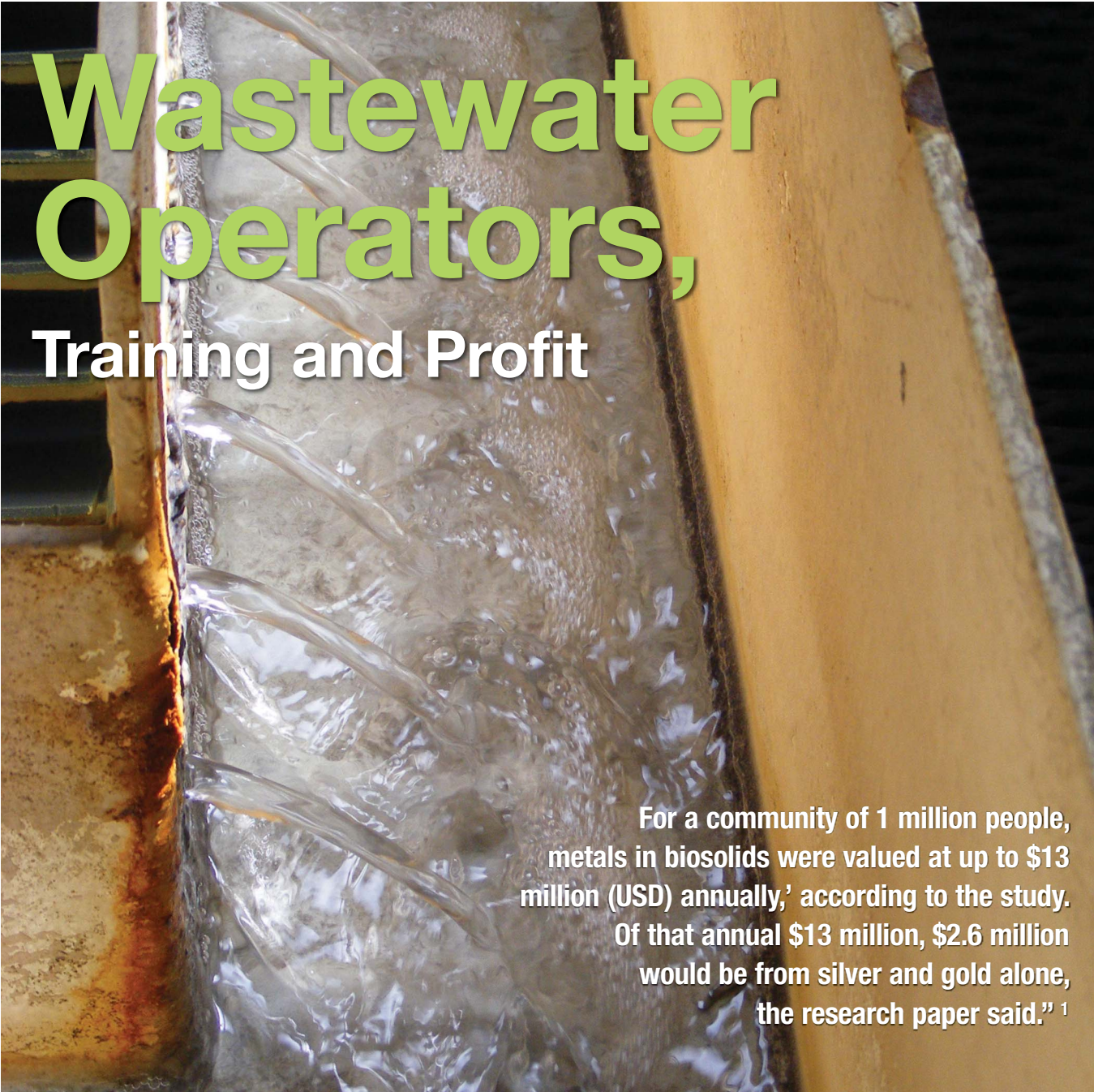


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Wastewater Operators, Training and Profit

For a community of 1 million people, metals in biosolids were valued at up to \$13 million (USD) annually,' according to the study. Of that annual \$13 million, \$2.6 million would be from silver and gold alone, the research paper said.”¹

BY JOHN SELDON

There is money in wastewater. Incoming municipal wastewater is typically very dilute with respect to most measures from organic loading to heavy metals. However, when you concentrate wastes from millions of people and numerous commercial and industrial sources daily – particularly inorganics – large quantities of many substances will accumulate in the captured, stabilized biosolids.

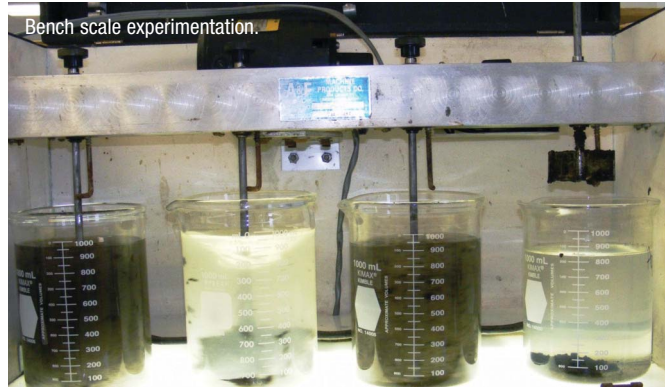
It is the incremental nature of this process that is worth noting. Small losses of valuable raw or finished product going to waste over long periods of time add up. A municipal Water Resource Recovery Facility (WRRF) may become a metal recovery profit center as well as the main

line of defense in protecting common receiving streams. The corollary to the accumulation of valuable metals in waste residues is, of course, the concentration of hazardous wastes from industrial or commercial discharges. Instead of adding value to biosolids they may bring liability to the discharger.

Those who discharge to a municipal sewer from their in-house wastewater treatment systems can also view their treatment process as a profit center – one that prevents valuable product from leaving their site. The first rule here is to optimize practices for using raw product by minimizing raw product being lost to waste collection.



Operating experience at full scale: optimized process.



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The second rule is to optimize the operation of your wastewater treatment facility, reducing waste discharging to a municipal collection system, especially those compounds which may be toxic to the natural environment and to public health.

In order to achieve that, operators equipped with relevant academic training, professional certification in their field such as engineering technicians and technologists are essential. These individuals, if valued by their employers, will save needless costs in three key areas:

With proper wastewater stream analysis, levels of valuable raw product found in the wastewater stream can be quantified and when it is excessive, the source of the loss may be traced

upstream from the wastewater plant.

Competent, consistent on-site plant operation will ensure the wastewater plant is run as efficiently as possible providing maximum value for the capital and manpower costs required to run the plant.

Finally, a properly sized wastewater plant operated within its basis of design parameters should prevent municipal surcharges for over strength waste discharge to the municipal wastewater collection system.

Wastewater Operations Personnel

There is often a workplace tyranny of categorizing employee importance that divides manage-

ment from production, with the former frequently viewed as the preferred or more respected group. Within the latter, those dealing directly with product generation are viewed as essential while those addressing plant and production equipment maintenance are seen as a support for and subordinate to production personnel. Waste management operators are often viewed at the bottom of the list when it comes to being valued for their work. They are too often, and wrongly, regarded as the Rodney Dangerfield's of workplace hierarchy.

Regardless, hiring a wastewater operator warrants a careful, deliberative process that ensures a number of criteria are met by a successful applicant:

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The individual is seeking a career in wastewater treatment. This may seem an obvious requirement. However, too often operators are chosen on the basis of availability from an existing pool of personnel with hands on production working experience. Although a good operator benefits from knowing the process from which the wastes are generated, the operator's primary focus should be one of wastewater treatment.

A successful applicant should have a formal academic background that has centered on wastewater treatment. Community college programs which address the pragmatic realities of wastewater treatment are good starting points. If these can be enhanced by additional studies in a specific area – such as microbiology or chemistry – which are central to your wastewater system, so much the better.

The operator must also be a registered technologist with an accredited organization or, at the very least, be in a position to apply for certification as a technologist. The writer is a Certified Engineering Technologist (C.E.T.) through the Ontario Association of Certified Engineering Technicians and Technologists (OACTT).

A candidate will be able to assess a wastewater operation by quantifying the operation's working parameters as well as write and present a coherent report detailing process characteristics.

Clearly, verifiable, positive previous working experience is a great asset for anyone applying for these positions.

In short, hire a wastewater operator on the basis that he or she is qualified to address the responsibilities assigned in wastewater treatment just as key management and production oriented personnel are hired. This may seem an obvious statement. However, it appears to this writer that too often wastewater operations are viewed as mandated evils and staffing them lacks the priority associated with production hires. Expect a lot from a wastewater operator and hire accordingly.

Training Manuals

The writer produces and delivers courses that help fulfill municipal wastewater operators' mandated 40 hour annual requirement for ongoing career training. This is a natural extension of my long work history in operations and

strong academic training. I believe I know what I am talking about, smart enough to acknowledge when I don't and truly enjoy learning from operators when teaching a course.

Recently I finished writing two manuals, one on the basics of primary clarification while the second addresses polymer conditioning of wastewater residues prior to mechanical dewatering. Training manuals complement and mirror equipment and process operations manuals.

The irony is that courses that address the basics of wastewater treatment are often taken by senior, well-experienced operators who are, in fact, not knowledgeable on the mathematics and chemistry of their plants. These individuals should be teaching the basics on fundamentals and seeking advanced courses to upgrade their expertise. But most often this is not the case. Let me give you a couple of typical, current anecdotal examples.

A colleague and talented instructor recently delivered an examination preparatory course on activated sludge treatment (a bacteriologically based wastewater treatment process) to a



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An Example of a WasteWater Control System

group of adult students. Typically this course is given to knowledgeable, experienced operators as a refresher prior to an exam. At the end of the second day an experienced operator asked my colleague to confirm that it was now his understanding that bacteria were important in treating wastewater. An understatement to say the least from a person responsible for treating wastewater discharging to a common receiving stream.

Typically when I introduce myself and my approach to a course I emphasize that I will use a lot of basic mathematical calculations in order to illustrate key operational issues. After doing so for an operations course, two participants immediately raised their hands, one a senior operator, the other a new operator, and both asked that any mathematical exercises be minimized as they were not comfortable with them. Regardless, I persisted. Protestations by operators against doing the math seem to be the rule rather than the exception.

This phenomenon of an apparent lack of basic knowledge of wastewater treatment process fundamentals in plant operators – new and experienced - is disconcerting to say the least.

Contrast the two examples above with a third. While visiting a mid-sized WRRF facility and discussing the periodic uncertainties of operations, my host operator addressed what she would expect from the process, especially nitrification, should high flows compromise the plant. Not only was she clear on how the plant would be affected she projected a realistic time frame before normal operations would return. Here is an operator you don't want to lose.

Summary

Wastewater is an inevitable consequence of many commercial and industrial activities. It is also a treasure trove of information which can tell you when unacceptable levels of raw product are being lost and whether you are in violation of municipal sewer use contaminate bylaws and therefore subject to surcharges. A qualified, competent wastewater operator will spot either of these situations and correct them thereby reducing production costs and the potential for liability for discharging over strength wastes. Some municipal wastewaters contain enough precious metals that, once concentrated at a WRRF, may be economically recovered. Hire a professional wastewater operator, with up-to-date training, and keep precious raw products in house while minimizing potential liability for hazardous materials from leaving your site. ■

Reference:

"Mining Gold in Unconventional Places" Water Environment and Technology (WE&T) pgs. 29-31, LaShell Stratton-Childers April 2015.

John Seldon, is a Wastewater Contractor, Public Speaker and owner of Temporary Operations & Maintenance Inc., Port Burwell, ON.

