



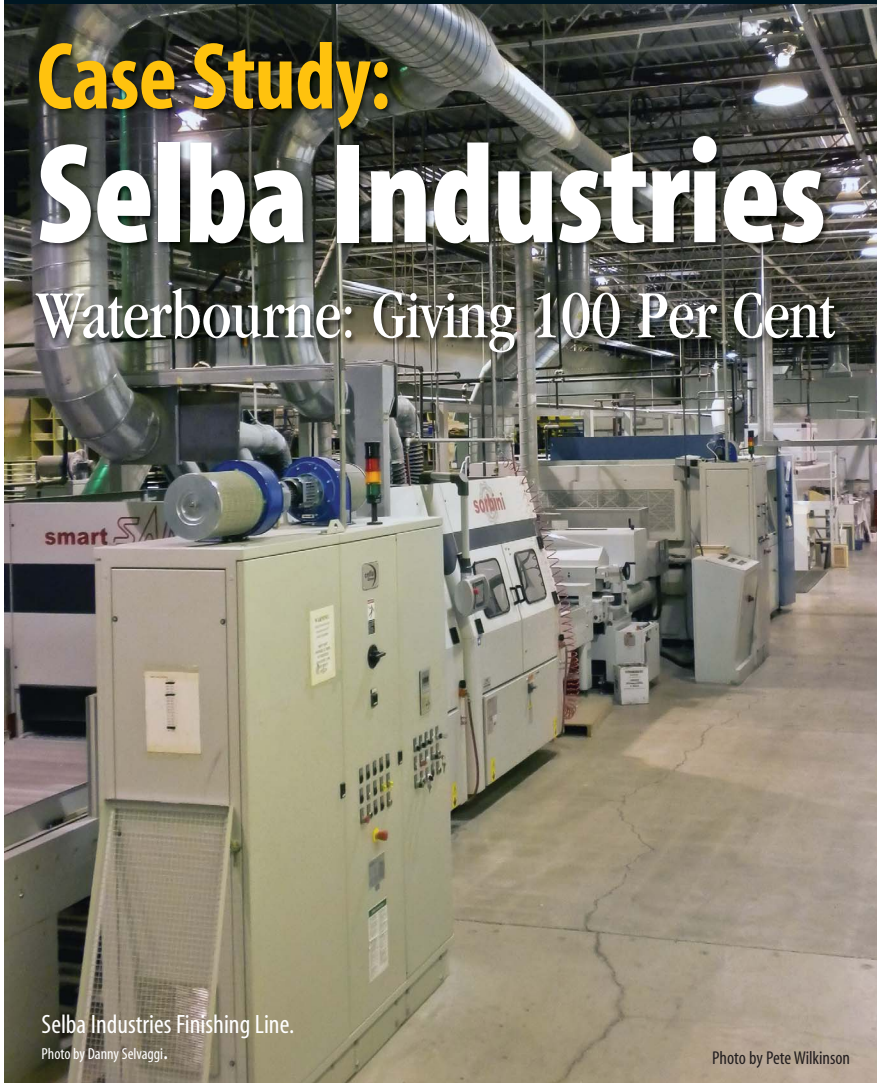
CFCM

CANADIAN FINISHING & COATINGS MANUFACTURING MAGAZINE

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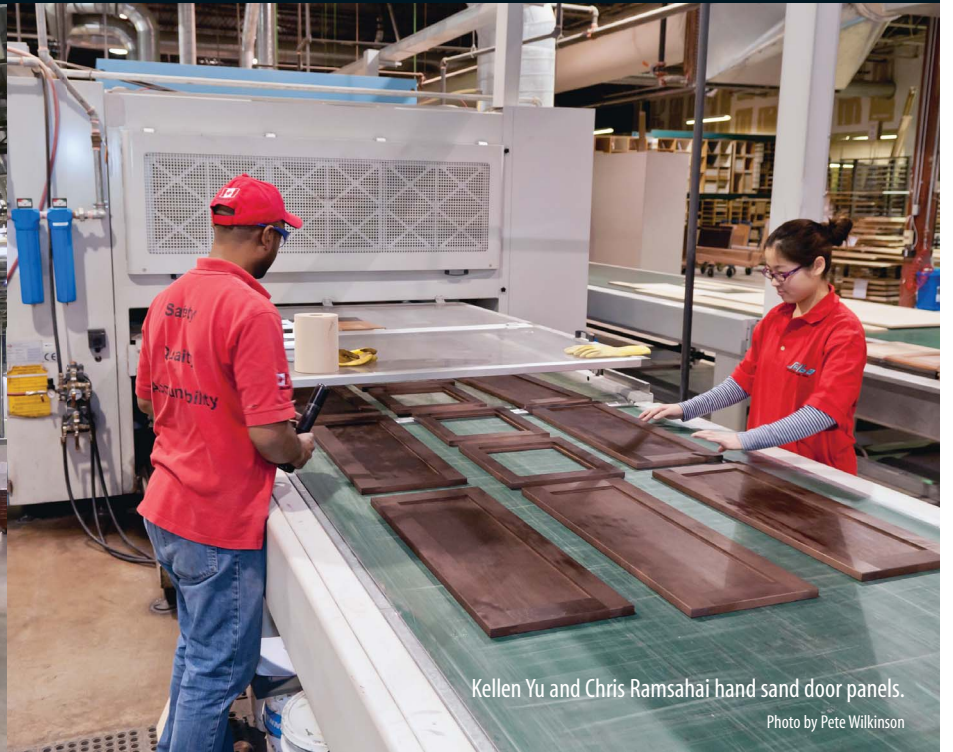
September/October 2011

Case Study: Selba Industries Waterbourne: Giving 100 Per Cent



Selba Industries Finishing Line.
Photo by Danny Selvaggi.

Photo by Pete Wilkinson



Kellen Yu and Chris Ramsahai hand sand door panels.
Photo by Pete Wilkinson

Selba Industries Inc. located in Concord, ON, has been in business since 1989 making kitchen cabinets for the renovation and builder markets. This family business owned by Danny Selvaggi, Marco Selvaggi and David Selvaggi has taken the bold initiative to go 100 per cent “green” in their finishing process.

The current facility is 120,000 square feet. “We began with 35,000 sq ft and added on in two expansions with the most recent in 2005 where we installed the finish line,” explains Danny Selvaggi. “It is our understanding from discussions

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ALSO IN THIS ISSUE

- Fillers and Extenders
- Rheology Modifiers
- Furniture Finishes
- Pretreatment and Washing
- Power Supplies and Rectifiers

AND MUCH MORE!

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What's New in Anodizing?

Aluminum alloys are commonly protected from the environment through the application of anodic films. While Aluminum anodizing accounts for the largest market share of protective anodic processes, it is not the only metal anodized. Commercially profitable processes exist for Magnesium, Titanium, Zinc, Tantalum and Niobium.

DIRECT CURRENT

Most anodizing shops only use direct current (DC) for all of their anodizing. If you make aluminum and its alloys positively charged (the aluminum is the anode) in an anodizing electrolyte, the anodizing process/oxidizing is started on the metal surface. Direct current will pass through the electrolyte and the developing aluminum oxide, (Al₂O₃), which forms at the aluminum surface and starts growing thicker. The film is formed at the surface

and it pushes the “older” film up.

DISSOLUTION

Have you ever noticed that you can only get aluminum/alloys so thick and no thicker? This effect can be explained with two different dissolution processes. The first one is simply that an acid electrolyte dissolves the outer film/aluminum oxide by just being in contact with the film. This acid dissolution process happens at a relatively slow, but steady rate that starts the instant the film is formed and does not stop until the part is well rinsed. The next dissolution process (field-assisted dissolution) is the one that limits the thickness of the coating. It is not very noticeable at the beginning of the anodizing cycle, but as the film thickness and voltage increase so does the rate of dissolution. By the end of the anodizing cycle this effect can remove 3000 times more coating per unit

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IN THE NEWS

Association News

CPCA Appoints Interim President and CEO, Key Activities Remain as Normal

The Canadian Paint and Coatings Association (CPCA), based in Ottawa, the national voice of Canada's paint and coatings industry, has appointed Gary LeRoux Interim President and CEO.

LeRoux will succeed current CPCA President and CEO Jim Quick, who joined the Association in 2006. Quick resigned June 23, 2011.

“During his tenure as President and CEO, Mr. Quick has helped the CPCA improve its position as a proactive organization with forward-looking government relations, innovative issue management and effective coalition building,” said Pierre Dufresne, Chair, CPCA Board of Directors.

“Mr. LeRoux has worked closely with the CPCA for the past several years, and we are confident that he can move forward the critical CPCA files during the transition,” he continued. “Key CPCA activities will remain as normal during this time.”

The Canadian Paint and Coatings Association has represented major paint and coating-manufacturers, and industry suppliers, in Canada since 1913. The sector has annual sales

continued on page 4

New, patented Triple-Seal Snap Lock Closure produces an air tight seal that eliminates leaks and product contamination.

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Leading by example

I am trying not to be in a funk. Funerals are always called a “celebration of a person’s life,” but unfortunately we don’t feel like celebrating. Death can be depressing, but it doesn’t have to be. We are profoundly sad that they are gone, but incredibly happy to have had them in our lives. We lose significant people in our world, whether we knew them personally or not, people who were “giants” in their field, but in no way conducted themselves with sense of entitlement and were just good, no, great, down to earth family oriented people. Down to earth, yes, but yet dynamic and personable and incredibly good at what they do. They achieve success and those who know them stand in awe in their wake feeling better for having known them and worked with them, or even just known OF them. Within the paint and coatings industry we have lost two truly good men who founded successful companies and led by example.

Lloyd Verdun Lomas, the LV in IV Lomas left us in his 94th year. The company web site has a page dedicated to him where employees, family and friends can write down memories of Lloyd. Reading them, one can’t help but be impressed at the kind of man he was. Engaging and always interested in what you were working on. Asking you about your fam-

ily. The industry has also lost Frank Koch at the age of 77, the founder of DeFelsko Corporation. “He forged relationships based on handshakes and the strength of his character,” is one description of Frank. Tributes to both men are under “People” of our “In The News” section this issue.

NDP leader Jack Layton impressed the political world so much that even those who don’t vote for the New Democrats can’t help being impressed. They were looking forward to seeing him fight with Stephen Harper, but instead had to watch him fight a nasty illness. He received a state funeral, which is usually only reserved for heads of state. Just like Lomas and Koch, he was good at what he did and had a reputation of being a good guy.

On a personal note I lost a good friend this week who has similar attributes to the three people I have already mentioned and will soon be losing another. All we can do is celebrate the lives they led and know that our own lives are better for having known them.