TTX Environmental, a division of Therma-Tron-X, Inc. designs water treatment and wastewater treatment systems that minimize the operational costs and environmental impact of industrial processes. They use wastewater minimization technologies and process bath reclamation to help bring your plant into compliance with federal, state and local discharge standards. TTX Environmental specializes in chemical precipitation, metal sorption, ion exchange and membrane separation.

TTX Environmental wastewater treatment systems recycle acids, neutralize waste streams, remove metals, detackify paints, clarify output water and de-water solids for disposal. Systems can be operated on a batch or continuous basis, depending on volume.

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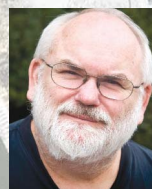
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Liquid Spray at its **BEST**

Manufacturers of Automatic Liquid Paint Spray Guns say their customers are continually asking for equipment that will consistently give them high quality results while at the same time meeting environmental regulations and being efficient in waste reduction.

ST Rajan, Vice president at **EXEL NA** says, “We are being constantly asked by our customers about automation. This question can be easily explained once we have the following questions answered.

- a) We have a questionnaire where we get into details like production volume, type of painting process desired, shop floor space requirements, power requirements, compressed air requirements, the VOCs acceptable.
- b) Once the above questions are answered, we will then design a system and in doing so we might find that the volumes are not high enough to go automation. In cases like that we might suggest semi-automatic process with a layout plan to go full automation at a later date.
- c) Once we are happy that the customer could look at automation, we would then like to decide on solvent or water-based coatings. Once this is finalized we would go ahead suggesting guns or bells. Then, depending on the layout, we need to decide whether the pumping station would be in a separate enclosure called the paint kitchen. The lines carrying the paint from the paint kitchen to the applicators need to be designed based on flow rates.
- d) The applicators have to be so selected suitable for solvent based or water based paints. If water based and electrostatic, it is very important the pumps are isolated and the applicators need to be isolated also.
- e) The trend today in the market is to save

money. If applicators help, then customers are very keen to listen to us and are also very keen on doing demonstrations with their substrates and the coatings they are using. We have three full-fledged labs in Plymouth to do any type of demos. The customers are also keen on having joint discussions with the paint and equipment people which makes life easier for all.”



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Automatic spray guns are also available as stainless steel version to make them suitable for waterborne paints.

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Industrial finishing: **AUTOMATIC LIQUID PAINT SPRAY GUNS**

compact sprayer, which is designed for use on small to average sized parts in the wood and metal industries. The Nanobell robotic sprayer can apply (according to specifications) solvent, water-borne, and single or multi component paints. It offers:

- Fast and easy integration
- Time savings for commissioning and installation
- Adaptable to many low payload robots

- Hi-TE spraying technology delivers significant paint savings
- Improved productivity
- Pattern is dynamically adjustable, for improved pattern control
- Better finish quality
- Uniform film build
- Each component of the Nanobell can be quickly dismantled



- Low operating costs
 - The Nanobell is more efficient than other technologies
- EXEL also offers the Kremlin ASI 24 and ASI 40 airless gun stainless steel model. The AIR-LESS spraying, at high pressure without air, ensures:
- high viscosity material applications,
 - very precise fan width according to the selected tip angle,
 - thick film thickness (50 to 100 μ), and allows a gun displacement at low speed (0.4 m/s maxi).

The ASI 24 (or ASI 40) spray gun is designed for applying paints, primers and adhesives in automatic installations. It can be fitted on fixed supports, automatic machines or on robots. The A29HTI Spray Gun is universal, suitable for a wide range of applications recommended for filled materials and high precision small output applications. There is also the A29 HPA universal gun. HPA technology delivers high finish quality. The AVX Airmix gun offers a lightweight compact design and outstanding efficiency. It is compatible with waterbased products. The fluid passages have been designed to reduce the risk of turbulent flow on water-based paints and give a more efficient flushing cycle.

Graco's Wendy Hartley, Product Marketing Manager says, "Our customers continue to ask for products that guarantee high quality results, meet environmental regulations and reduce waste. They are also looking for flexibility on their paint line, so offering a wide range of models allows them to choose a product that fits their specific spraying needs. And because achieving repeat accuracy is also important, customers are looking for more sophisticated equipment and controls that can help them to optimize performance."



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delivering excellent finish quality and performance. It is available in air spray, air assist and waterborne guns with internal power so there's no electrical cord to worry about damaging or replacing. There are 2 manifold styles with all the hose connections which makes gun removal and maintenance easy. The Pro Xp Auto control module displays how your gun is performing and allows you to optimize spray parameters for maximum quality and production.

Chuck Scott, Director of Marketing for **DeVilbiss, Ransburg, BGK and Binks at Finishing Brands** - A Carlisle Company, says customers are asking for Quality, consistency and efficiency in their automatic liquid paint spray guns.

"Finishing Brands has developed both manual and automatic configurations that use the same spare parts. This meets our customers' desire for efficiency by allowing them to maintain a streamlined inventory of spare parts. And by using the same parts on manual and automatic equipment, our customers achieve consistency and quality." Scott adds, "At Finishing Brands, we see an ongoing trend for simplification without sacrificing quality. Customers want finishing equipment to handle a wider range. Because of this, we offer a variety of configurations in our equipment that meet an array of coating applications from ceramics, to clears, stains, epoxies and urethanes."

Finishing Brands offers the Ransburg AeroBell 168 Rotary Atomizer



It is:

- Newest addition to Ransburg's AeroBell series of bell cup atomization technology.
- Robust, proven air-bearing turbine design.
- Compact design and versatile mounting adaptations allow for flexible finishing options.
- Designed with fewer parts — decreases maintenance and provides increased up time.
- Offers a wide variety of bell cups and shape air rings that provide optimum performance and flexibility when coating anything from

large panels to intricate shapes.

- MonoFlex shape air technology provides a large to medium size spray pattern that encapsulates the atomized particles and maximizes coating performance over a wide range of part styles.
- DualFlex shape air technology provides the same medium size to small spray patterns and can be used to provide coating penetration into complex geometries and deep recesses.
- Delivers superior material atomization to maximize appearance on a substrate.

Vanessa Dupuis from **Sata Canada and Eurotech Spray Products Ltd.** says customers are always looking for "High quality precision equipment that will execute any job with flawless results."



Sata Canada offers the SATAjet 1000 A RP pressure fed high performance spray gun for painting automats and robotic spray guns.

This versatile automatic spray gun is efficient in optimized RP high pressure technology. With extremely high transfer efficiency, the SATAjet 1000 A is suitable for paint jobs where high application speed is required. Manual adjustment of the round and flat fan with the adjustment screw allows for easy handling, and an adjustable material flow rate can be reproduced with the help of a detent, making work efforts more seamless. With an operating pressure 50-58 psi, and a maximum possible air pressure of 145 psi — this is an extremely high performance piece of equipment to ensure complete control, and precise finishes. To ensure a trouble-free manufacturing process, the SATAjet 1000 A has an assortment of quick change adapters available, furthermore, to reproduce atomization parameters, special test air caps are available to ensure flawless manufactured finishes every time.

Jorge Flores Marketing and Customer Service for **Walther Pilot** says, "There are a number very specific qualities that have lead our customers to WALTHER PILOT products. The top quality build of our automatic spray guns is the main attribute that keeps our customers

extremely satisfied. With many companies running three shifts, durability is now a primary requirement as less repair time equates to direct monetary savings. This is the area in which our products stand out. With properly matched needle and nozzle sizes, customers reporting run cycles of several months between repairs is not uncommon; all while running continually for three shifts. The high build quality also leads to easier and more efficient operation, two other main attributes for which our customers are continually looking. Less overspray, better transfer efficiency, and more even & controllable spray patterns have been reported by many of our customers. Companies want to save time and money, and the high quality build of our products allow them to do so."

The PILOT WA 900 is the company's newest, most fully featured and versatile spray gun. Its build is of the highest quality and it boasts many features that enhance performance, durability and ease of use. Cleaning is made much simpler with its PTFE-coated gun body while its stainless steel front body and wetted parts ensure that water-based, aggressive, and corrosive material can be sprayed without issue. Experience less downtime with its adapter plate design; all material and air passages are fitted to an adapter plate which bolts on to the gun with only two Allen screws. You can easily swap guns out for repair or maintenance without dealing with stubborn hose connections. The WA 900 is available in Conventional, HVLP, HVLP Plus (up to 88 per cent transfer efficiency), Abrasive Resistant, and Adhesive (solvent/water based) versions. Various nozzle sizes and extensions are also available.

Manufacturers of Automatic Liquid paint spray guns have stepped up to the needs in the marketplace by offering products with reliability, efficiency and versatility. They will work with the Finisher to custom design the spray system best suited to the operation. ■

Editor's Note: Automatic Liquid Spray Gun Manufacturers mentioned in this article can be contacted at:

- www.exel-na.com
- www.finishingbrands.com
- www.graco.com
- www.satacanada.com
- www.waltherpilotna.com



Robot NEWS

As more Finishers turn to automation, Robots are in the news. There have been acquisitions and sales growth and license agreements.

Here are some news items that came across the desk of CFCM since our last publication.

Innovative Finishing Solutions Inc. Recognized By Fanuc America For Outstanding Robotic Sales Growth And Sales Leadership Achievements.

Innovative Finishing Solutions Inc., Orangeville, ON, FANUC America's Exclusive Canadian Paint Integrator in the Automotive Component Paint segment in North America, is honoured to receive two new awards for Outstanding Robotic Sales Growth and for Sales Leadership.

"Innovative Finishing Solutions is proud of the continued strong relationship with FANUC America, and is committed to consistently creating innovative robotic paint finishing solutions that deliver significant value to our customers in terms of performance, uptime, quality, energy efficiency, and quick-changeover flexibility," says Brad Sparkman, President of Innovative Finishing Solutions Inc.

Innovative Finishing Solutions was formed in 2002 and is now Canada's leading paint shop Solutions Company located in, Orangeville Ontario. Innovative Finishing Solutions Inc. is an Exclusive FANUC Robotics Automotive Component Paint Integrator specializing in turnkey robotic & electrostatic finishing solutions.

The company says its success is due to its commitment to quality and developing flexible productive and profitable process solutions to improve our customers' competitiveness in their marketplace. Staffed entirely by Canadian personnel, Innovative Finishing Solutions Inc, serves the North American marketplace with local sales, service, training and total systems engineering & integration. www.innovativefinishing.ca

Motoman Licensing Agreement

The Motoman Robotics Division of Yaskawa America, Inc. has entered into a License Agreement with Nihon Shoryoku Kikai Co., Ltd (NSK).

Under the terms of this agreement, Yaskawa Motoman will have exclusive rights in the Americas for the technology, manufacturing and sales

of NSK's ultrasonic cutting and deburring machines with 3-D profiling.

This patented cutting technology replaces conventional trimming methods such as water-jet cutting and laser cutting for non-metallic materials including plastics, fiberglass and non-woven fabrics. The technology is ideal for automotive and recreational vehicle part manufacturing such as:

- Automotive interior trim including headliners, carpet, instrument panels, door panels, rear deck
- Injection molded parts for motorcycles, ATVs, snowmobiles
- Semi-truck fairings, boats and seating

"We are pleased to announce this multi-year agreement with Yaskawa Motoman for licensing NSK's patented ultrasonic cutting and trimming technology in North and South America," stated Norio Tanaka, President of NSK. "We have been working with Yaskawa Electric Corporation in Asia for many years, and this represents a natural geographic expansion for our product line."