Sandy Anderson
sandra.anderson@cfc.ca

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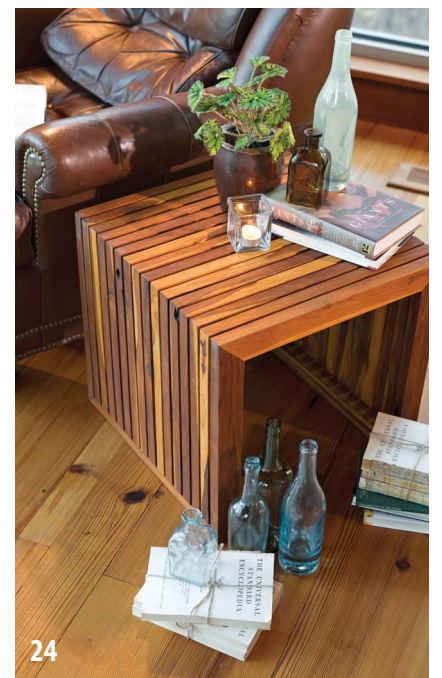
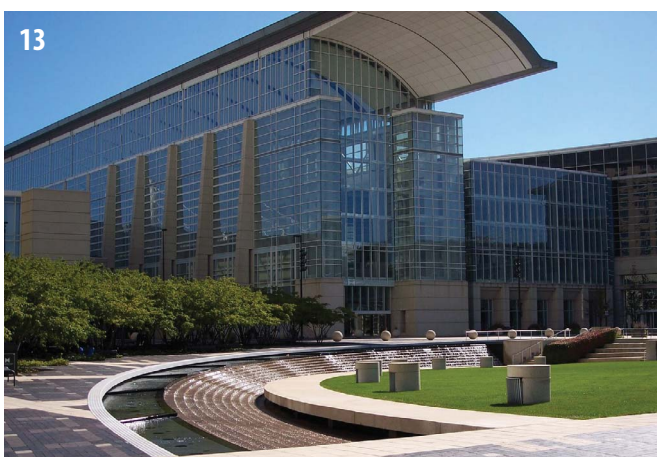
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of more than \$2 billion. More than 200 paint manufacturing establishments operate in Canada, employing more than 7,500 production and administrative employees.

Jim Quick leaves CPCA for AIAC

Jim Quick has left the presidency of the Canadian Paint and Coatings Association to join the



Aerospace Industry Association of Canada as its new president and CEO effective June 23, 2011.

He can be reached at:
E-mail: jim.quick@aiac.ca
Tel: 613-760-4552 (Direct)
Tel: 613-232-4297 x231 (General)

Tel: 613 614 2641 (Mobile)

Toscot/OPA Golf

The Ontario paint and coatings industry was on the links again this year as the TOSCOT/OPA Golf Tournament took place June 7, 2011, at the Glen Eagle Golf Club, Bolton, ON. The tournament was

TOSCOT Diploma In Coatings Technology Ready For On-Line Launch

By Dave Saucier

During 2006 the board of directors of the Toronto Society of Coatings Technology (TOSCOT) determined that the viability of continuing to offer the TOSCOT course on a "must attend classes" basis was not sustainable. An agreement was reached between TOSCOT and the titular owners of the diploma course content, ITE Consultants. TOSCOT purchased the copyrights and content of the program and continued to offer the course in Mississauga until 2010. Attendance for the last semester was significantly down due to plans to offer the diploma program online.

Concurrent to these decisions the membership in TOSCOT began to dwindle, the recession hit the coatings industry very hard, our board was reduced to three people and we licked our wounds from the losses we incurred for the 2009 technical symposium that was so poorly attended. Initial

losses were well over \$20,000.

Discussion with the Canadian Paint and Coatings Association (CPCA) began regarding the viability of merging to the CPCA where TOSCOT would become the education committee of the CPCA. Alternatively the Oil Colour Chemists Association (OCCO) made a presentation to provide TOSCOT members with the option of merging with them. OCCO was already on board with changing their diploma course to an online version and felt that both parties would benefit by joining forces. A Special General Meeting was held in October 2009 where a vote to merge with the CPCA was mandated.

At the same time the planning for the online course was beginning to take shape. The TOSCOT board consulted with and hired V-Zion Designs, who successfully created the "You Be The Chemist" program on behalf of the Canadian Association of Chemical Distributors. Many meetings were held and the concerns of the board were satisfied. The major concern was to ensure that the future participants would be required to complete the course with "closed-book" exams and written essays. The previous 700+ diploma recipients all had to complete a total of 6 "closed-book" exams, submit 3 essays and pass the course with a minimum of 70 per cent including a minimum attendance requirement.

To honour the previous 700 diploma recipients and to ensure the future "value" of the course we will use technology that places a time limit on each mid-term exam and locks the application so that no other PDF or other applications can be accessed while in exam mode.

The narration of each lesson is supported with graphics, videos and animations, especially when the course content is focused on cross-linking technologies, additives such as defoaming, pigment dispersions, manufacturing and application of coatings. The current video and animation technologies we are using permits future students to "see" what in the previous classroom setting could only be discussed. This is a significant advantage for the many students who do not have technical background.

Speaking about technical backgrounds, the online course is designed for the non-techie! The same Appendix and Glossary used in the original classroom "optional" sessions have been updated and will be offered as Lesson 2 of the first semester. You can skip it if you're confident you can answer all of the "closed-book" technical questions that will form part of the semester mid-term exam after lesson 6, go for it!

To find out more about the specific course

content please visit www.toscot.org and the course outline is available. We will continue to honour ITE Consultants who in their wisdom fulfilled a very specific void in the education and technical education for all involved in the coatings industry. We are maintaining the principle of providing a "basic training" diploma for chemists, lab technicians, technical sales and purchasing, production and application personnel. This is designed to provide the basics to all involved and can be further built upon as participants gain experience and specialize within the industry.

Semester 1 of the on-line course is scheduled to come on-line in early October 2011. We will be working very hard to produce semester 2 and 3 to complete all elements by year end.

Our discussions to merge with the CPCA are continuing and once they've hired a new president and completed their upcoming AGM in early October I'm confident that we'll finalize details to work together to ensure that the diploma course is spread around the world to fulfill the same void existing elsewhere which is the lack of a "basic training program".

We intentionally have decided that the diploma course was NOT the means to introduce or keep pace with current and future technology. We will continue to add content when new technology moves from the innovative stage to become mainstream. There is no way we could keep pace or provide a competitive product to industry. We will stick to what works and where there is need, at the basic training level. However, having said that, one of the interesting features we have build into the student portal is a social networking capability that will permit discussion forums, feedback, ask a question, link to Linked In profiles, etc. We are providing a very contemporary product. Even the narrator refers to Wikipedia in some lessons.

We're very excited, the product is first class and we can't wait to hit the GO button for full semester 1 launch. We're especially proud of the student user interface, which is current and pertinent. We will price each semester at an introductory offer of C\$399 with online registration and payment options available.

For those previous 700 diploma holders, we kept you in mind so that we wouldn't devalue the diploma, and for the next 1,000 who will earn their diploma, we've kept you in mind as well with a contemporary online site and tools befitting current generations and delivery methods.

If you would like more information on the course please contact Dave Saucier by email at dave@cacd.ca or by phone at 905-631-1962.

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The TOSCOT Diploma - Distance Education program encourages coatings technology excellence and allows you to study at your convenience through an online, interactive and resourceful learning centre. For course details or to register for the first of three semesters, visit:

www.toscot.org

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attended by Toronto Society of Coatings Technology (TOSCOT) and Ontario Paint Association (OPA) members, their guests, customers, suppliers, dealers and friends. The tourney was a 1:00 pm shotgun start with dinner following at 6:30.

A great time was had by all.

CCAI's FINISHING Technologies Conference Program at FABTECH 2011

There is more than 50 hours of industrial finishing conference programming available when CCAI hosts the FINISHING Technologies conference during FABTECH from Nov. 14 - 17 in Chicago, IL.

CCAI's FINISHING conference includes everything from the "Basics of Industrial Finishing" to "Structured Troubleshooting" to "Turning Your Finishing System Green" to "Energy Savings for Finishing."

CCAI's FINISHING Technologies Pavilion at FABTECH has an impressive line-up of companies providing products and services to the industrial finishing market. With 113 exhibitors currently in the FINISHING Technologies Pavilion, FABTECH anticipates 130-140 exhibitors by the time the show opens.

www.FABTECHexpo.com

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Lifetime Achievement Award Acceptance: John Cole, Dennis McCardle, holding award, Pam McCardle & Jim Malloy graciously accepted the CCAI 2011 Lifetime Achievement Award in honor of Tom McCardle of Kolene.



Chapter Award Winners: CCAI President, Sherrill Stoenner, left, congratulates Bob Kelly, Parker Ionics; Joe Laubenthal, Wagner Industrial Solutions and Les Williams, Nu-Way Industries on receiving their Chapter award.

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CCAI Installs 2011 – 2012 Officers and Board; Announces Award Winners

The Chemical Coaters Association International honored members for service and dedication and installed its 2011 – 2012 Officers and National Board members during their 2011 Annual Meeting held in Welches, OR in mid-June.

During its Annual Awards luncheon, CCAI announced Tom McCardle as the first posthumous winner of its highest honor, The James F. Wright Lifetime Achievement award.

In addition to the Lifetime Achievement Award, CCAI also honored its Chapter User and Supplier of the Year members. Chapters recognize a User and Supplier member for their year-long service and dedication to their respective Chapter. www.ccaiwab.com.

Company News

ANM Industries Receives CAMSC Certification

ANM Industries (2005) Inc. in Windsor, ON, received certification earlier this year under the Canadian Aboriginal and Minority Supplier

Council (CAMSC).

"This is a great honour and opportunity for us to be a member of this organization," says ANM's Patrick Denomme, "This will also benefit our current and future clients."

CAMSC delivers programs and processes to promote and facilitate procurement opportunities between major corporations in Canada and suppliers of all sizes owned and operated by Canadian Aboriginals and Minorities.

The organization aims to boost economic development efforts and employment. The council is seeking to engage with like minded corporations from across the country.

Certification as an aboriginal or Minority Business Enterprise is primarily about increasing your access to procurement opportunities with multinational corporations, in Canada and the United States.

Certification verifies that your business is majority-owned (51 per cent) and controlled by an aboriginal or minority. This is crucial to multinational corporations who need to demonstrate and measure diversity in the contracts they award to businesses.

Certification is considered an important marketing tool for expanding a company's visibility among decision makers in corporate supply chain procurement.

While you must still be competitive in price, quality and service, CAMSC certification differentiates a business and ensure access to contract bidding opportunities that until now have been difficult to identify.

You will also be able to develop business-to-business trading opportunities as well as the creation of partnerships to enhance bidding capacity.

In order to be certified, the applicant's business must be physically located in and operate in Canada, as well as a for-profit enterprise, a Canadian citizen and the business may be of any size.

The applicant must be able to operate as a supplier of products or services to other businesses; and the applicant's business must be owned and controlled by visible minorities or Aboriginal peoples.

"ANM is looking forward to a continued and prosperous working relationship," says Denomme.

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New green recycling plant promises a cleaner second life for plastics

Millions of kilos of used plastics, including foam cushion packaging and soiled food containers, may soon be a thing of the past in Ontario landfills, thanks to a new recycling company being launched in Mississauga.

Switchable Solutions Inc. is building its first plastics recycling plant in Mississauga, which will be capable of recycling approximately two million Kgs per year of post-consumer plastic materials. Switchable Solutions is a clean technology company that is promising to revolutionize plastics recycling in North America, as well as oil sands processing in Canada.

The new plant will be located at Fielding Chemical Technologies Inc., a founding partner of Switchable Solutions and a leading Canadian greentech company.

Switchable Solutions' proprietary technology involves a green solvent-based system developed at Queen's University by Dr. Philip Jessop, one of the world's leading green chemistry researchers. Its unique technology does not require energy-intensive distillation, which is typically required by conventional solvent systems. Offering an efficient, economical and environmentally friendly approach to plastic recycling and oil sands processing, Switchable Solutions has generated considerable buzz within industry, so much so that it has attracted the support of leading greentech players.

"Our company was launched in April, and already we have powerful slate of industry partners," says Mark Badger, President and CEO of Switchable Solutions. "We're currently in discussions with other potential strategic partners, which are capable of helping us accelerate our plans."

"While the company's inaugural focus is on plastics recycling, another initial target is oil sands processing, and interest from the oil patch is growing, as a result of our technology's potential to increase recovery and enhance productivity in a very green way," Badger adds. "Industry can see the potential for this technology to have profound economic and environmental impacts."

In addition to Fielding Chemical, founding partners of Switchable Solutions are NexCycle Plastics Canada Inc., GreenCentre Canada and Stewardship Ontario. The quartet of companies will assist SSI bringing its breakthrough green solvent technology to market.

"These partners provide us with a solid foundation of expertise to rapidly commercialize this technology, says Badger. "They have the resources and the expertise to help us grow."

GreenCentre Canada extensively developed and tested the company's technology over the past two years, which provided the company with strong momentum out of the gate, Badger notes. "The timely and strategic assistance of our partners puts us on track to quickly deliver significant economic and environmental benefits."

www.switchablesolutions.com

www.fieldchem.com

www.greencentrecanada.com

www.npiplastic.com/

www.stewardshipontario.ca

Canadian Retailer Launches Program for Unused Paint

RONA Inc., a Canadian distributor and retailer of hardware, renovation and gardening products, with headquarters in Quebec, is launching its in-

store paint recovery program in the Canadian provinces of British Columbia, Alberta and Saskatchewan.

Consumers can now drop off cans of any brand of old or unused paint at any RONA or TOTEM Building Supplies store, no purchase necessary. By promoting the recovery of paint products, RONA provides consumers with an easy, convenient and economical way to do their part in protecting the environment.

RONA has been a Canadian pioneer in paint recovery from the start with the introduction of its recovery and recycling program 14 years ago in Quebec, followed by Ontario in 2008. Since its inception, RONA has saved more than 15 million kilograms of leftover paint and paint cans from ending up in landfills. From this, nearly 100 percent of the recovered paint has been recycled, producing 9.3 million kilograms of paint - equivalent to 4.9 million gallons.

The introduction of the program in the three western provinces is a significant new contribution to paint recovery and recycling efforts in Canada and will result in a total of nearly 500 RONA paint collection points across the country.

In-store promotions will continue to remind RONA and TOTEM Building Supplies customers to help keep unused paint out of landfills and waterways by participating in the recovery program.

All types of home paint - latex, alkyd and stains - are accepted under RONA's recovery and recycling program. The program does not include plastic paint, car paint, industrial paint, aluminum paint, road sign paint, granular dye, surface conditioners, varnish, solvents, tar, adhesives or preservative. A detailed list of the specific products that are accepted is available at ronaeco.ca. RONA participates in paint recovery and recycling in partnership with industry-funded organizations, including the Product Care Association (PCA). The PCA manages product stewardship programs for household hazardous and special waste on behalf of its members across Canada.

Horizon Chemicals Moved

Horizon Chemicals has moved to:

3686-156A St.

Surrey, BC, V3S 0L4

Tel: 604-536-1131

Fax: 604-536-1139

Eastman Announces Expanded Offerings with ChemPoint.com

Eastman Chemical Company has extended its relationship with ChemPoint.com, a leading online distributor of fine and specialty chemicals. Eastman has begun a phased migration of Eastman AQ and Eastek water-dispersible sulfopolyester products to ChemPoint in North America with an expected completion in October 2011. ChemPoint will actively market and offer sales and customer service for these products to customers in the U.S. and Canada.

Water-dispersible sulfopolyesters are multi-functional film forming polymers that deliver value in formulated adhesives, coatings, graphic arts, textiles and personal care. Upon migration of the product line, ChemPoint will manage the order and fulfillment process for Eastman's water-dispersible sulfopolyesters in North America.

www.chempoint.com

Ashland Completes Acquisition

Ashland Inc. completed the acquisition of International Specialty Products Inc. (ISP), a manufacturer of specialty chemicals and biocidal materials used

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IN THE NEWS

in paint, coatings and other products.

The company said the \$3.2 billion, all-cash transaction will expand its product lines in high-growth markets.

Privately held ISP, based in Wayne, NJ, is a global supplier of specialty chemicals for consumer and industrial markets, including water-soluble polymers and other advanced technologies.

Ashland's product mix includes materials for

the food and beverage, energy, coatings, adhesives, and water-treatment markets.

ISP will be integrated into the Ashland Aqualon Functional Ingredients commercial unit, more than doubling the size of Ashland's highest-margin business, now to be called, Ashland Specialty Ingredients.

AkzoNobel Acquired Zeta Fraction

AkzoNobel announced an agreement to acquire

the patented Zeta Fraction plant-based chemistry technology from Integrated Botanical Technologies, a move AkzoNobel says will boost its sustainable-technology portfolio.

The technology will be integrated into its Personal Care business, but the company feels it has potential for application development across various product platforms, including coatings.

AkzoNobel says the plant-based chemistry developed by New York-based Integrated Botanical Technologies makes it possible to harvest and separate constituent parts of a living cell from any plant or marine source without the use of solvents. Integrated Botanical Technologies has worked with AkzoNobel's Personal Care business (part of AkzoNobel Surface Chemistry) for the last five years, and several new products have been developed that are currently being used in various personal-care formulations.

Arkema Forms New Coatings Business Unit

Arkema has combined the assets of its existing Arkema Emulsion Systems with those recently acquired from TOTAL to form Arkema Coating Resins. With more than 20 coating production facilities, six dedicated R&D labs and multiple sales and management offices, Arkema Coating Resins is now one of the largest producers of raw materials for coating formulators in the world.

The new business offers chemistries for almost every coating and related industry application, including architectural paints, industrial finishes, powder coatings, construction products, traffic paints, sealants, adhesives, inks and graphic arts products.

The new business offers many different product lines, including water and solvent based alkyds, polyester resins, powder coating resins, high solid acrylic polyols, additives and one of the industry's widest range of waterborne emulsions, including 100 per cent acrylic, styrene acrylic, vinyl acrylic, ethylene modified polymers and many others. Additionally, Arkema Coating Resins will be part of a family of Arkema businesses that serve the coatings industry with a comprehensive range of products. This includes products from other business units within Arkema, such as COATEX rheology modifiers, Acrylic Monomers, KYNAR fluo-

ropolymers and Sartomer photocure resins.

Arkema finalized the acquisition of coatings assets from TOTAL on July 1, 2011. www.arkema-coatingresins.com.

Graco Says FTC Wants More Information on Plan to Acquire ITW's Finishing Businesses

Graco Inc. reported that it has received a request for additional information from the Federal Trade Commission in connection with its proposed acquisition of the finishing businesses of Illinois Tool Works Inc. (ITW).

The company said it plans to continue to cooperate with the FTC to obtain clearance of the acquisition "as promptly as possible." The FTC request for additional information is commonly referred to as a "second request," and follows Graco's original filing of required notification of the proposed acquisition under the Hart-Scott-Rodino Antitrust Improvement Act of 1976.

In April Graco announced an agreement to acquire the operations of ITW's finishing businesses in a \$650 million cash transaction. The ITW finishing businesses constitute a lineup of highly recognizable brands in the finishing and painting trades, including Binks, Gema, DeVilbiss, and Ransburg. The finishing businesses include global manufacturers and distributors of equipment for architectural painting, industrial liquid finishing, powder coating, and automotive refinishing.

OMNOVA Solutions Expands Manufacturing Of Pliotec Coating Resins

OMNOVA Solutions announces expanded manufacturing capability for its Pliotec water-based acrylic coating resins to include three locations in the USA. The expansion is part of the integration of ELIOKEM – acquired in December 2010 – into OMNOVA's Performance Chemicals business unit. In addition to existing manufacturing at the former ELIOKEM site in Akron, Ohio, Pliotec resins will be produced at OMNOVA's facilities in Chester, South Carolina and Fitchburg, Massachusetts.

Pliotec 7104 and Pliotec PA05 resins will be available immediately from OMNOVA's Chester, South Carolina facility. Other Pliotec products will be qualified and manufactured at Chester and the Fitchburg, Massachusetts site over time. [at www.omnova.com](http://www.omnova.com).

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Industry News

GM will invest \$117M in Oshawa plant to build new Cadillac

General Motors says it will invest \$117 million to prepare its assembly plant in Oshawa, ON, to build the new Cadillac XTS.

The automaker says the move will create or save 400 jobs on the company's flexible assembly line in Oshawa.

The Oshawa assembly plant has had major changes in the last year, with new vehicle models and expanded production that has added two new shifts and 1,300 jobs.

The Oshawa plant builds several GM models and employs more than 4,500 people.

High Above BC Place, Safety is Certified's Mission

The new retractable roof at BC Place is a one-of-a-kind project with some one-of-a-kind challenges. For Certified Coating Specialists Inc. it was yet

Dempsey Coating Seminars Another Success

Dempsey Corporation held a series of seminars across Canada this past June having their suppliers outline highlights of their newest products to customers. Following the Toronto seminar, Dempsey also held them in Montreal, Winnipeg and Vancouver.

One of the door prizes given away at the seminars was a Mac iPad. In Toronto it was won by Ulrich Kamp, Ph.D., Research Scientist, Opalux Inc., Toronto, ON.

Silberline's seminar was about Special Effect Pigments. BASF representatives talked about Water Based Metal Coating and 2K Polyurethane coating as well as Photo-Initiators and Water Based Concrete Coatings. BYK seminars dealt with Wetting and Dispersing Additives, Surface and Rheology Additives and Defoamers. Halox introduced new products in the areas of Hybrid Corrosion Inhibitors and Rust Converters.