Ultrasonic cutting offers a unique, environmentally conscious approach with numerous advantages including:

- Waterless operation and clean up
- Quiet operation
- Energy efficiency
- Limited dust
- Lower consumable costs

Yaskawa Motoman's trimming workcells will feature a high-speed Motoman robot fully integrated with NSK's ultrasonic cutting tool and milling head. The cutting tool features a HSS carbide blade vibrating at 40 kHz. The workcells will be available in a "part-to-process" or "process-to-part" configuration.

"Our partnership with NSK will expand our application capabilities in automotive tier and other non-metal manufacturing environments," stated Steve Barhorst, President and COO of Yaskawa Motoman. "Our goal is to provide solutions that are environmentally friendly, as well as increase productivity and improve product quality. NSK's ultrasonic cutting technology integrated with a Motoman robot will deliver outstanding ROI to our customers."

Teradyne and Universal Robots Announce Agreement for Teradyne to Acquire Universal Robots, Leader in Collaborative Robots

Teradyne, Inc. and the shareholders of Universal Robots announced they have signed a definitive agreement under which Teradyne will acquire privately held Universal Robots, the Danish pioneer of collaborative robots, for \$285 million net of cash acquired plus \$65 million if certain performance targets are met extending through 2018. The acquisition has been approved by the Board of Directors of each company and is expected to close in the second quarter of 2015 subject to customary closing conditions and regulatory approval.

Universal Robots is a leading supplier of collaborative robots; low-cost, easy-to-deploy and simple-to-program robots that work side by side with production workers to improve quality and increase manufacturing efficiency. Collaborative robotics is a \$100 million segment of the industrial robotics market growing at more than 50 per cent per year.

"Universal Robots is the technology and sales leader in the fast growing collaborative robot market and we are excited to have them join Teradyne," said Mark Jagiela, President and CEO of Teradyne.

"This acquisition complements our System and Wireless Test businesses while adding a powerful, additional growth platform to Teradyne."

Universal Robots achieved record revenue growth in 2014. Company revenue increased 70 per cent from 2013 reaching more than \$38 million USD with profit more than doubling from the prior period.

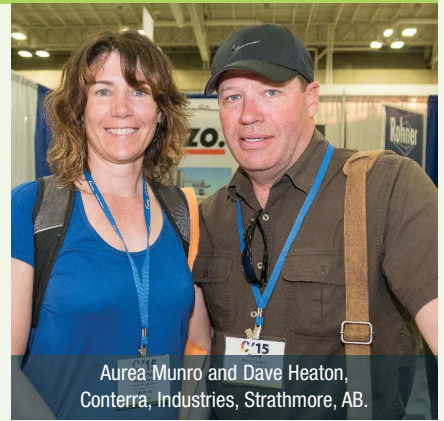
"The secret behind the success of Universal Robots is a clear strategy based on these three key goals: focus, simplicity and tough execution. The founders and the management have worked incredibly hard to realize their vision of making collaborative robot technology available to all businesses," said Clas Nylandsted, Chairman of the Board, Universal Robots.

Robot manufacturers have recognized the need for smaller robots, compared to the large industrial machines, on the paint and coatings finishing line as well as the need to create equipment that works with the most advanced Automatic Liquid Paint Spray Guns. ■

The Powder Coating Show – The Winning Finish

The Powder Coating show in Louisville, KY, May 6-7, 2015 is the only tradeshow solely dedicated to powder coating in North America. New this year was a networking event Derby Museum Dinner and Churchill Downs Tour and WireCrafters - Liquid to Powder - Facility Tour. CFCM attended the two-day event.

Photos by Pete Wilkinson



Aurea Munro and Dave Heaton,
Conterra, Industries, Strathmore, AB.



Kirk Beaster, Suresh Patel, Justin Girard, Ken Dyman, and Don LaFlamme, Chemetal.



Robert Simmerer and Pete Schmidt,
Bex Spray Nozzles.

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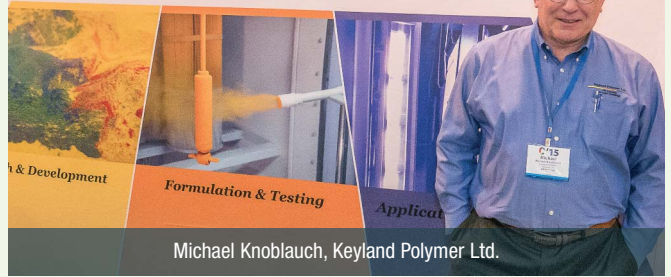
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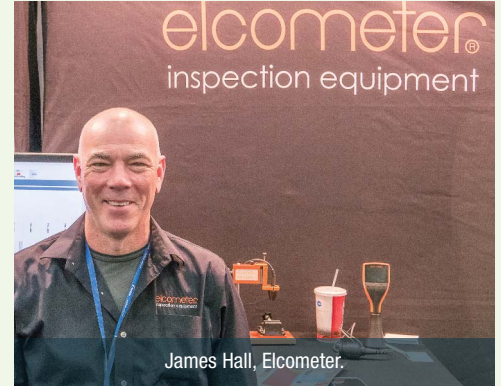
Greg Taylor, Gema.



Lee Lechner, Brooke Roahrig and Kyle Morris, Echo Engineering.



Jacob Kornelsen, ProFab, David Beamish, DeFelsko, Scott Martins, W.M. Kelley and Ian Maxwell, DeFelsko.



James Hall, Elcometer.

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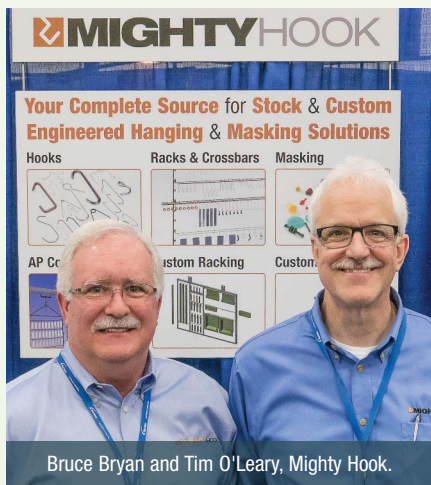
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Duane Wilson and Michael Wittenhagen, Axalta Coatings.



Gordie Markstrom and Rick Burrington, Finishing Brands.



Bruce Bryan and Tim O'Leary, Mighty Hook.



Mike Floyd and Damen Tushan, Uni-Spray.



Larry Wozniak and Jay Kunick, Fischer Technology.



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PHOTOS AND STORY BY
PETE WILKINSON

HLA of Listowel ,ON, recently relocated Plant 2 in February 2015, to the new industrial park in Listowel. They constructed the facility to keep up with demand for a diverse line of agricultural and construction equipment for front-end loaders and skid steers including buckets, blades, forks, grapples, brooms and spears.

HLA required an adaptable system to handle a disparity in the size and weight of components. Owners Oscar and Ryan Frey of HLA hired Eros Verin of Finishing Consultants Canada (FCC) in order to determine if their new paint system should be liquid or powder. It was decided that the best approach for HLA's requirements was to install a liquid system, due to the size and weight of the parts and the quantity of colours. HLA and FCC entered into a unique relationship, which allowed HLA to be the general contractor for the new paint system, saving them tens of thousands of dollars by purchasing directly from the sup-

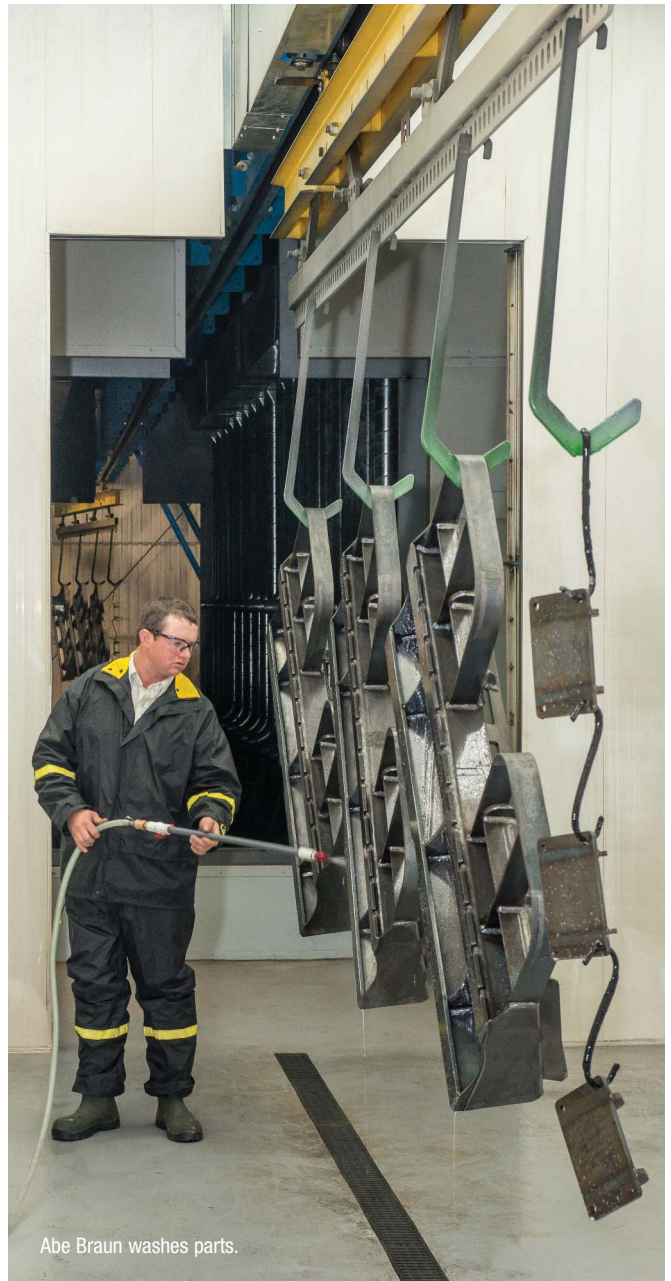


Conveyor shifts product between oven and cooling tunnel.

The Scoop on **HLA Loader** Attachments



Allen Janzi applies primer.



Abe Braun washes parts.



Paint kitchen.

pliers. FCC provided the design for the system, sourced all suppliers and permits, drafted purchase orders and project managed the installation with the assistance of Jeff Thomas.

HLA required a solution that would minimize floor space and maximize production. OCS IntelliTrak Conveyor Systems provided the most efficient and flexible system. The conveyor system includes 27 independent variable speed zones and 2 conveyor load bar shuttles. The shuttle system allowed minimal space between components. The wash bay operator, primer and topcoat painters control the hold times manually and then they push a release button to advance the line when the spraying is complete. The conveyor PLC program then controls the other 24 zones.

The product receives a DuBois gel wash that is then manually pressure washed off and proceeds to a series of Elite Air downdraft spray booths.

Cloverdale Coatings was selected to supply the coatings for the new system. The coatings included an epoxy primer and Niso isocyanate free Supershield 2 component urethane. The primer booth is equipped with an Exel Rexson 2k proportioner with air-mix electrostatic spray system and the top coat booth is equipped with a Wagner 2k proportioner with air-assisted airless electrostatic spray system. The coatings are pumped to the proportioners through SST tubing and dispensed from an ICI 10ft x 40ft modular style paint kitchen. The wash bay and spray booths were fitted with Think Green LED lighting for longevity, colour consistency and power saving.

HLA is currently adding 10 more welding cells in addition to the existing 28 in order to keep up with the new painting production volumes. ■



Adam and Eros Verin, Finishing Consultants Canada and Ryan Frey, HLA.



George Peters applies epoxy topcoat.



Welding fork rock bucket.