Dempsey talked about Qualix SV-101, its own brand of Stain vehicle with the properties of a high Tg acrylic resin and oil emulsion.

Organizers were very pleased with the turn out to this annual event.



A great attendance.



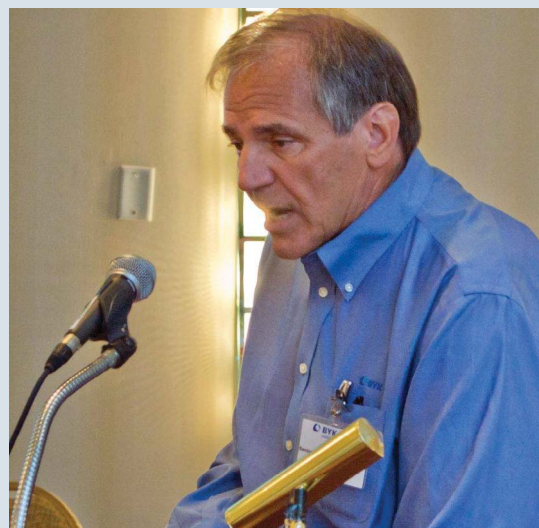
Alex Vignini and John Du from BYK make their presentation.



The Dempsey Coatings Seminar Toronto group pose by their registration desk: Eric Greason, Dempsey account manager Toronto; Marc Gagnon, Dempsey technical manager; Frank Dempsey, Dempsey account manager Toronto; Oliver Dixon, Dempsey account manager Toronto; Martin Groen in 't Woud, Dempsey general sales manager and Kera Pesall, Dempsey Sales Coordinator.



Dempsey's Marc Gagnon and BASF's Mike Praw have a discussion during the break.



Richard Laskodi from BYK talks about Rheology Additives.

another chance to solidify their reputation as the 'Navy Seals' of the coating industry – the company to call when a coating job looks nearly impossible. This time around, the Certified crew put their high angle rope skills on display, climbing the 14 story tall masts around the perimeter of the stadium, applying the final layer of the special coating protecting the steel from the elements.

After the masts, and the accompanying struts and stays are put in place, the advanced, long-lasting coating used on the steel needs to be re-applied wherever it has been welded, scuffed, chipped or otherwise compromised during construction. It's a difficult, detail-oriented job that's also physically demanding for the coating specialists, who must climb into position before they can apply the special two-stage coating repair system. Certified's extensive experience with similar projects, applying advanced coatings to smokestacks, bridges, and other tall structures, made the company a natural choice for this contract.

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Green Chemistry Predicted to Reach \$98.5 Billion

According to a new report from Pike Research, the market for green chemistry represents an opportunity that will grow from \$2.8 billion in 2011 to \$98.5 billion by 2020. Pike Research's report, "Green Chemistry," examines the three major segments of the green chemical market: waste minimization in the chemical production process, replacement of existing products with less toxic alternatives and a shift to renewable (non-petroleum) feedstocks. Representative companies from each segment are profiled and global forecasts, segmented by world region, extend through 2020.

Pike Research anticipates dramatic growth rates for green chemicals during the coming decade, these emerging markets represent a drop in the bucket compared to the \$4 trillion global chemical industry. By 2020, the firm expects that the total chemical industry will expand to \$5.3 trillion in annual revenues.

Pike Research forecasts that green alternatives in the polymer sector will represent the highest penetration level (5.7 per cent) within the total chemical market, as it is somewhat more developed than the other key sectors. The special, fine and commodity chemical sectors are more nascent and will enjoy somewhat lower penetration rates during the forecast period. An Executive Summary of the report is available for free download on the firm's Web site.

Pike Research is a market research and consulting firm that provides in-depth analysis of

global clean technology markets. www.pikeresearch.com.

Updated Study of Pigments Market Now Available

Ceresana Research has released a newly updated, in-depth study on the global pigments market.

Ceresana Research expects that pigment revenues will increase to more than \$45 billion by 2018. In 2010, the Asia-Pacific region was responsible for 45 per cent of the global demand for pigments. The second-largest market was North America, followed by Western Europe. Ceresana anticipates that the Asia-Pacific region will continue to significantly influence market dynamics in the future. The rapidly developing emerging markets have the greatest growth potential, above all China and India. Moreover, South America and the Middle East register above-average growth rates of 3.6 percent to 4.4 percent.

Iron oxides and organic pigments record the highest growth rates in North America and Western Europe. In emerging markets, the demand for carbon black pigments is especially increasing. Ceresana expects that titanium dioxide will have a share of somewhat more than 60 per cent of the global pigment market in 2018.

Pigments have always been used primarily as colorants. However, secondary properties are gaining importance, for example protection from UV rays or corrosion prevention. Product innovations primarily aim at organic, effect and special pigments. The focus is on higher color intensity, color

variety and additional properties, such as self-cleaning and antibacterial characteristics, insulating properties, or the reflection of infrared light. Organic pigments do only have a small market share in volume, but they benefit from above-average growth in the demand from producers of printing inks, plastics and textiles.

www.ceresana.com/en/market-studies/additives/pigments-new/.

People

Lloyd Verdun Lomas



Lloyd Verdun Lomas

Founder of L.V. Lomas Ltd., Lloyd Verdun Lomas died peacefully at his home in Muskoka, ON, on Wednesday, August 17, 2011, in his 94th year.

"We will all miss his animated and vibrant personality and his friendly interactions with everyone he met," states the company web site.

"Lloyd's wisdom, stature and character will be sorely missed by his wife, family and all Lomas staff. Lloyd's passing comes as a great loss, yet generates very fond memories and experiences that we've shared with him and the Lomas Family since his creation of L.V. Lomas Ltd. over 51 years ago."

In various memories posted on the site Lloyd is described as:

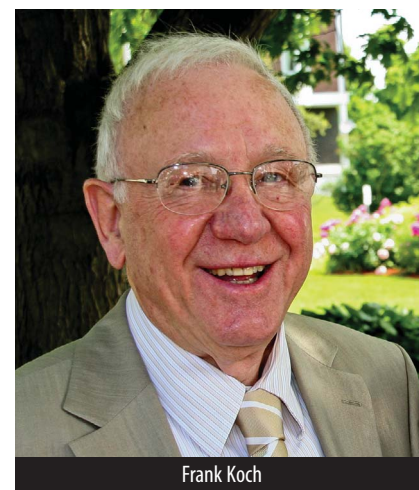
- "living, loving, learning, and leaving a great legacy,"
- "always presenting the image of elegance and class,"
- "a wonderful and generous man,"
- "always going out of his way to talk to the employees, asking them about their family"
- and "a revolutionary leader."

Beloved husband of Jean Patricia Lomas (nee MacDowall) for 67 years. Dear father of Rand (Lynda) Lomas and Marlene Kelland. Loving grandfather of Jessica, Matthew, Sarah, Chris and

Jayne. Great-grandfather of Hayden, Tyler and Mackenzie. Brother of the late Alan, Grant and Norman Lomas. Best pal to his dog Jody.

His published obituary reads: "Lloyd was an extraordinary man in many ways. Entrepreneurial, hard-working, dedicated, humble, trusting, honest and honourable - Lloyd was a man of his word. He blessed us all with his remarkable sense of humour and love of nature. . . Lloyd built a business and he always treated everyone with respect along the way, encouraging us all to succeed and have fun. We have great memories of him and he will be missed." A private family service was held at the family home in Muskoka. Expressions of sympathy were made to the Nature Conservancy. Arrangements were entrusted to the Reynolds Funeral Home Turner Chapel in Bracebridge. Messages of condolence may be left at www.reynolds-funeral.com

Frank Koch, 1934 – 2011: Inspection Instrument Pioneer



Frank Koch

Frank Koch, President and founder of DeFelsko Corporation died peacefully in hospital on August 8, 2011 at the age of 77 with his loved ones by his side.

Born and raised in Germany, Frank was formally trained as a tool and die maker before emigrating in 1956. In the 1960s, Frank's entrepreneurial spirit led him to Ogdensburg, New York where he started several successful businesses including DeFelsko Corporation.

It was his involvement with coating thickness

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and test instruments that most defined his career. Frank began importing and selling inspection instruments from Germany in the early 1960s and soon moved into manufacturing beginning with the PosiTest mechanical pull-off gage and continuing with the ever-expanding PosiTector series of inspection instruments.

Frank's extraordinary combination of a bright mind, outgoing personality, dedication and tireless work ethic influenced the products he made and the business relationships he developed. He traveled the world developing a network of dealers. He forged relationships based on handshakes and on the strength of his character. He attributed much of his success to his loyal customers and dealers across the globe.

His ability to understand the needs of the inspection community and to make instruments that were rugged and easy to use set Frank apart from his peers. Under his leadership, DeFelsko pioneered many technologies including hand-held ultrasonic coating thickness gages, auto switching ferrous/non-ferrous coating thickness gages, and unique self-aligning adhesion testers.

Through his vision and the team he inspired, his company evolved from a 1-man operation to a world leader in the design and production of quality, hand-held test equipment. Today, the company he started employs over 50 people at their facility in Ogdensburg, New York and houses research, manufacturing, sales, shipping and service departments.

Frank's son-in-law, David Beamish has assumed the responsibilities as President of the company. Frank's daughter (and David's wife), Linda Koch Beamish retains her role as Vice President. Both David and Linda had the privilege of working with Frank for almost 25 years and together with the entire DeFelsko family are committed to carrying his legacy forward.

BYK-Gardner USA Increased Staff by Nine



Sam Cauchi



Sheila White

BYK-Gardner worldwide partner of the automotive, paint and plastic industries for quality control of color, appearance and physical properties increases staff.

Sam Cauchi, Sales Manager for Canada, is responsible for covering all of Canada. Cauchi has a degree in Physics, a Master's in Electrical Engineering (optics/ nanotechnology), and many publications and conference proceedings in the fields of corrosion monitoring, pipeline integrity, fiber optics and nanotechnology. He has five years of hands-on R&D experience and five years of industrial sales experience.

Sheila White, the new Customer Care Center Manager for North America, graduated from the

University of South Florida with both a B.A. in Music and an M.B.A. in Marketing/Sales/Finance.

Mary Llewellyn of the Customer Care Center will be responsible for Canada, all of its provinces and territories and will be working with Sam Cauchi. Before coming to BYK-Gardner, Llewellyn owned her own business for 7 years.

Enthone Appoints Richard Lynch Industry Manager, Automotive Functional Systems- Americas



Richard Lynch

Richard Lynch has been appointed Industry Manager, Automotive Functional Systems - Americas by Enthone Inc., a business of Cookson Electronics. He is responsible for marketing Enthone's wear and corrosion resistant coatings for a variety of automotive related items including fasteners, brake calipers, suspension systems, drive train and engine components. The addition of Lynch to the Enthone Americas Marketing Team continues Enthone's emphasis on market segments and related OEMs.