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Filtering the Liquid Spray

What Users of Spray Booths Need to Know

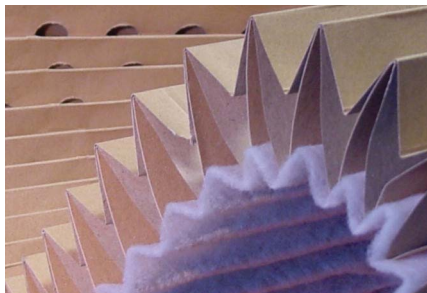
Manufacturers of Paint Spray Booths and Filters work diligently to make sure their products meet government regulations and ensure the safety of the people using them. Some even go above and beyond.

Control Measures Guide

The Canadian Government's Department of Labour has Occupational Health and Safety requirements concerning the safety of paint booths and the health risks of Isocyanates.

The government has a Control Measure Guide available to help eliminate or reduce exposure of employees to isocyanates in spray-painting operations.

Isocyanates are chemical compounds which contain one or more N=C=O functional groups. In reaction with polyalcohols, isocyanates polymerize and form macromolecular compounds, the so-called polymers.



Hexamethylene diisocyanate (HDI) is an aliphatic isocyanate, which is almost exclusively used in the production of paints and surface coatings. The monomer of HDI possesses such properties that make the isocyanate effectively irreplaceable, e.g. it gives the product excellent durability, colour stability, resistance to chemicals and light, as well as resistance to extreme temperatures. In spraying isocyanate paints and primers, HDI is present in two forms, monomer

and polymer. The monomer content is usually less than 1 per cent.

Other very important isocyanates are:

- toluene diisocyanate (TDI),
- diphenylmethane diisocyanate (MDI),
- naphthalene diisocyanate (NDI), and
- isophoron diisocyanate (IPDI)

Potential health effects associated with exposure to free/unreacted isocyanates include skin and eye irritation and skin and respiratory sensitization.

Note: Fully cured paints contain no free isocyanates and therefore, do not present any danger.

Some of the most common symptoms experienced by workers exposed to isocyanates are:

- excessive tear secretion,
- dry throat,
- dry cough,

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- chest pains, and difficulty in breathing.
- Direct skin contact may cause rashes, blistering, hardening and reddening of the skin. If the liquid splashes into the eyes, damage to the cornea can occur.

Isocyanates are considered to be one of the main causes of occupational asthma worldwide. The results of one study conducted on the compensations paid by the CSST in Quebec, between 1988 and 1997, indicate that out of 531 registered cases of occupational asthma, 27 per cent have been related to exposure to isocyanates.

Control Measures

When concentrations to the HDI monomer exceed the TLV, the employer is required to reduce worker exposure to the contaminant below the prescribed limit. Since there is no TLV for HDI polyisocyanates, it is necessary that exposure to the polymer be reduced to the minimum.

Section 19.5 of Part XIX of the COHSR states that the employer shall, in order to address identified and assessed hazards, take preventive measures that consist first of the elimination of hazards, then the reduction of hazards and finally, the provision of personal protective equipment. As part of the preventive measures, the employer is also required to develop and implement a preventive maintenance program.

In work places where isocyanate containing materials (paints, coatings etc.) are used, as per COHSR section 10.4, the employer must appoint a qualified person to carry out the necessary hazard investigation and to set out in a written report recommendations for complying with COHSR sections 10.7 to 10.24, specifically with respect to:

- medical examinations,
- storage, handling and use,
- warning of hazardous substances,
- employee education,
- substitution of substances,
- ventilation,
- control of hazards,
- warnings, and
- assembly of pipes.

Some of the key control measures recommended by the qualified person to eliminate or reduce exposure of an employee to isocyanates may include the following:

- ventilation,
- respiratory protection,
- protective clothing,
- medical surveillance,

- training,
- spills and decontamination, and
- storage.

Ventilation

Subsection 10.17(1)(a) of the Canada Occupational Health and Safety Regulations requires that every ventilation system to control the concentration of an airborne hazardous substance

shall be so designed, constructed, installed, operated and maintained that the concentration of the airborne hazardous substance does not exceed the prescribed limits.

Airless spray paint and air spray paint design data for different types and sizes of paint booths are outlined in the publication of the American Conference of Governmental Industrial Hygienists entitled Industrial Ventilation and in the



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ANSI Standard ANSI Z9.2 Fundamentals Governing the Design and Operation of Local Exhaust Systems. For construction and safety, Part 6 of the National Building Code must also be consulted. Due to the hazardous nature of isocyanates, it is important that the ventilation is designed and operated in a manner consistent with the prescribed Standards.

Where spray paint booths are used, attention must be paid to the following:

- exhausts are vented to the outside, away from air intakes for the work area,
- the ventilation does not vent back into the work area,
- proper paint arresting filters are in place,
- air filters are placed in doors, when necessary,
- baffles and water curtains are installed, when

- necessary, and are in operation/use,
- all of the equipment is approved for use in flammable or explosive atmospheres,
- for electrostatic spray booth, automatic high-voltage disconnects for conveyor failure, fan failure or grounding are installed and are in operation,
- sufficient make-up air is provided,
- exhaust fan interlock with make-up air supply and compressed air to spray gun is installed, when necessary, and is in operation.

The Sprayer's Seven Steps to Safe Working Conditions

- Remember that most airborne paint mist is invisible.

- All spray booths and rooms have a 'clearance time'. You need to know what it is.
- Always spray paint in a spray booth or spray room and not in the open workshop.
- Always make sure your booth runs under negative pressure (so any air leakage is inward).
- Always wear air-fed breathing apparatus during paint spraying.
- Keep your mask on during the clearance time (or leave the booth or room safely).
- Regularly check and maintain your booth and air-fed breathing apparatus.

Spray booths and filtration exists in the marketplace to meet all the regulatory stipulations. Manufacturers are answering the needs of Finishers. ■

Reclaim and Reuse



Solvent recovery systems are designed to condense and collect solvent vapours from extraction systems and concentration/evaporation systems. Solvent recovery begins when solvent vapours are pulled through a cold condenser coil by a vacuum pump to chill the solvent vapours. In this process it is converted back to a liquid form. In its liquid form the solvent vapour flows by vacuum and/or gravity to a collection container. After solvent recovery is complete the solvent can be disposed of properly. In addition to proper collection and disposal/reuse of solvents, it is also important to prevent solvent vapours that are harmful from being released into the atmosphere.

Fielding, Mississauga, ON, is a Canadian cleantech company specializing in the recycling of waste solvents, glycols and refrigerants. Through innovative custom processing the company strives to save the planet one molecule at a time. For over 55 years, Fielding has been serving the paint and coatings, manufacturing, pharmaceutical, aviation, printing and HVAC industries by giving new life to waste solvent, glycols and refrigerants.

As an industry leader recognized for envi-

ronmental stewardship, Fielding delivers sustainability to help our customers enhance Triple Bottom Line performance and become part of the solution.

www.fieldchem.com

Evaporators

Waste water evaporators are all stainless steel units fully automated with auto feed, auto empty and have extra features such as dial up modems and stack demisters.

We can reduce your haulage volumes by up to 95 per cent and can handle volumes from 2 to 500 gallons per hour

Solvent Recyclers

Recycling your dirty solvent on-site has many benefits:

- Return on investment of 6 months or less
- On-site inventory of new and dirty solvents is drastically reduced, freeing up floor space and reducing liabilities
- Units are compact, automated and inexpensive to operate.
- All units are explosive proof and CSA approved.

FST Filters in Oshawa, ON, has small batch units that process 3 to 200 gallons per day as well as large automated units that can handle up to 5000 gallons per day.

Ultra-Filtration

Ultra-filtration membranes are an excellent method of treating your oily water waste so that it can be returned to the process or discharged to drain. These systems have many applications. Small batch systems process 50 to 200 gallons per day and large automated systems that handle 20 000 gallons per day and more.

www.fstfilters.com

Ford Canada implemented a solvent recycling program several years ago with the help of Gage Products Company.

Gage Products Company has pioneered the development of sustainable closed-loop manufacturing processes, and is the world leader in this area. They have worked with several other Automobile manufacturers. Our management of solvent waste streams produces on-going positive results in paint systems operations along with significant improvements in paint quality throughput.

Gage's recycling processes for automotive paint solvents have the capability to handle any size-refining job ranging from railcar to one-gallon specialty solutions. This flexibility gives Gage customers the opportunity to rapidly begin recovery operations early in any facility design and development rollout.

Purge solvents are used to clear paint lines between colour blocks in automotive finishing operations. However, once the solvents have been flushed through the paint system, they must be disposed of as hazardous waste according to government regulations. For some plants, these used solvents account for 50 to 70 per cent or more of their hazardous waste stream. The solvents also create air emissions, forcing some facilities to limit production or purchase control equipment to remain compliant with increasingly stringent emission rules. Solvent formulations containing reduced volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) have been developed to reduce air emissions, but the used solvent in most cases is still considered a hazardous waste. In today's environmentally conscious society, all finishing operations are searching for ways to minimize their environmental impact while also reducing their costs.

The program is based on a two-pronged approach that addresses both solvent recovery and emissions reductions. Depending on the paint technology, Gage recommends or creates an appropriate purge formulation to minimize material use and timing required to change colours. VOC and HAP compliance is considered, along with permit requirements and the type of application equipment used (automated or manual). The company conducts a purge audit by measuring the exact consumption of solvents and paints during colour change cycles, as well as the corresponding programming and timing. By optimizing both the chemistry and purge cycle programming, a more efficient colour change becomes possible. The spent purge solvent is monitored closely for solids levels, as well as other contaminants like water,

and is then sent to Gage's facility for remanufacturing. On average, 70 per cent of the captured solvents are returned to the auto manufacturer for future purge operations. Collection systems are evaluated and improved if necessary to provide the highest possible capture rate, while eliminating potential cross contamination or dumping of incompatible wastes. By fully understanding a manufacturer's waste stream, Gage can provide feedback and technical assistance to optimize the entire coating process. The second phase of the program involves the

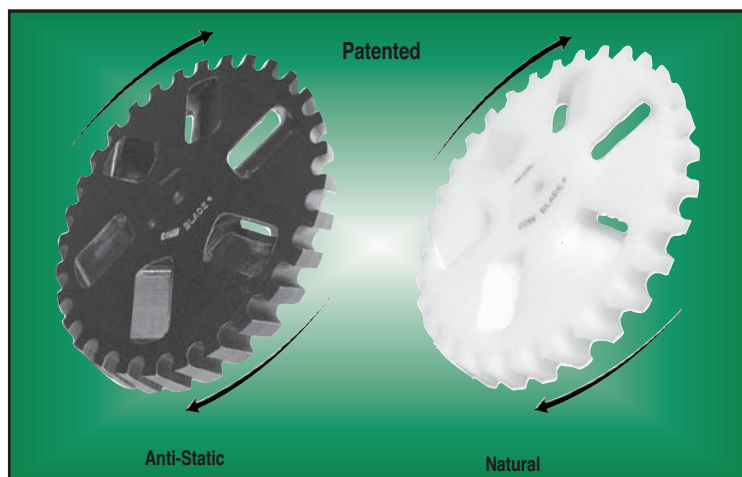
use of appropriate cleanup materials and processes to ensure a clean spray booth and painting environment without the excessive use of cleaning solvents containing VOCs. Depending on the manufacturer's needs, Gage will recommend water-based, low-VOC or no-VOC or HAPs paint shop cleaning products and protective coatings. In many instances, the use of these coatings and cleaners allows companies to reduce air emissions, avoid compliance issues or increase production based on the reduction of cleanup air emissions. ■

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Waterborne Resins offer the ideal coating solution to meet regulator requirements. Manufacturers are offering some great choices.

In waterborne resins Reichhold offers:

- **UROTUF E300-W-40** is a solvent-free UV curable waterborne urethane for wood and plastic applications that combines the best properties of a PUD and UV curable technology. It has the ability to provide a tack-free surface prior to UV cure and produces high gloss and mar resistant films with excellent hardness, flexibility and chemical resistance.
- **UROTUF F600-W-40** is a self-crosslinking waterborne uralkyd designed for garage floor coatings. Performance of these 100 g/L VOC coatings rival higher VOC systems in terms of dry time, hardness, chemical resistance, adhesion and hot tire pick-up resistance. UROTUF F600-W-40 has a 43 per cent biobased content and carries the USDA BioPreferred Voluntary Label.
- **BECKOSOL AQ 510** is an acrylic modified alkyd latex used for multi-purpose applications including architectural primers and enamels as well as blacktop sealers. When formulated into blacktop sealers, BECKOSOL AQ 510 develops and maintains a rich black colour and has much better durability and chemical resistance than traditional coal/tar or asphalt emulsion systems. The resin has a 50 per cent biobased content and carries the USDA BioPreferred Voluntary Label.

Inortech Chimie Inc offers Bio-Based Waterborne Floor Coatings with Enhanced Flow, Appearance and Early Cure in the new Setathane DE 2656 & Setathane DE 2761 by Nuplex.

Applications include:

- Flooring
- Industrial flooring
- Sports flooring
- Decorative flooring
- Hygienic flooring
- Parking decks
- All concrete substrates

Typical Components of Polymeric Concrete Coating are:

1. Polyol Emulsion
2. Aromatic Polyisocyanate (polymer of diphenylmethane diisocyanate)
3. Portland Cement (white type required for colour and cure consistency)
4. Hydrated lime – Ca(OH)₂
5. Small to medium aggregate – silica sand

Castor Oil as a Polyol offers:

- Average functionality = 2.7
- Flexible, hydrophobic polyol
- Bio-based (material of choice for polyol emulsion)
- Can be cross-linked with polymeric MDI – preferred over aliphatic materials due to secondary hydroxyl functionality

Polyol Emulsion Properties

Property	Setathane DE 2656	Setathane DE 2761
%NVM	70	70
Brookfield viscosity,cPs	100 - 400	50 - 350
Particle size, nm	500 - 1000	500 - 1000
%OH	2.7 - 3.3	2.2 - 2.8
pH	7 - 8	7 - 8

Example of Formulation

Component	Percentage
Add the two liquids below into a clean container	
Castor Oil Emulsion – Setathane DE 2656 or DE 2761	18.3
Aromatic Polyisocyanate	23.4
Blend components thoroughly with drill/paddle mixer	
Add pre-blended motar portion below while mixing	
White Portland Cement	19.0
Hydrated Lime	5.9
Silica Sand 30-60 Mesh (250-600 micron)	33.1
Mineral Oil	0.3
Total	100.0

Castor oil polyols as Setathane DE 2656 and DE 2761 offer a natural resource to provide quality high-build floor coatings.

Refinements are possible to enhance the application properties, the aesthetic appearance and also the early curing time.

Huntsman Advanced Materials offer industry leading capabilities and experience with waterborne epoxy resins and hardeners. Aqueous emulsions and/or dispersions of liquid and/or solid bisphenol-A, bisphenol-F, bisphenol-A/F, EPN and ECN epoxy resins are available.

For over 25 years, Huntsman has been a global leader in the development and improvement of waterborne epoxy resins and hardeners for ambient cure coatings. Although the technology has been around for many years, great advances have occurred in the last decade.

Gone are the days where additive suppliers had little or any knowledge of waterborne epoxy systems. Today, the combination of high-performance waterborne resins and hardeners, with fit-for-purpose additives and co-solvents, gives formulators the opportunity to get the highest performance you can expect from epoxy and still adhere to environmental regulations at the same total cost.

Regulatory initiatives to meet clean air standards continue to be a main reason for coating formulators to consider waterborne epoxy systems.

The benefits of waterborne epoxy systems versus conventional epoxy systems are:

- Ultra low VOC
- Very low odour
- Non-flammable/non-combustible
- Fast dry and re-coat
- Ease of cleanup (no solvents needed)
- Balanced overall performance properties

If these types of benefits can be obtained at an equivalent or slightly increased cost, owners and contractors will always choose waterborne systems.

Resins and Epoxy Curing Agents can be used in a variety of coating applications, which currently use solvent-based, high-solids or solvent-free coating systems.

In fact, waterborne epoxy coatings are fast becoming the first choice for formulators in such market segments as:

- Transportation
- DIY Floor Coatings
- Industrial Maintenance

Waterborne Epoxy Resins from Huntsman include:

- **Araldite PZ 3901** Epoxy Resin, a dispersion of a solid epoxy resin in water and 2-propoxyethanol at 55 per cent (wt.) solids. It is designed for ambient cure, two-component epoxy systems for light duty industrial maintenance primers and coatings for metal, concrete, wood and certain plastics.
- **Araldite PZ 3921** Epoxy Resin is based on a modified solid epoxy resin, resulting in a lower VOC content than conventional solid epoxy resin dispersions. It can be combined with carboxylate-functional acrylic resins to formulate two-component, waterborne acrylic-epoxy coating systems that are popular for high-performance architectural applications. Araldite PZ 3921 epoxy resin provides superior scrub resistance and improved durability for use in commercial institutions

and facilities. It can also be combined with Aradur waterborne epoxy curing agents for a variety of applications on metal and concrete.

- **Araldite PZ 3961-1** Epoxy Resin is a newly developed, low-viscosity, solid epoxy resin dispersion.

Its coatings show fast “lacquer” dry properties, good flexibility and impact resistance, and excellent adhesion to many substrates.

Primers based on Araldite PZ

3961-1 epoxy resin and Aradur 3986 epoxy curing agent meet the stringent VOC requirements of the State of California for industrial maintenance and the demanding performance required of anti-corrosive primers.

Araldite PZ 323 Epoxy Resin is a solvent-free, aqueous emulsion of an epoxy phenol novolac (EPN) resin. It can be used to upgrade the chemical resistance, film properties and abrasion resistance of coatings based on solid epoxy resin dispersions. Typical applications for Araldite PZ 323 epoxy resin systems include protective coatings, primers and sealers for steel, plaster, cement, concrete, cinder blocks, brick and similar substrates.

Formulators can be reassured that the research and development of waterborne resin technologies is ongoing. ■

Sources for this article:

- www.reichhold.com
- www.inortech.com
- www.huntsman.com

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Easily Dispersed Pigments



Consistency and Profitability

Grinding, or dispersing, pigment is a practice critical to several industries. In coatings, the dispersion of coloured pigments achieves the desired colour, stability and weathering performance properties. The quality of the dispersions affects the bottom line.

Coatings companies spend a lot of resources on grinding pigments, but there are third-party specialists that can take on this step and simplify production. Pigment manufacturers offer 'easily dispersed' versions of their pigment chemistries with complete colour systems in both organic and inorganic forms.

Most pigments come in a dry form that must be dispersed into a coating. Costs associated with grinding include labour, milling, electricity, solvent disposal and more.

Commercial dispersions offer an alternative to grinding pigments in-house.

Custom dispersions are available.

Easily dispersed pigments are another way for coatings companies to incorporate colour into their systems without having to grind the pigment in-house. Easily dispersed pigments should produce dispersions without the use of dedicated dispersion equipment such as ball-mills, small-media mills, rotor-stator type mixers or other equipment. Common high-speed/shear mixers are the preferred equipment needed. They should be available in a complete range of pigment chemistries and produce dispersions that are equal in performance to those made with standard pigment grinding equipment. There should be tight control over lot-to-lot consistency.

Easily dispersed pigments bring convenience because they greatly simplify the pigment dispersion process.

While easily dispersed pigment technology has been around for decades, especially in the TiO₂ industry, the newest generations of these pigments have improved dispersion properties.

Easily dispersed pigments bring consistency to the dispersion of coloured pigments. There are many different technologies for making pigments easily dispersible, and details of those technologies are often trade-secret protected.

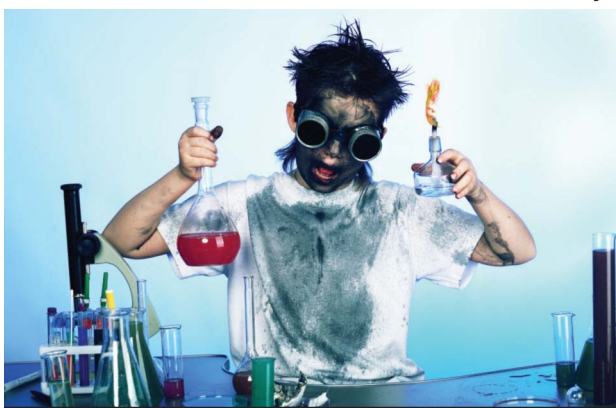
All the convenience and consistency that easily dispersed pigments bring lead to improved profitability. Easily dispersed pigments increase

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yield and reduce raw material usage along with reducing the need for capital, which leads to overall lower cost and higher profit.

Easily dispersed pigments have an optimized balance of masstone colour and tint strength. Instead of having to grind the pigment to gain all the economics of higher tint strength, improved tint strength is easily obtained.

Greater tint strength means more efficient use of raw materials for lower formula cost.

There are also material savings because dispersion base is not lost in the pigment-grinding step. There is always some material left in the pumps, hoses and mill chamber. Eliminating the grinding means none of this material is lost.

Capital requirements for running a coatings company come from many areas. Two main areas are the capital required to buy equipment and the capital required to finance inventory. Easily dispersed pigments can help.

Pigment grinding equipment is highly specialized and expensive to acquire and maintain. Getting the right size of mill to balance the properties of throughput and flexibility requires insight into the demand for your end products. This information can be difficult and expensive to obtain, and there is always uncertainty in predicting future demand. Easily dispersed pigments remove the issues of obtaining new pigment grinding equipment, since it is no longer needed. Easily dispersed pigments allow quick response to change in customer demands.

The convenience and consistency of easily dispersed pigments allow the reduction of inventory (and its cost), at three levels. Because easily dispersed pigments have locked-in colour properties, less raw material inventory is needed. There is no need for pre-ships to validate colour and dispersion properties or to hold onto larger lots of raw materials to reduce the time, effort and cost of qualifying new lots of pigment. Work-in-progress inventory is also reduced because of the quick conversion of easily dispersed pigments. There is less chance of contamination because of the elimination of the pigment-grinding step, which leads to less work-off inventory. Finally, there is lower requirement for finished goods inventory due to shorter lead times and the ability to scale batches to the size needed by customers, not what is needed to optimally run in a mill.


While chemists and production people will appreciate easily dispersed pigments for their convenience and consistency, easily dispersed

pigments are perhaps the first pigments that accountants, analysts and management will also appreciate.

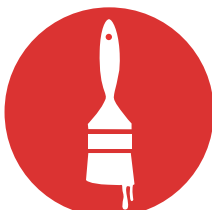


Easily dispersed pigments bring convenience, consistency and profitability to colourant manufacturing by eliminating the pigment-grinding step. Pigment processing has evolved to give modern coatings companies advanced tools to quickly develop and produce differentiated products and services. The technology is especially suited to high-performance and spe-

cialty pigments along with the coatings that take advantage of this performance. While easily dispersed pigments can be seen as technical innovations, they really are tools that have advantages at all levels of coatings manufacture. They bring benefits to chemists in the lab, production supervisors on the plant floor and managers in the boardroom. ■

Source for this article: www.shepherdcolor.com





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<p>Cardinal Color cardinalcolor.com Colour Dispersions</p>	<p>Huntsman Advanced Materials huntsman.com Epoxy Resins & Curing Agents</p>	<p>Shamrock Technologies shamrocktechnologies.com PTFE and Wax Additives</p>
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Of Coating, Caulking, and Quaffing: The Hidden Link

BY KATHERINE BARBER

Have you ever thought about where the words you use every day in your industry came from? And did you know there's a surprising hidden link between many of them?