Lynch has been involved with the metal finishing industry for more than 20 years.

Bayer MaterialScience LLC welcomes Steven Sternberger to Coatings, Adhesives and Specialties team

Bayer MaterialScience LLC has appointed Steven Sternberger industrial marketing manager for coatings in the Coatings, Adhesives and Specialties (CAS) business unit.

In this role, Sternberger leads the CAS team's efforts to meet evolving coatings requirements for industrial, construction, automotive, corrosion protection and specialty customers.

Pricing Updates

BASF Announces Price Increase in North America

BASF has increased prices for Elastollan TPU products in North America.

Elastollan polyester grades were increased by \$.10 per pound and Elastollan polyether grades by \$.24 per pound.

ISP to Increase Prices on Biocides Containing IPBC

International Specialty Products Inc. (ISP) increased prices globally for all biocides containing 3-iodo-propynyl-butylcarbamate (IPBC) by a minimum of 10 per cent effective August 1, 2011, or as contracts allow. This increase is in addition to any previously announced biocide price increases. Continuing upward escalation on raw materials, especially iodine, along with increasing regulatory,

compliance and transportation costs have necessitated this action.

ISP also increased global prices for polymers, vinyl monomers, emollients, emulsifiers, preservatives and encapsulates 10 per cent effective August 1, 2011, or as contracts allow.

This increase applies to products sold into the personal care, pharmaceutical, oral care, beverage, performance chemicals and agricultural markets. This price increase is in addition to the 10 per cent increases previously announced effective February 1, 2011 and June 1, 2011. The company says this additional price increase is necessary due to continued material cost escalation.

ISP states that as a responsible supplier in this industry, it has made considerable investments to meet capacity, service, quality and regulatory demands and now must increase prices in order to maintain this high level of support.

OMNOVA Solutions Announces North American Price Increase for Selected Coating Resins

OMNOVA Solutions increased prices in North America \$.05 to .08 lb for Pliotec acrylic and styrene acrylic resins, depending on the grade, and 2 per cent for Pliolite, Hydro Pliolite and Plioway acrylic copolymer dry resins. The increase was effective on June 20, 2011, or as contracts allow, and the company says it is necessary to offset the rise in the cost of raw materials which are used in the production of these products.

Huber Engineered Materials Announces Global Price Increase For Precipitated Silicas And Silicates

Huber Engineered Materials, a division of the J.M. Huber Corporation, today announced a global price increase for its precipitated silicas and silicates. The increase is effective beginning Sept. 1, 2011, or as current contracts allow. Prices will increase up to eight per cent.

The company says the increase has become necessary due to increasing costs in raw materials, energy, freight, labor and manufacturing.

Troy Announces Price Increase for Performance Additives

Troy Corporation announced global price increases for various performance additives of two per cent to 30 per cent, effective July 1, 2011, or as contracts allow. The products affected are Troykyl defoamers/anti-foam additives, Troysperse dispersants, Troysol flow & leveling and substrate wetting additives, and Troythix rheology modifiers.

Continued large increases in costs for key raw materials, including petroleum-derived products, mineral oils, TOFA (tall oil fatty acid), amines, and solvents, as well as escalation of energy and transportation costs, make this price adjustment necessary. The company must implement the price adjustment in order to maintain its high level of service, supply, and technical support. Troy can no longer absorb these rising costs.

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The Quantum Leap is Complete

Quantum Chemical, a coatings manufacturer based in Alberta held a Grand Opening complete with a ribbon cutting ceremony at their new facility located in St. Albert, AB, June 17, 2011.

The all day event included a Strategic Alliance Announcement, Burn Demonstration, Spraying and Testing Demos, BBQ, Q & A, Facility Tours, Refreshments, Entertainment and Draws.

The company moved from Edmonton to St Albert to a much larger facility.

It offers a tastefully-decorated and welcoming reception area, modern research and development lab with advanced product testing capabilities for custom formulation and product integrity; expanded manufacturing area to successfully meet production schedules; separate staging, packaging, shipping and receiving for timely delivery of orders; large finished goods area; client seminar/conference/training room and spray booth for applicator training as well as timely product samples.



Quantum/Dupont Alliance

The ribbon cutting was followed by an important strategic business alliance announcement made by Rich Sobkovich of Dupont Canada. Dupont will now carry the Quantum Precidium Rail Floor System in Canada, with future plans to expand into the international market. Approximately 100 attendees to Quantum's Grand Opening also appreciated a great barbecue, opportunity to network, and some excellent practical and enjoyable giveaways.



Precidium Transit Floor Tours

Tours of a bus recently completed with the Precidium Floor System for the City of St. Albert were available to illustrate the many features and benefits of the Precidium Floor. This zero VOC spray-applied system is seamless, providing additional protection to the substrate. The surface has the perfect mix of slip resistance and cleanability. Along with popular designs, customizable options for colors, textures, or safety markings are available for transit authorities.



SafeCoat Burn Demo

A burn demonstration of the Quantum SafeCoat Intumescent Fire Retardant Paint turned up the heat at the Grand Opening. New code requirements designed to increase response times on new residential construction was the impetus for this demo where two structures were burned - one coated with SafeCoat Latex and one uncoated. Though some aspects of the demo the close proximity of the structures and open side, the increase in response time provided by a protective coat of SafeCoat Latex was apparent. Alberta building code in Edmonton and area now requires products to achieve a 15-minute fire resistance rating as tested to the CAN/ULC S-101 on exterior residential side walls. Calgary and area fire code requires a Class A Flame Spread as tested to the CAN/ULC S-102 on interior side walls. SafeCoat Latex satisfies both code requirements for new construction. Quantum is no stranger to fire protection, providing listed fire protective coatings for industrial, commercial and residential applications for over 20 years.

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Calendar of Industry Events 2011

October 1-4: Canadian Paint and Coating Association (CPCA) Industry Conference 2011 in Niagara Falls, ON.
www.cdnpaint.org

October 4-5: uv.eb EAST 2011 presented by RadTech, Sheraton Hotel, Syracuse, NY.
www.uvebeast.com

October 4-6: NAI The North American Industrial Coating Show, Duke Energy Convention Center, 525 Elm Street, Cincinnati, OH.
www.thenaicoatingshow.com

October 4-6: AAC 2011 Anodizing Conference and Show, Tempe, Arizona
www.anodizing.org

October 27-29: WMS Woodworking Machine and Supply Expo, Direct Energy Centre, Toronto, Ontario.
www.woodworkingexpo.ca

November 14-16: FINISHING TECHNOLOGIES Pavilion and Conference at FABTECH Chicago II.
www.ccaiiweb.com

Calendar of Industry Events 2012

March 20-22, 2012: FABTECH Canada, Toronto, ON. www.sme.org

April 30- May 2, 2012: Radtech Chicago IL. www.radtech.org

May 7-9, 2012: American Coatings CONFERENCE, Indianapolis, IN, USA.
www.american-coatings-show.com

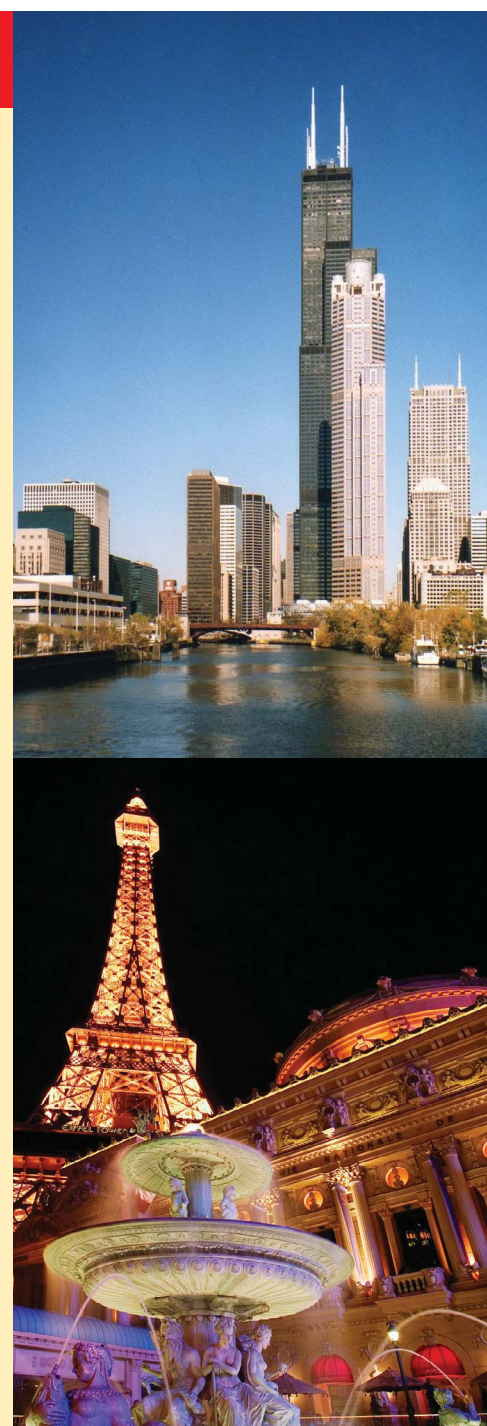
May 8-10, 2012: American Coatings SHOW, Indianapolis, IN, USA.
www.american-coatings-show.com

May 14-16, 2012: Montreal Manufacturing Technology Show, Montreal, QC. www.sme.org

June 11-13, 2012: SURFIN Las Vegas NV. www.nasf.org

October 9-11, 2012: NAI Show, St. Louis, MO. www.thenaicoatingsshow.com

November 12-14, 2012: FABTECH, Las Vegas, NV. www.sme.org



The NAI Coating Show: From Liquid to Powder – We've Got You Covered!

Following the success of NAI 2010, NACE International and the Powder Coating Institute (PCI) is hosting The 2011 North American Industrial Coating Show, October 4-6 in Cincinnati, Ohio. This year's conference and exhibition is poised to be the largest event in North America dedicated exclusively to liquid and powder coating technologies.

Technical presentations will be delivered by key representatives from the liquid and powder coating industry. Session topics include the prevention and reduction of coating failures, coating application methods, and business/marketing strategies.

An audience of 1,800+ consisting of engineers, asset managers, coating contractors and applicators, quality control managers, and technical directors is expected.

Coatings Career Zone, will feature companies recruiting new employees as well as job listings/projects in the industrial coatings market.

EVENT LOCATION

Duke Energy Convention Center

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SHOW DATES & HOURS

Technical Conference:

Tuesday, October 4: 1:00 PM - 5:00 PM

Wednesday, October 5: 8:00 AM - 11:00 AM;

1:00 PM - 3:00 PM

Thursday, October 6: 8:00 AM - 11:00 AM;

1:00 PM - 3:00 PM

Exhibition:

Tuesday, October 4: 5:00 PM - 7:00 PM

(Grand Opening Reception on Exhibit Floor)

Wednesday, October 5: 11:00 AM - 5:00 PM

Thursday, October 6: 11:00 AM - 5:00 PM

www.thenaicoatingshow.com

The 2011 NAI Coating Show Exhibitor List

as of September 5, 2011.