If it weren't for the wacky way English has evolved since Anglo-Saxon times, this magazine's subject would be "endings and kirtlings" rather than "finishes and coatings". But when the French defeated the Anglo-Saxons at the Battle of Hastings in 1066 and took over as the rulers of England, we acquired a whole bunch of new words, and since English has always had the attitude "the more words, the merrier", we happily kept them all.

"Pigment", "seal", "resin", "coat", "varnish", "paint", "powder", "finish", and many others all came into English via French between 1200 and 1450.

"Pigment", which derived from the Latin word for painting, originally designated colouring matter, but gradually came to apply to other additives, including drugs and spices. By the 9th century a "pigment" was a type of mulled wine; only later did English adopt its original meaning: colouring.

With the Latin word *sigillum* (a small picture), derived from *signum* (sign), the French dropped the ending and the middle "g" and squished it into "seal". Originally the "seal" was the picture pressed on a wax blob marking the authenticity of a document, then the wax blob itself, especially when used to fasten a letter. Gradually, the verb "to seal" went from meaning "affix one's sign to" to "make impenetrable".

Another substance used for making things impermeable was resin – the natural version derived from coniferous trees. Among other uses, it was poured into ship's seams to stop them from leaking. A pronunciation variant of "resin" was "rosin", which came to be applied particularly to the type of resin used by violinists on their bows. Out of this grew an interesting new meaning. It was the custom to offer a stiff drink to violinists at dances. The fiddlers swore that this was as much a help to their bowing as the turpentine-derived stuff they spread on their

horsehair bows, and so a stiff drink was also called "rosin". Perhaps those of you who work with artificial resins could encourage a similar sense development for "resin": a stiff drink offered as refreshment to you.

At the end of the Middle Ages, we English started to borrow directly from Latin itself, and discovered the word "caulk". It comes from the Latin word *calcem* (heel). Derived from this was the word *calcare* (press into by applying pressure with the heels). From the 1400s on we happily caulked – not necessarily with our heels – our doors and windows and ship's seams to keep out the wet and the cold. How logical, then, that by the 1800s, "caulk" was being used to mean ... a stiff drink. Something to keep out the wet and the cold!

Wait. "Pigment" was a spiced wine. "Rosin" (resin) was a stiff drink. "Caulk" was a stiff drink. And by the way, "vinyl" is derived from the Latin word *vinum* (wine). Are we detecting a trend in your industry?

We also borrowed from Greek at the same time, including the word "plastic", which came from a Greek word meaning "moulding". It's hard to imagine using it now as when it first appeared in English in 1598: "Carving is nothing else but a painful imitation of plastic". Back then it meant the art of modelling in clay or wax, a sense which we still see a hint of in "plastic surgery". The word was very handy when the highly mouldable substance we now know as plastic was invented in the early 20th century.

In the 18th century, with European empires expanding, the French discovered the various amazing qualities of a tropical tree whose resinous sap was good for waterproofing. The French called it by a Caribbean name, caoutchouc, but we English were a little more prosaic. Noticing that it was really good at rubbing out pencil marks, we called it... "rubber".

In the 19th century, we figured out how to make sticky tapes. The word "tape" had been around since Anglo-Saxon times for long strips of cloth for binding, but mysteriously, just about the same time that we started talking about adhesive tape, the word "tape" also acquired a slang meaning.



You guessed it. A stiff drink.

All these natural coatings are well and good, but what you need to create today's plethora of paints and coatings is a good chemist. Chemists are the intellectual and etymological descendants of alchemists, those medieval scientists who tried to turn base metal into gold. "Alchemist" was derived from an Arabic word for this fruitless activity, with "al" being simply the Arabic equivalent of English "the". Once people realized this, the "al" was lopped off, leaving us with "chemist". This new word turned out to be particularly helpful, as alchemy was being discredited and chemistry established as a serious science.

In a way, I think you'll agree, chemists do turn substances into gold, or at least into big bucks for the companies they work for. And, for that, they deserve, at the very least... a stiff drink. ■

Katherine Barber is the Founding Editor-in-Chief of the Canadian Oxford Dictionary and blogs about the language with a "Word of the Week" every Friday at katherinebarber.blogspot.com. She recently spoke at the Univar CASE event held in Toronto in April 2015.

Regulatory Compliance: To Be or Not to Be?

BY GARY LEROUX

The paint and coatings industry, along with others in the chemicals sector, are constantly preoccupied with regulations. This is especially true with respect to the federal government's Chemicals Management Plan (CMP) over the past 10 years, which will continue for another five years or longer. We must always consider what regulations really mean for industry and how we ensure full compliance with them. It is also necessary to consider the cost of complying with these regulations and the potential cost of non-compliance. Much of this is taken for granted in heavily regulated industries such as paint and coatings, but remains a major focus. In the recent strategic planning session CPCA's board noted that the association's work on ensuring regulatory compliance is one of its key roles, that is, to get out ahead of and stay ahead of regulations. Governments also view associations as a key partner in compliance promotion, that is, communicating to its industry members the need for full compliance with existing regulations.

It is true that regulations do 'level the playing field' for industry, or should, given the fact that all must comply with the same regulations. Yet, the cost of regulations in Canada, especially over the past ten years or so, has been substantial due to the volume of information required for the CMP chemical assessment process. The recent federal budget committed another \$500 million for phase three of the CMP on the government side. The work required of industry to help support the ongoing assessments, in all sectors, means industry will pay tens of millions in providing the information required for the assessment of chemicals in commerce. There will also be a cost for compliance with the eventual regulations and other pollution prevention instruments. That cost will include the necessary steps to assure compliance and/or the need to seek alternatives or substitutes for certain substances, which can also be a major cost driver.

In general, compliance means conforming to a rule, such as a specification, policy, standard or law. Regulatory compliance describes the goal that companies seek to achieve in their ongoing efforts to ensure they take the necessary steps to comply with relevant laws and regulations. The need for operational transparency is

critical for ensuring full compliance. In recent years this has also driven the need for regulatory harmonization under the Regulatory Cooperation Council's (RCC) efforts to align regulations for products shipped by Canada and the United States. Then there is the need to better align regulations across Canada with respect to provincial jurisdictions, which have different regulations from one province to the next, which we have seen with respect to waste management regulations. The expected outcome of such an approach is to ensure that all necessary regulatory requirements can be met without unnecessary duplication of effort and costs. This is still a work in progress on many fronts.

Associations have been involved with the necessary, grinding work on regulatory development to help ensure regulations are evidenced-based and grounded in sound science wherever possible. When regulations are developed under CEPA 1999, for example, stakeholders provide input and comments at various stages of the process. Compliance is easier when those being regulated understand the purpose of regulations and can provide input into their creation. CPCA's work seeks to ensure that industry is fully aware of the proposed regulations as early as possible in the process, thereby ensuring that all aspects of the regulations are considered before formal implementation. Environment Canada promotes compliance through information sessions, conferences and workshops with 'regulatees' in attendance as well as through fact sheets, manuals, guidelines, reports, and notices in the Canada Gazette. It is hoped that by providing the means to participate in the creation of regulations and by promoting compliance using the tools outlined above, the result will be a high rate of compliance.

While oversight with respect to regulatory development is a primary focus of industry and their respective associations, compliance promotion is also important. There must be planned activities that are undertaken to increase awareness, understanding and compliance with the law and its regulations. Through these activities, information is provided to the regulated communities on what is essential for compliance, the benefits of compliance and the consequences of non-compliance.

The Canadian Environmental Protection Act (CEPA 1999) provides enforcement officers

with a wide range of powers to enforce the Act. Enforcement officers can engage in the following: "Carry out inspections to verify compliance with the Act; conduct investigations of suspected violations; enter premises, open containers, examine contents and take samples; conduct tests and measurements; obtain access to information (including data stored on computers); stop and detain conveyances; search, seize and detain items related to the enforcement of the Act; secure inspection warrants to enter and inspect premises that are locked and/or abandoned or where entry has been refused; seek search warrants; and arrest offenders." Federal government analysts can even enter premises when accompanied by an enforcement officer and can exercise certain inspection powers.

There is a wide range of enforcement measures available to respond to alleged violations. Many are designed to achieve compliance without resorting to formal court action, including directions, tickets, prohibition orders, recall orders, detention orders for ships, and Environmental Protection Compliance Orders (EPCOs). Measures to compel a return to compliance through court action include injunctions to stop or prevent a violation and prosecutions. In addition, a return to compliance can be achieved through Environmental Protection Alternative Measures (EPAMs), a program for diverting offenders away from the formal court process.

Half of the 57 CEPA regulations have some impact on the paint and coatings industry directly and indirectly, not to mention other federal and provincial regulations in other government departments. All CEPA regulations have mandatory fines, but the biggest cost for a company that finds itself in a situation of non-compliance, that becomes public, is the damage to the brand from the negative perception of its products in the marketplace. Often the sins of one quickly become the sins of many, as all in the industry sector will be implicated indirectly. Such a situation could require a significant investment in public relations to address both stakeholder and public perceptions. No one wants such a situation to occur and must take the appropriate measures to ensure compliance with the law. ■

Gary LeRoux is the president of the Canadian Paint and Coatings Association based in Ottawa, ON.

Paint Recycling 101

Canada leads the way

BY JOSH WIWCHARYK

Whether it is manufacturers re-working off-spec batches or a local contractor trying to stretch a customer's budget by bulking like-colours, paint recycling has been going on in some form or another since there has been paint.

Modern and large-scale paint recycling relies on organized programs such as those provided by PaintCare and ProductCare, which are similar to other recycling programs for tires,

electronics and oil. Although the collection landscape is quickly changing, the reason we don't currently see a multitude of recyclers is because not all areas have programs and paint, unlike materials such as oil, requires an incentive to collect and process. Today's viability model is very clear: no incentive, no recycling. With paint collection, there is an overwhelming majority of material that has a negative value and is subject to compliant disposal, so while

there is a strong market for some post-consumer paint, the processing costs can be discouraging. For this reason some paint recyclers are also waste companies.

Paint recycling generally follows as below:

Collection: Most collection can be divided into two groups: municipal collection (public) and return-to-retail programs (private). The municipal collection takes place either through waste depots or waste "events". Depots and



events in Ontario typically are responsible for the collection of all household waste from batteries to pool chemicals, with paint being the overwhelming majority by weight. Return-to-retail programs vary by geography and have the added benefit of driving consumer traffic to paint departments.

Transport: Paint gets hauled either in program-designed boxes, one-yard TDG-approved cardboard gaylords, or TDG-approved drums. At this point the paint is often tracked, providing information such as the generator and weight.

Processing: Like virgin paint, production methods vary greatly by processor. At Loop the material is digitally received via Bluetooth and entered into the database with a mass-balance approach where every kilo is accounted. The paint is unloaded and segregated by type and quality such as off-specification, alkyd, stain, latex, or bitumen coatings along with all the associated waste streams. Each of these streams is further quality controlled and divided by colour then bulked either into drums or into 1000 litre totes. Even the packaging gets sorted by type, such as metal and plastic, for recycling.