Exhibitor	Booth No.
A&B Deburring Company	1218
ACT Test Panels	532
AkzoNobel Inc.	517
Alabama Washer & Oven	816
Argon Masking Corp.	828
Assured Testing Services	1224
Beckman Coulter, Inc.	413
Belzona	1235
Bulk Chemicals	412
C.A. Picard	1119
Calvary Industries	311
Caplugs	510
Carboline Co.	1121
Carpenter Chemicals, LC	1111
CAS-MI Laboratories	1220
Castrol Industrial North America, Inc.	734
Chemetall	831
Cincinnati Industrial Machinery	1025
CFCM Magazine	1212
Clean Air Filters	1211
CoatingsPro	931
Col-Met Spray Booths	1017
Colonial Surface Solutions, Inc.	936
Cordstrap	733
Coventya, Inc.	221
Coral Chemical Company	710
Datapaq	310
Decoral System USA Corp	930
DeFelsko	511
Diamond Vogel	224
DSM Coating Resins	332
DuBois Chemicals	333
DuPont Coating Solutions	817
Echo Engineering	633
Elcometer	217
Electrocoat Association	634
Electro-Steam Generator	211

EMS-Griltech	336	HERR Industrial, Inc.	1130
EPSI Company	1019	HIT Solutions	1011
Erie Powder Coatings	1117	Hyperion Catalysis International	833
Evonik Degussa Corp.	233	Intech Services	820
Fischer Technology	811	IntelliFinishing	825
Fostoria Process Equipment	210	ITW Finishing Equipment Americas	917
Galaxy Associates	826	Jervis B. Webb Company	613
Gema	416	K.P. McNamara Co., Inc.	226
General Fabrication Corporation	1118	KMI Systems	533
George Koch Sons	1110	KTA-Tator Inc.	114
Global Finishing Solutions	719	Lubrizol	230
Graco Inc.	937	Madison Chemical	1129
Henkel Corporation	911	Metal Finishing	830

Midwest Finishing Systems, Inc.	725
Mighty Hook	210
Nation Coating Systems	220
Nilex Construction Inc.	1216
Nordson Corporation	525
Photofusion Inc.	611
Pollution Control Products	910
Porcelain Enamel Institute	632
Powder Coated Tough	931
The Powder Coating Research Group	410
Precision Quincy	912
Pretreatment Equipment Mfg.	1131
Rudd Company, Inc.	411
School of Polymers & High Performance Materials	818
Shercon	216
The Sherwin-Williams Company	727
Sponge-Jet, Inc.	312
Spray Equipment & Service Center	1027
T&S Enterprises	
Tank Industry Consultants	213
TDC Filter	721
Thomas Industrial Coatings	731
Tinker & Rasor	717
Transmet Corporation	433
Tri-Mer Corp.	1116
Unconventional Solutions, Inc.	1210
Uni-Spray Systems, Inc.	832
Vitracoat	925
Wagner Systems	711



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- Audience of 1,800+ engineers, asset managers, coating contractors and applicators, quality control managers, and technical directors
- New Technical Help Zone features round table discussions with industry experts to explore attendees' topical questions and issues.

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FABTECH 2011 Expected to be The Largest Ever

With months to go before North America's largest metal forming, fabricating, welding and finishing event opens its doors, FABTECH 2011 is already expected to be the largest ever. Returning to Chicago's McCormick Place, Nov. 14-17, 2011, the event will offer four full days of activities and provide its projected 32,000 attendees with unlimited opportunities to network, learn and see the latest metal fabrication products and technologies.

According to John Catalano, FABTECH show manager, all signs point to this being a great event.

"Registration is up and we are on track to fill nearly a half million net square feet of exhibit space with more than 1,200 exhibitors," says Catalano. "The interest in this year's event is a positive sign that our industry is alive and thriving."

Visitors will see thousands of pieces of equipment in action on the show floor and more than 500 new product debuts. In addition to the exhibits, FABTECH 2011 will also present more than 100 educational sessions on the latest trends in cutting, finishing, forming and fabricating, stamping, tube and pipe, and welding, as well as courses for managers. The complete lineup can be viewed at www.fabtechexpo.com/schedule-at-a-glance.cfm.

WMS in Toronto

The Woodworking Machinery & Supply Expo held October 27-29, 2011, Direct Energy Centre

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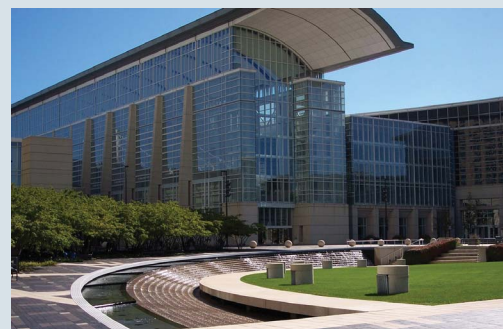
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Other featured events include a keynote on Growing Your Business Through Innovation, a State of the Industry panel discussion and highly anticipated sessions on reshoring and how to strengthen U.S. manufacturing and create jobs. A new Buyer Appreciation Day has also been added this year and will allow attendees to take advantage of exhibitor show specials and win prizes.



FABTECH is co-sponsored by five industry-leading associations: the American Welding Society (AWS), www.aws.org the Fabricator's & Manufacturers Association, International (FMA), www.fmanet.org the Society of Manufacturing Engineers (SME), www.sme.org the Precision Metalforming Association (PMA), www.pma.org and the Chemical Coaters Association International (CCAI) www.ccaiweb.com www.fabtechexpo.com



Outstanding highlights of 2011 WMS include:

The largest, most comprehensive education conference in WMS history, with sessions on...

- Product Design & Development
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- Lean Production & Quality Management
- Finishing for Small Shops and much more.

Wood Tech Summit: Free interactive panel discussions of cutting edge woodworking technologies, presented live on the expo floor.

Continuous demonstrations of woodworking equipment manufactured by internationally leading players, plus related tooling and software that can help you boost productivity and enhance your bottom line.

The show offers a full array of furniture and cabinet supplies, including hardware, adhesives, finishing materials, components.

WMS is supported by Canada's leading wood products trade associations, publications and educational institutions.

Expo Hours

Thursday, October 27, 2011: 10 a.m. to 6:00 p.m.

Friday, October 28, 2011: 10 a.m. to 6:00 p.m.

Saturday, October 29, 2011: 10 a.m. to 4:00 p.m.

Conference

The 2011 WMS Conference program, the largest in the show's 30-year history, is under development.

Show organizers worked with leading associations and educational institutions to deliver the most timely and relevant information that seminar attendees can use to improve their marketing, sales and manufacturing proficiencies. Conference supporters include the Centre for Advance Wood Processing at UBC, Conetoga College, the Architectural Woodwork Manufacturers Association of Canada and the Wood Manufacturing Council.

Among the topics being planned, include:

- Finishing for Small Shops
- Advanced Finishing Technologies
- Lean Production and Quality Management
- Future Trends in Software for the Woodworking Industry
- Future Trends in CNC Equipment for the Woodworking Industry
- Developing New Products
- Leveraging the Internet and Social Media to Drive Increased Sales and Customer Retention

Exhibitors as of Sept. 5, 2011 totaled 93.

AAC 2011: Twentieth Annual International Anodizing Conference & Exposition



Value-added options, which require an additional fee and registration, include School for Anodizers Level 1 and Level 2 courses, Laboratory Tour, and Plant Tour.

Poster Sessions - NEW!

New to the 2011 Anodizing Conference and Expo, students engaged in surface science, surface treatment, electrochemical finishing and related engineering disciplines will present their work at a special Poster Session during the Conference.

The AAC Poster Session will provide a forum where students present their research in such technologies to an audience of industry professionals. The goal is to present academic and industrial-related research, as well as developments in the field of metal surface science and technology, to all registrants.

Students will staff their posters and be available to elaborate on their work Wednesday at the conclusion of the conference sessions. It is at this time that the judging of the posters will take place.

The Anodizing Conference and Expo is being held this year on **October 4 – 6, 2011 in Tempe, Arizona, USA.**

The conference program is designed to appeal to industry professionals at every level in every aspect of production.

This three-day industry event offers a variety of opportunities for education, technical exchange, and networking geared toward the anodizing community. Paid registration includes entry to the General Sessions, Focus Sessions, Poster Sessions (NEW!) and Anodizing Expo, as well as networking events.

Schedule-at-a-Glance

Monday, October 3

Committees & Board of Directors
Meetings all day

Tuesday, October 4

All Day: Optional Anodizing Essentials Workshop—Level 1*
Morning: Optional Anodizing Quality Workshop—Level 2*
Afternoon: Optional Laboratory Tour*
Afternoon: Optional Plant Tour*
Evening: Welcome Reception, Poster Session & Anodizing Expo

Wednesday, October 5

Morning: Breakfast, Anodizing Expo & Poster Session
Morning: Anodizing Conference General Session
Noon: Lunch, Anodizing Expo & Poster Session
Afternoon: Focus Sessions: Technical, Scientific and Sustainability Tracks
Early Evening: Anodizing Expo & Poster Session
Evening: Conference Dinner

Thursday, October 6

Morning: Breakfast
Morning: Anodizing Conference General Session
Noon: Lunch - conference adjourns

* Additional fees apply.

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Filling and Extending **PERFORMANCE**

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

CFCM asked Canadian suppliers and manufacturers of fillers and extenders for paint and coatings to comment on their newest products and solutions to challenges faced by formulators.

MINERALS TO REDUCE TiO₂ DEPENDENCE

With the wonderful whitening of TiO₂ being in such demand causing higher prices and shortages, paint manufacturers are looking at alternatives in the area of fillers and extenders. At DEBRO Chemicals Inc, Dorval, QC, Imerys Performance Minerals has the broadest portfolio of mineral solutions designed to help reduce TiO₂ in customer formulations. Imerys is a leading supplier of white industrial minerals.

When it comes to new products, Imerys designs products to help customers with TiO₂ extension.

New, innovative treated minerals are now available to help reduce dependence on TiO₂ such as the new ImerTiX, an ideal treated spacer in aqueous paints. The new XCS-Carb TiO₂ extender calcium carbonates are engineered to reduce crystalline silica content to non-reportable levels. Available in treated and untreated grades.