Production: The bulked paints are further quality controlled with additives and then mixed. This bulked product represents the “feedstock” used to create a paint product. Based on established recipes, the bulked paint gets batched into larger tanks for colour matching and final QA/QC. This is really where the science meets the art of unique batch-type paint production. At Loop some batches are co-operative and meet our QA/QC standards with little stress, while others require extensive time and processing before they can be packaged.

The Product: If properly processed, recycled paint represents great value to consumers because it generally has a low price point while being good quality since it’s representative of the statistical average of all paint sold. The end result is a solid mid-grade, pre-tinted paint. Distribution of finished goods is generally either domestic or export. As with any paint, domestic sales are either directly to major retailers or to independent retailers through distributors. Export markets include the Middle East, West Africa, the Caribbean, and South America and are usually focused on larger format packaging such as 5 gallon pails and 1000 litre totes. Recycled paint currently represents an extremely small part of the overall market, but it’s an important component to keep incentive rates low and build consumer acceptance.

One might think that countries with a sophisticated recycling infrastructure like the Netherlands, UK, or Germany would be the leaders in paint recycling, but Canada leads the way in collection and consumer acceptance as evidenced by companies such as Laurentide, which started recycling paint more than 20 years ago and the availability of recycled paint in just about every community. The Canadian paint

industry, municipalities, retailers, and consumers have a lot to be proud of – together we’re doing the right thing with waste paint by turning it into a viable recycled product. ■

Josh Wiwcharyk is the President of Loop Recycled Products, Niagara Falls, ON.

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NEW PosiTector Replica Tape Reader

Defelsko Corporation is pleased to announce its latest innovation, the PosiTector RTR P. The PosiTector RTR series measures and records surface profile parameters using Testex Press-O-Film™ Replica Tape. The patented NEW PosiTector RTR P uses imaging sensors to measure the Peak Density (Pd) information contained in replica tape in addition to peak height.

Advanced models are able to generate 2D/3D images and SDF files of the replicated surface. Black and white 2D and colour 3D images are ideal for inclusion into reports and for confirming a consistent blast profile. A high resolution SDF (surface data file) can be imported into third-party rendering software for further examination at a cost far less than interferometric or confocal profiling devices.

With a single measurement, the PosiTector RTR Series produces a more accurate linearized peak-to-valley height measurement (HL) over the full range of Coarse and X-Coarse tapes. There is no need to average two or more replicas as required with analog micrometers.

www.defelsko.com/rtr

DeVilbiss Introduces CLEAN Product Line to Industrial Users

Finishing Brands, manufacturer of DeVilbiss industrial finishing equipment, announces the availability of the DeVilbiss CLEAN product line to industrial customers. DeVilbiss CLEAN is a total solution system for contaminant-free finishing that has traditionally been available only to Automotive Refinish customers.

DeVilbiss CLEAN™ has been developed to reduce cycle times and increase productivity by helping customers reduce and eliminate the additional cost of contamination, caused by rework time and additional material usage.

The DeVilbiss CLEAN line is one component of Finishing Brands' complete system of spray booth and safety products that offers an integrated best practices approach to contaminant-free finishing. Together they provide contamination control solutions in four critical areas: technician, surface preparation, air supply, and paint booth.



DeVilbiss CLEAN Product Line Includes:

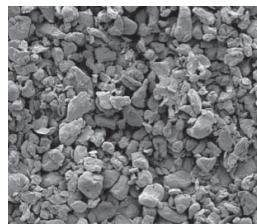
- Personal Protection Equipment for Technicians: respirators, paint overall suits (disposable and reusable), lab coats (reusable)
- Surface Prep Products: saturated wipes, dry wipes, tack wipes and antistatic wipes
- Air Supply Products: via air control equipment including desiccant units; filter, regulator and coalescer units
- Paint Booth Products: Dirt control floor and wall coat, disposable paint booth matting

Clariant Presents Revolutionary Bio-based Additives for Wood Coatings

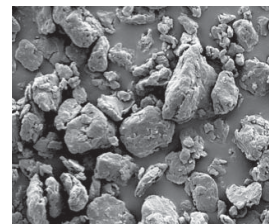
Clariant, a world leader in specialty chemicals, has introduced innovative solutions for wood coatings based on renewable sources, that can protect effectively against surface damages and meet the demand for more sustainable coating systems.

Ceridust 8090 TP and the latest innovation Ceridust 8091 TP, which was featured for the first time at the European Coatings Show 2015, are based on Polysaccharide from renewable sources not in conflict with food. They carry Clariant's EcoTain label because of their outstanding sustainability profile and excellent performance. The EcoTain label identifies Clariant's flagship products and solutions that offer outstanding sustainability advantages and exceed market standards.

Both Ceridust solutions offer wood coating producers a step-



REM microscopic picture of a wax powder 30 µm.



REM microscopic picture of a wax powder 8 µm.

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pliers. ICE provided the design for the system, sourced all suppliers and systems, detailed purchase orders and project managed the installation with the assistance of JET Technics.

ICE required a solution that would maintain floor space and maximize production. OCS handled the conveyor system provided the most efficient and flexible system. The conveyor system includes 27 independent variable speed zones and 2 conveyor feed bar chutes. The chutes system allowed unlimited space between components. The wash bay operators primer and repeat painters control the hold times manually and then they push a release button to advance the line when the operation is complete. The conveyor PLC program then controls the other 24 zones.

The product receives a Delmic gel wash that is then manually pressure washed off and proceeds to a series of Elite Air downblast spray booths.

Greenbridge Coatings was selected to supply the coatings for the new system. The coatings included an epoxy primer and two inorganic free superhard 2 component finishes. The primer booth is equipped with an East Rexson 26 propeller with air-aided electrostatic spray system and the top coat booth is equipped with a Wagner 26 propeller with air-aided airless electrostatic spray system. The coatings are pumped to the propellers through 3/4" tubing and dispersed from an EX 108 1/4" diameter optic paint lance. The wash bay and spray booths were fitted with Think Green LED lighting for longevity, color consistency and power saving.

ICE is currently adding 19 more welding cells in addition to the existing 26 in order to keep up with the new painting production volumes.

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NEW PRODUCTS AND TECHNOLOGIES

change in performance from a bio-based wood coating additive. In addition Ceridust outperforms in terms of scratch resistance and higher coefficient of friction compared to standard waxes. Ceridust solutions are offered in different particle size distributions to provide a variety of surface properties, from a silky touch to natural wooden haptic effect.

The value proposition of Ceridust 8090 TP & 8091 TP solutions is based on their superior performance as well as their use of renewable raw material.

Ceridust 8090 TP - the coarser version (30 µm) of this additive for wood coatings creates a protected and smooth surface with the pleasant feel of untreated wood. The micronized polymer increases coefficient of friction in combination with outstanding scratch resistance performance in water-based formulations.

Ceridust 8091 TP - the fine grind (8 µm) of the renewable based micronized polymer combines smoothness with very high scratch resistance. The high matting efficiency, together with these properties, enables the manufacturer to formulate more sustainable coatings with top quality.

www.clariant.com

Datacolor Announces CHECK 3



Datacolor, a global leader in colour management solutions, today announced the launch of the CHECK 3 portable spectrophotometer. The completely redesigned CHECK 3 builds on Datacolor's history of providing world-class portable spectrophotometers for the formulation and quality control needs of colour professionals in the paint, coatings, plastic and textile industries. The instrument delivers industry leading colour measurement performance, while offering excellent correlation to Datacolor's world-renowned 600 series of benchtop instruments.

CHECK 3 features a completely redesigned user-interface with a modern and easy-to-navigate colour LCD display. The instrument also includes an LED illuminated viewing port, enabling users to very precisely position samples and assure accurate measurement. The change to a horizontal configuration allows measurement in height constrained areas. All of these features contribute to improve the user experience during operation.

With an enhanced two-way Bluetooth interface, CHECK 3 allows the user to seamlessly transfer standards and batches

back and forth between the instrument and TOOLS, Datacolor's highly-regarded colour quality control software. Sample measurements can also be initiated from TOOLS when connected via Bluetooth. These features allow quick transfer of colour data, enabling users to make colour decisions more efficiently.

The high-speed USB feature gives users flexibility in how they choose to manage their data by allowing easy data export to a USB flash-drive, while also providing support for peripherals, such as wireless keyboards and bar code scanners. The ability to use these peripheral devices in conjunction with the CHECK 3 improves the user experience by allowing for simple and efficient sample naming and identification. www.datacolor.com/check3.

Allnex Introduces New CRYLCOAT Powder Coating Resins for High Corrosion Protection

Allnex introduces a new range of CRYLCOAT Powder Coating Resins for high corrosion protection on bare and pre treated steel for agricultural, construction and earthmoving (ACE) equipment, architectural and industrial applications.

These five new Allnex products are specially designed to coat metals that are eco friendly pre treated, without compromising overall powder coating performance requirements in the different target segments and are available globally.

Allnex's new Powder Coating Resins include:

- CRYLCOAT E 04327 and CRYLCOAT E 04484 superdurable resins for ACE powder coating applications
- CRYLCOAT E 04453 for architectural powder coating applications
- CRYLCOAT E 04339 and CRYLCOAT E 04417 for industrial powder coating applications



Allnex is a leader in the powder coating resin market, offering a reliable supply of a broad range of quality products from our global manufacturing footprint. Our dedicated team of experts helps customers solve their powder coating challenges, while our innovation efforts concentrate on novel surface finishes and reducing overall costs.

www.allnex.com

Sherwin-Williams Enters North American OEM Prefinished Wood Flooring Coatings Market

Sherwin-Williams Product Finishes today announced that it will supply the North American OEM flooring market with a new line of prefinish coatings. The first product offerings include UV-curable wood flooring coating systems.

The company's floor coating systems meet or exceed key specifications for wear, scuff and scrape resistance. The company enters the North American market with systems for residential and commercial applications, including ceramic topcoats, high-Taber sealers, armor coat, UV oil, hydro primers, dual-cure putty, and fillers and sealers.

As the top North American brand in the architectural paints and OEM wood coatings industries, Sherwin-Williams understands products must perform well in demanding production environments so manufacturers can cost-effectively deliver the exceptional lifestyle products today's end-customers demand. Accordingly, Sherwin-Williams UV-Curable Wood Flooring Finishing Systems are developed to speed production, improve throughput, and achieve consistent appearance and performance.

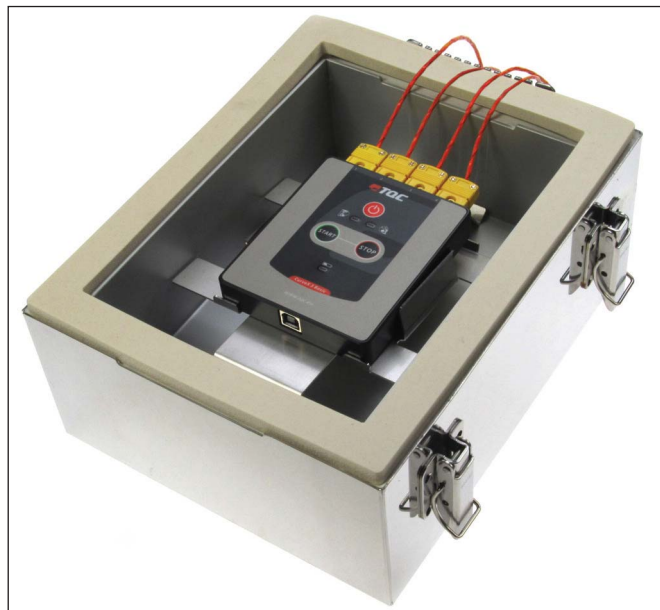
Additionally, custom colour matching is available in specialized Sherwin-Williams facilities, and manufacturers will have access to proprietary colour trends research and forecasting. This will enable them to offer customers flooring that is on the leading edge of consumer trends.

oem.sherwin-williams.com/flooring.

CurveX 3 Basic Introduced

TQC, developer and manufacturer of paint test equipment, introduces a new model in the CurveX Oven logger series. The CurveX 3 Basic is an oven recorder designed for everyday use in powder coating lines.

The 4-channel temperature data logger is built in a sturdy machined aluminium case that fulfils the basic needs for quality control in powder coating applications. Its ease of use and afford-



able price level makes it an ideal job-coaters instrument.

CurveX 3 Basic is easy to operate. It is equipped with only three large buttons and instead of a display multi coloured LED's give meaningful feedback. The memory has the capacity to store 10 batches of each 16000 readings and furthermore allows the storage of 16 on board paint types.

CurveX 3 Basic is designed with a durable impact resistant lightweight aluminium housing and equipped with a dust & moisture proof membrane keypad. For probe connection heavy duty industrial K-type connectors are used. Each online registered CurveX 3 Basic is backed up by 2-year warranty.

Due to the flat design, only 15 mm, it can also be used in low clearance ovens. Data analysis is made easy with TQC's powerful Ideal Finish Analysis software, in which the CurveX 3 Basic can be set up and its data can be offloaded as well.

With a static and dynamic accuracy of ± 1 °C and an extensive measuring range of 0 – 500 °C, the CurveX 3 Basic is very accurate and versatile. TQC has a wide range of interchangeable probes and heat barriers available that allow the CurveX 3 Basic to be used over the whole temperature range.

www.tqc.eu

Sartomer's New High-Performance UV-Curable PUDs Improve Formulating Latitude of Coatings

CN9500 and CN9501 contribute excellent coatings properties after water removal and UV curing, including good flow and leveling and a low minimum film formation temperature (MFFT). Both are dry to the touch after water removal. They create a warm appearance on wood, are non-yellowing and are easily matted to a low-gloss finish.

CN9500 exhibits balanced flexibility and hardness, while CN9501 has exceptional hardness and abrasion resistance without brittleness.

www.sartomer.com.

New High-Efficiency Fluorosilicone Additive Delivers Defect-Free Foam Control In High-Solids Solventborne Coatings

Dow Corning, a leader in silicon-based foam control solutions for paints, inks and coatings has introduced a new fluorosilicone additive for defect-free foam control in solventborne and radiation-curable coatings. Dow Corning 102F Additive offers highly effective defoaming and antifoaming performance, especially in high-solids solventless systems, without negatively impacting the surface appearance or recoatability of the applied film.

The product is suitable for applications where strong antifoam performance is needed, such as protective coatings, wood and flooring coatings and other industrial coatings.

Effective at very low concentrations, Dow Corning 102F Additive enables efficient foam control at low silicone addition levels, eliminating recoatability concerns. The clear and colorless formulation does not impact the clarity of the coating has a low tendency to cause caters. Plus, it can be added during the let-down stage without causing surface defects.

dowcorning.com/coatings

PPG Introduces POWERCRON ADVANTEDGE Electrocoat in North America

PPG Industries' industrial coatings business has introduced POWERCRON ADVANTEDGE electrocoat (e-coat), a next-generation high-edge cationic-epoxy product, in North America.

Originally formulated to achieve REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) compliance in Europe, Powercron AdvantEdge e-coat is formulated with a proprietary metal-free catalyst that eliminates the need for dibutyl tin and other scarce or restricted heavy metals as a catalyzing agent.

Bob Enzerra, PPG product manager, electrocoat products, said Powercron AdvantEdge e-coat can help appliance, automotive and heavy-duty equipment manufacturers and other metal finishers gain a competitive edge, both in terms of environmental compliance and product performance.

Specifically engineered for high-edge protection of cut, stamped or formed edges on complex metal parts, Powercron AdvantEdge e-coat offers several performance advantages over e-coats based on conventional metal-based catalyzing technologies. They include cure temperatures as low as 320 F to reduce energy use and related carbon emissions, as well as excellent workability, a smooth film appearance, enhanced throwpower and excellent corrosion resistance.

www.ppgindustrialcoatings.com

AGC Chemicals Americas Inc. High-Performance Lubricant Powders

Fuon polytetrafluoroethylene (PTFE) lubricant powders from AGC Chemicals Americas are ideal for applications requiring superior surface lubrication, chemical and water resistance and wear performance over a wide temperature range. When formulated with Fuon PTFE, thermoplastics, elastomers, oils, greases, inks, metal decorating coatings and industrial finishes exhibit outstanding performance. All Fuon lubricant powders are manufactured from virgin rather than reprocessed PTFE feedstock sources to

ensure consistent high performance and quality. Fuon FL1680 has the lowest surface area and porosity of all of the lubricant powders and is ideal for use in printing inks and industrial finishes. Fuon FL1690 is particularly suitable for incorporation into thermoplastics because of the absence of processing additives. Fuon FL1700 is an ideal additive to inks for can coatings and is FDA approved for contact with food and drink. FL1700 is also used as an extreme pressure additive in oil, grease and elastomer applications. Fuon FL1710 is especially ideal for use with low viscosity lubricating oils and industrial finishes.

www.agcchem.com



PPG introduces VERSABOND Pretreatment System for Mixed-metal Applications

PPG Industries' industrial coatings business has introduced the VERSABOND pretreatment system, a fast kinetic-efficient zinc-phosphate pretreatment formulation that improves the corrosion resistance of mixed-metal substrates while enabling manufacturers to realize the environmental and energy-saving benefits of extended bath life, reduced sludge and lower processing temperatures.

Based on proprietary hypernucleation technology developed by PPG, the Versabond system incorporates a rinse conditioner that causes small, densely packed zinc-phosphate crystals to deposit on mixed-metal substrates, accelerating bond formation with the coating, particularly on surfaces with higher concentrations of aluminum.

Randy Brent, PPG director, pretreatment and engineered products, said development of the Versabond system is significant for end-users and parts manufacturers because it supports "lightweighting" of trucks and passenger vehicles while reducing waste and energy use during production.

The proprietary zinc-phosphate formulation in the Versabond pretreatment system precipitates onto metal surfaces about twice as fast as traditional zinc-phosphate products and produces a tight, lattice-like network of microcrystals. The result is greater metal adhesion and fewer voids in the coating system, which leads to more effective corrosion protection.

Depending on the composition of the metal mix, the Versabond pretreatment system may process at temperatures up to 20 percent lower than those required for conventional zinc-phosphate formulations. It also extends average bath life from two weeks to eight weeks and generates 30 to 50 percent less sludge, resulting in less waste, lower energy consumption and fewer maintenance demands.

The Versabond pretreatment system is engineered to improve the corrosion resistance of underbody truck and vehicle parts such as springs, control arms, tie rods, frames and exhaust system components. It also can be used on appliances and heavy-duty equipment (HDE) components, and by general manufacturers seeking to upgrade a zinc-phosphate pretreatment system.

www.ppgindustrialcoatings.com

New RheocalcT v1.2.19 is Loaded with New Features!

Brookfield is pleased to announce the release of RheocalcT Software v1.2.19. This new update now includes Test Wizards for rapid test creation, Yield Testing for the DV3T Rheometer, improved layout and navigation, and additional Import/Export functions.

The RheocalcT Test Wizard reduces the time and effort needed to set up popular tests such as: time to stop, time to torque, speed ramp/shear rate ramp and temperature profiling. RheocalcT Test Wizard can create a Thix Index Test (used to calculate the ratio of viscosity at low speed vs. viscosity at a higher speed) or a curing test to automatically reduce speed at preset torque values. In addition, you now can use the Wizard to create and run a Yield Stress Test for the DV3T Rheometer.



Many layout and navigation improvements have been implemented including the addition of a Favorites Bar. Import/Export functions have also been improved: simplifying excel data for export, importing existing test files from Rheocalc32 and EZ-Yield, and reducing PDF file export size.

RheocalcT can be used with Brookfield's DV2T Viscometer and the DV3T Rheometer. It will run on Windows 8, 7, Vista or XP. Processor speed should be 2 GHz or higher. Minimum RAM requirement is 2GB. Two USB ports are recommended to support viscosity testing with concurrent temperature control using a Brookfield accessory, such as the TC Circulating Temperature Bath or Thermosel System.

www.brookfieldengineering.com

KCI Easy Booth



KCI America Co. introduces the next level of convenience with KCI's EASY booth automatic powder coating system. A truly efficient system designed to provide maximum productivity with min-

imal interference. KCI EASY system conveniently memorizes a diverse range of objects, capable of reducing powder consumption. Use of a high strength, double antistatic plastic booth allows rapid color change and highly efficient powder recovery. X and Y axis automation of reciprocators automatically adjusts guns horizontal and vertical position according to the object. Ideal in modern automatic systems, minimizing powder waste from unnecessary gun to part distance.

Features include:

- Highly durable, double walled antistatic plastic booth
- Special coating within the cyclone which supports rapid color change and powder sieving
- All integrated systems are controlled by a centralized touch screen
- Designed to minimize powder waste, promoting a clean working environment
- Optimized powder coating environment for high quality coatings
- Highly efficient dust collector with high speed air collector

www.kciamerica.en.ec21.com

Introducing the New 309 Series Drum Tumblers



The Morse 309 Series Drum Tumblers are designed to receive an upright steel, plastic or fiber drum and rotate the drum "corner-over-corner." Features include:

- Agitate drum contents without even opening it
- Prevent hazards, worker exposure, & messy cleanup of insertion mixers
- Incorporate settled ingredients
- Homogenize valuable products
- Eliminate sediment at the bottom of a drum
- Saves time, labor and money
- Use a separate drum for each batch
- No container to purge between batches
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NEW PRODUCTS

- Tumble drum 29" to 37" (74 to 94 cm) tall
- Tumble drum 18" to 23.5" (46 to 60 cm) in diameter

Drum RPM:

- Model 309-3: 14 RPM or Variable Speed 2 to 20 RPM with Morse Control Package
- Model 309-A Air Powered Drum Tumbler: 14 RPM, & variable with air flow & pressure
- Explosion proof 60Hz Drum Tumbler: 14 RPM

Explosion proof 50Hz Drum

Tumbler: 12 RPM

- Motor is 1 HP
- Capacity:
- 800 Lb. (363 kg) full drum
- 400 Lb. (181 kg) half-full drum

Half-full Capacity is an indication of the capacity for tilting an unbalanced, bottom-heavy drum. A partially full drum with an unbalanced and shifting load is harder to tilt than a full drum.

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CFCM 2015 Buyers Guide.

A **Must Buy** for Suppliers to Canadian: Paint Ink, Adhesive and Coating Manufacturers Industrial Finishers

FREE Listing for All Suppliers and Finishers

- Paint and Coatings for Industrial Finishing
- Equipment and Services for Industrial Finishing
- Metal Finishing Supplies for Anodizing, Plating and PVD
- Metal Finishing Equipment
- Paint and Coating Raw Materials, Supplies and Services
- Paint and Coating Manufacturing Equipment
- Custom Coaters and Job Shops
- Associations, Education and Government



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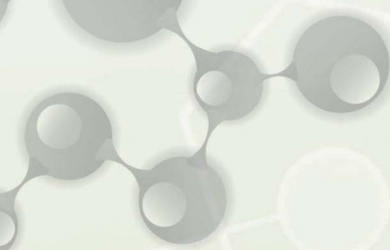
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