Surface treated calcium carbonates

demonstrate a significant refinement over their conventional unmodified counterparts. The Imerys products are extraordinarily easy to disperse in paint systems. Surface treatment enables a finer degree of dispersion and provides measurably better functionality when used with TiO₂. The Imerys products act as strong spacers, and this improved dispersion increases the scattering effect. The products have almost neutral white color and can provide substantial gloss control in a semi-gloss system. Additionally, Imerys products XCS-Carb and ImerTiX can be used with calcined clay systems to provide secondary whiteness while keeping oil absorption effects under control. These products contain very low (<0.1 per cent) silica.

NeoGen 2000 is the premium product for TiO₂ extension in the paint and coatings industry. Compared to conventional calcined kaolin, NeoGen 2000 provides improved whiteness, better opacity and whiter tint strength, while improving TiO₂ extension and reducing costs.

Engineered calcined clay extenders form complex structures that allow micro-void air to be introduced to the paint film. Air has a very different refractive index to the binder vehicle making calcined clay extenders powerful light scatterers that produce a clean, white paint. This forms the basis of NeoGen 2000 technology—it produces films of higher whiteness in comparison to traditional calcined clay products. Additional refinements in oil absorption control allow the effects to be obtained at lower PVC's.

Imerys offers a range of products, which are effective TiO₂ extension solutions. The extension mechanism is very different depending on position relative to CPVC. The choice is also dependent on the nature of the paint system, with products fitting differently in water based, solvent based and powder coating systems.

REPLACE SILICA SAND

For 2011, L.V.Lomas, based in Brampton, ON, has seen three key drivers reigniting interests in novel extender technology. The first has been the regulatory changes with respirable microcrystalline silica, as both Quartz and Cristobalite have been found by IARC (International Agency for Research on Cancer) to be a Carcinogen, therefore Regulated in Canada. To this end the Minex line of extenders from Unimin has been instrumental in allowing formulators to easily replace silica sand, with zero microcrystalline silica content and the same Mohs hardness in everything from moisture cure urethane formulations (Minex

has ultra-low moisture content), to industrial clears and interior/ exterior architectural coatings. For high gloss, and/or ultra-clear coatings, L.V.Lomas recommends the ultrafine Minex 12, which has only recently been developed and commercialized.

REDUCING COST

The second key driver seen at L.V.Lomas has been cost reductions. As recent titanium and polymer costs continue to increase, the push to utilize extenders to mitigate the overall impact has grown. For Titanium extension the particle size of the extender must mimic the 0.2 average micron size of a well dispersed titanium dioxide. This particle size offers the optimal spacing for titanium dioxide with a potential 30 per cent reduction in titanium dioxide, and a potential 10 per cent resin solids reduction due to increased PVC in high gloss systems, which tend to be both resin and titanium rich. Depending on the titanium loading and the gloss required, both the ultrafine 0.2 micron Polygloss 90 from Kamin industries as well as the Omycarb UF from Omya have been used to accomplish this optimum titanium pigment loading. A secondary cost reduction strategy has been the attempt to replace costly flattening agents with a novel line of Diatomaceous earth flattening agents from World Minerals.

PERFORMANCE


Lastly, as the economy has recovered, formulators have begun the search for means to differentiate themselves through performance additives. Select key extenders can perform this task. Aluminum oxides such as Cabot's Spectral AL line have been used in high performance abrasion resistant clear coatings, while other fillers such as 3Ms Ceramic Sphere technology can offer similar performance attributes in thicker film build, opaque applications. In addition the ceramic spheres offer a cost effective filler that has a very low resin demand due to their low surface area (spherical structure), and the ceramic spheres are a chemically and physically virtually indestructible structure.

So, a trend among formulators is the need to use less TiO₂ without losing the ultimate white, replace silica sand without losing performance and much more and suppliers have leapt to this challenge. ■

Editor's Note: Contributors to the article can be reached at:
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A Novel Method of Rheology Development in NEXT-GENERATION LATEXES

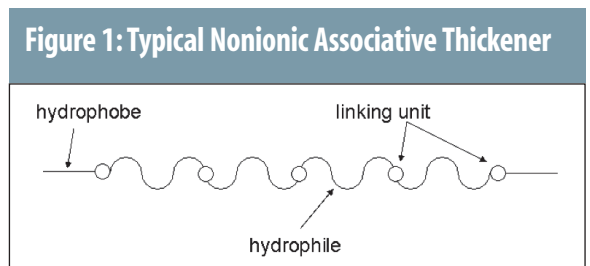
BY JOSH MATHES

Even though additives comprise a small percentage of a coating formulation, the impact on coating properties is disproportionately large. Despite the relatively small use levels, the proper choice of additives can make an average formula better or a quality formula exceptional.

However, as technology evolves in the high-volume components of a coating formulation, the previous techniques for solving many challenges may no longer apply. Additive technology must evolve as well in order to maintain (or, more desirably, enhance) the benefits that they provide.

Nonionic associative thickeners (NATs) have been accepted for many years as a high quality, affordable method of developing rheology in many coatings formulations. Compared to other rheology modifier technologies such as cellulosic, clay-based thickeners and alkali-swallowable polymers, NATs can provide improved flow and leveling while still providing excellent sag resistance. Application properties and one-coat film build can also be enhanced. Film properties and water resistance may also be improved.

NATs are formulated by appending hydrophobic material to long hydrophilic chains (normally poly(ethylene glycol)) (see Fig.1).



Nonionic associative thickeners provide rheology when these hydrophobes interact with each other and with other hydrophobic surfaces present in the formulation to form a three-dimensional network. This produces a resistance to flow greater than would be expected based on the relatively small molecular size of the thickener. The type of viscosity a NAT develops (eg, anti-sag, ICI) is determined to a large extent by the type and size of these hydrophobes.

For example, small hydrophobes are generally used to formulate thickeners that generate high shear (ICI) viscosity. Larger hydrophobes are used to formulate thickeners that build low shear (anti-sag, KU) viscosity. Other properties of the hydrophobe (unsaturation, branching, etc.) have also been found to affect the performance of the thickener.

The properties of a NAT are also determined somewhat by the linking unit used to append the hydrophobes to the hydrophilic chain. There have been several different methods used to achieve this, but in this study we focused on two technologies; hydrophobically-modified ethoxylated aminoplast thickeners (HEAT) and hydrophobically-modified urethanes (HEUR). Both technologies have advantages and limitations. Generally, HEUR thickeners are more structurally linear than the HEAT polymers. Therefore, a more Newtonian viscosity profile can be generated by using thickeners formulated using HEUR technology, providing more viscosity under high shear. However, the more highly branched HEAT thickeners can provide better viscosity stability upon tinting, syneresis resistance, and have the potential to provide very high anti-sag viscosity.

As new government environmental regulations have been applied to coatings formulations, latex technology has progressed in an attempt to maintain coating stability, durability and film properties while using progressively lower levels of volatile organic compounds (VOCs). In this process, manufacturers have modified the surface characteristics of the latex particles. In many cases, coatings based on low-VOC latexes are less responsive to NATs because of lower surface area and more hydrophilic surfaces. These next-generation latexes require more rheology modifier in order to achieve the same desired viscosity under various conditions.

This can lead to a significant increase in rheology modifier cost as well as undesirable film properties that arise from including large amounts of a soft, non-film-forming material in the formulation. Since the rheological additives provide their value prior to, during, and immediately after application, and serve little purpose in the finished, cured film, higher efficiency is nearly always desired. (That is, to the extent that the proper amount of the additive can be reliably and reproducibly added in a production setting).

A novel thickener has been developed that is more efficient at the generation of KU viscosity than previous-generation thickeners. This NAT provides the advantage of lowering the use level across many latex types, including many difficult-to-thicken, low surface area latexes.

The novel thickener is environmentally friendly, formaldehyde-free and alkylphenol ethoxylate-free. It is provided in a 17.5 per cent active, VOC-free solution.

EXPERIMENTAL

In this study, we have compared the novel thickener to other common NATs designed to build viscosity in the KU range. Five NATs were evaluated:

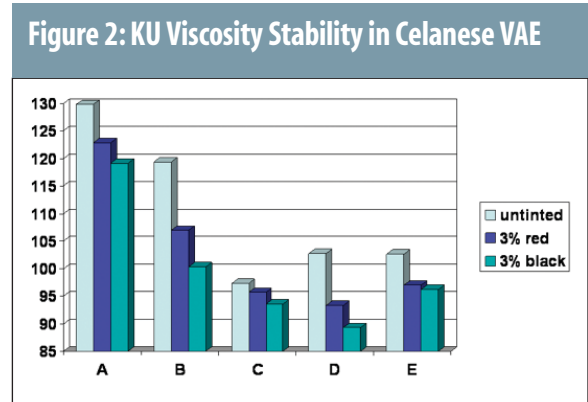
- Thickener A (Novel HEUR)
- Thickener B (HEUR, strong KU builder, anti-sag)
- Thickener C (HEAT, KU builder, anti-sag)
- Thickener D (HEUR, KU builder)
- Thickener E (HEUR, KU builder)

The thickeners were evaluated in several paint systems based on various latexes. The study included latexes from a broad range of manufacturers and latex technologies, generally focused on more difficult-to-thicken latexes:

- System #1 (Celanese VAE, 0.4% active NAT weight based on total formulation)
- System #2 (Wacker VAE, 0.3% active NAT weight based on total formulation)
- System #3 (Wacker VAE, 0.3% active NAT weight based on total formulation)

- System #4 (Arkema vinyl-acrylic, 0.3% active NAT weight based on total formulation)
- System #5 (BASF styrene acrylic, 0.2% active NAT weight based on total formulation)

Paint samples were evaluated for rheology, sag, flow, gloss, and viscosity stability upon tinting.



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RESULTS

Rheology: The novel thickener was found to be the most efficient KU viscosity thickener in four of five systems evaluated. Only in the styrene acrylic was Thickener B more efficient. In the other systems, the novel thickener was consistently 7-10 KU more efficient than Thickener B and 15-20 KU more efficient than the other three.

	#1	#2	#3	#4	#5
A	129.8	111.8	124.6	107.6	121.9
B	119.4	106.2	103.5	100.9	127.1
C	102.7	88.7	111.8	92.5	114.5
D	97.3	92.8	97.3	100.1	121.6
E	102.6	88.6	93.6	100.3	120.8

Sag: Thickener B generally provided the highest anti-sag properties, with A and C close behind. As expected, Thickeners D and E provided significantly less anti-sag viscosity.

Flow: The converse of the sag performance was true in this case. Thickeners D and E provided the best flow characteristics, while the other three were 1-3 Leneta leveling units lower.

Gloss: Gloss properties were equivalent for the five thickeners examined. No thickener consistently outperformed (or underperformed) versus the others.

Viscosity Stability Upon Tinting: As expected, the HEAT thickener was the best choice for maintaining viscosity stability upon tinting. However, the novel thickener was the best of the HEUR thickeners in this aspect. (See Fig. 2) While the other HEURs lost as much as 16% of their KU viscosity upon tinting with 3% colorant by volume, the novel thickener only lost about 5%. In the case of the Celanese VAE, the novel thickener was about 10 KU more efficient than Thickener B when untinted. After tinting, however, the gap had grown to 15 KU with the addition of red colorant and 19 KU with the addition of black colorant. Color stability was also improved with Thickener A. In three of the five systems, (the Wacker VAEs and the BASF styrene-acrylic), there were rubup issues with Thickener B. This is typical of some very hydrophobic NATs, as the thickener hydrophobes interfere with the colorant's stabilizing surfactants and dispersants. However, there were no issues with Thickener A in any of the five systems examined (see Fig.2).

As latex technology continues to evolve, additive technology must as well. This novel thickener has been shown to be an efficient KU generator in many diverse latex technologies, including newer technologies that are more difficult to thicken.

This new NAT provides all the benefits typically associated with nonionic associative thickeners while providing greater rheology efficiency and viscosity stability than previous generation thickeners. ■

Josh Mathes is Technical Service Chemist for Southern Clay Products. The company is represented in Canada by www.andicor.com

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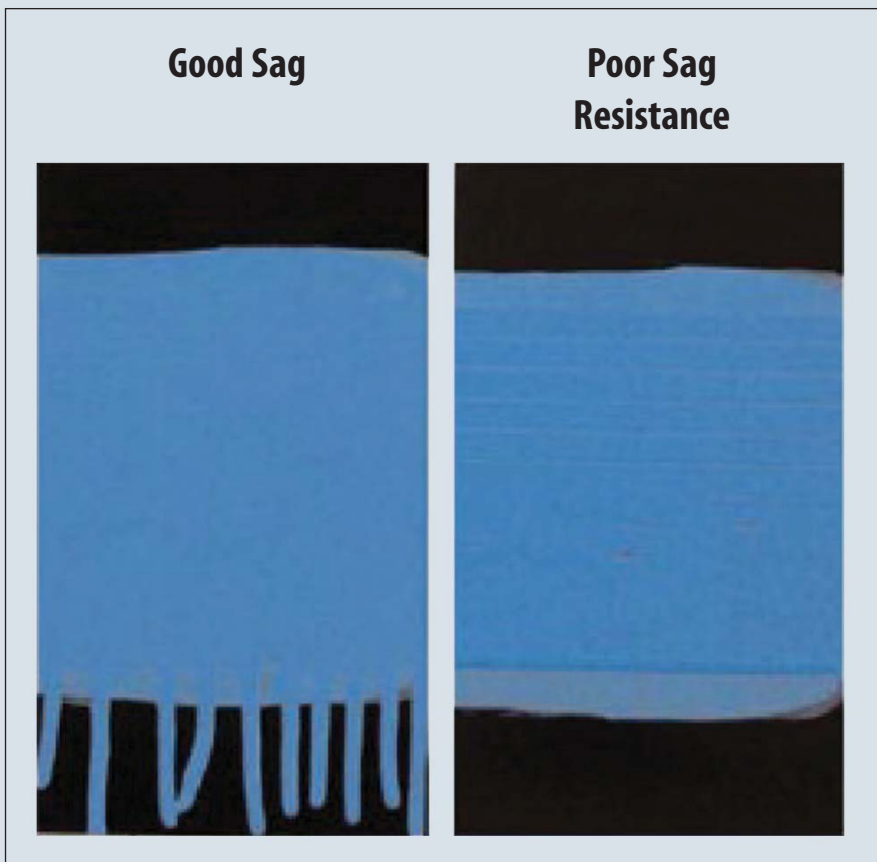
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What's New and What is in Demand?



When it comes to rheology modifiers in the paint and coatings manufacturing industry, low volatile organic compound (VOC) products are well underway.

Daniel Saucy, Ph.D., Rheology Modifiers Technical Services, Dow Coating Materials says, "Here at Dow, we've been actively optimizing rheology modifiers for this new space," he adds. "As far as where our products are going, we've been gearing up for the industry's reformulation shifts, and developing significant alternative chemistries for achieving greater performance."

PERFORMANCE

Saucy says, "Rheological performance is critical. Flow, leveling, scrub, application properties our customers are very interested in alternative chemistries to achieve better performance. Paints are moving into a significant reformulation space as manufacturers and formulators strive for greater performance as well as functionality." He adds, "Integrated additive and binder solutions, including those directly related to advanced hiding, achieve these new objectives." Dow has found that customers want better and more economical products.

"That's driving the need for more and better rheological packages," says Saucy. "With the ability to deliver interacting ingredients, comes the advantage of offering more interactive pricing."

ALTERNATIVE CHEMISTRIES

Dow (and previously Rohm & Haas) has been developing alternative chemistries for years, which is critical to providing reliable solutions when customers look to reformulate.

They have been doing a lot of work with the HASE and HEUR products to help expand their uses. "We're in a unique position to be able to offer a lot of valuable, historical performance data, which helps a customer make a better decision and mitigate risk when they move into these new spaces," says Saucy. "For example, manufacturers that are trying alkyd emulsions or looking more at developing VAE and PVA paints, we have been exploring the use of our alkyd emulsifiers and we have the findings on how they perform in a range of HASEs and HEURs." Dow products such as DRI 10, TT195, and the entire product line of HEURs is an attractive offering for those looking at integrated

solutions. The Dow team has the deep knowledge of binders, dispersants and surfactants – has been in those areas for decades – and offers the entire profile. ■

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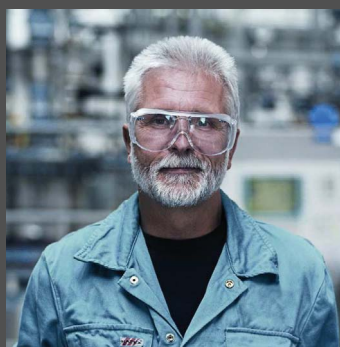
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with our suppliers, industry insiders as well as environmental and fire department officials, that we may well be only kitchen company of a significant size in Canada and maybe even North America, to operate solely with 100 per cent water-based finishes." Selba currently 80 employees (150+ during peak season).

GOING COMPLETELY WATER BASED

Selvaggi explains that the reasons to go completely water-based, "were many and aside from the obvious competitive 'green' advantage it would give us over our competitors, we have always been an industry leader and innovator and this was the natural next step for us in order to continue to lead our industry into a new era of finishing processes." He adds, "We decided to go completely water-based because many of the benefits of a water based system can only be achieved in a 100 per cent water-based environment."

He continues, "For example, the safety benefits to our employees are only realized once they are working with only water-based paints. Safety was a major determining factor for our conversion and protecting our employees was of utmost concern, so in order to eliminate the fire risk posed by solvent based paints we needed to totally eliminate the solvent based paints, otherwise we were not eliminating a major hazard." He adds, "Today all our paints have a flammability rating of 0, meaning that our employees are no longer susceptible to the dangers posed by static discharges when transferring or pouring paints."

Selvaggi says there are currently no government regulations that mandated them to make this significant change. "From the onset, we believed it was the right thing to do," he says. "The risk we took to make such a move into uncharted territory was incredibly high in terms of our credibility and reputation, the disruption to our production and our overall sustainability. On January 1, 2011 we pulled the switch on solvent based paints and haven't looked back since."

Converting to water based products was a challenge but worth it.

"The conversion was disruptive, grueling and took a toll on everyone involved," says Selvaggi. "We've gotten past all that and now work in a very safe and environmentally friendly conditions and are also able to pass this green environment on to our customers where the off gassing of VOCs from our products is near nonexistent."

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Danny Selvaggi, Selba and Dan Martens, AkzoNobel Wood Coatings.



Duncan Francis, Renner Canada, works on a panel.



Danny Selvaggi President Selba Industries the Concord ON showroom.



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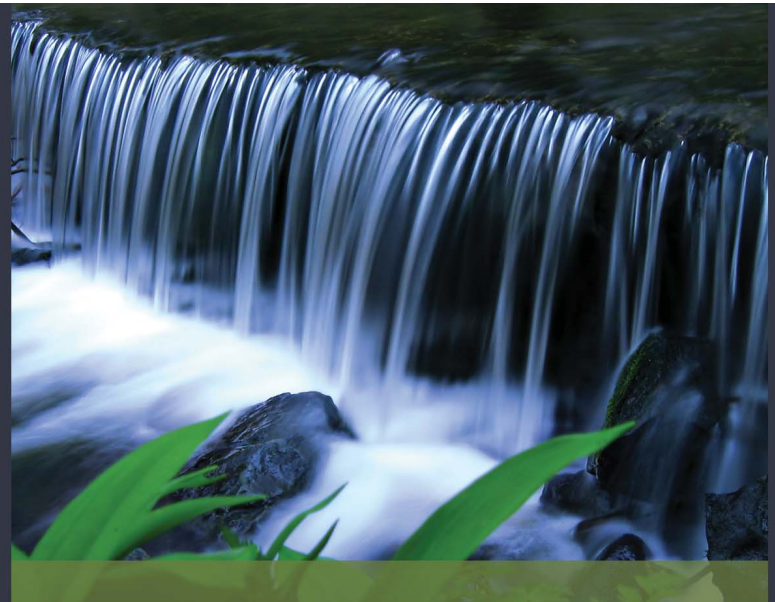
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"To further add to the benefits, our water based clear topcoat is now a polyurethane floor finish, providing one of the most durable finishes available today," says Selvaggi.

OPEN HOUSE

The unveiling of Selba's new finishing process during an Open House in April 2011 was attended by close to 150 and included customers, vendors and other industry partners.

"Our customers have responded very positively to our new finishes," says Selvaggi, "The most common comment we receive is that they can't believe that there is no lingering odour from a new installation."

SUPPLIERS

"From the onset we decided that we would only deal with industry leaders and quality oriented vendors," says Selvaggi. "From an equipment side we have always long dealt with Cefla Finishing whose machinery and support staff has never let us down. Without the high quality equipment from Cefla, what was an already complex conversion would have been a much more difficult process. When the Cefla engineers designed our finish line seven years ago, they designed it the notion that we would one day be running water based paints on the line. Their forward thinking back then paid off in more ways than one when the time came to con-

vert to water. Our equipment supplier Nick Menna from Nova Finishing was instrumental in supplying and setting up all our pumps, guns and other spray equipment that was required to make the conversion to water. It became quite clear from the onset that a conversion such as this was not only about the coatings material, but equally as important is the equipment and processes used to apply the coating. Finally from a coating standpoint we tested products from close to six different vendors and early on in the process were able to narrow down our selection to only two vendors for the high quality of finish we were looking for. Akzo Nobel, formerly Chemcraft, which we had dealt with for close to 20 years and Renner Canada provided the best quality stains and coatings for us to continue with more in depth testing. This process took over three years and using a combination of products from both these vendors we were able to make the switch on January of this year. The quality of finish is second to none and we continue to work closely with both Renner Canada, who's support has been exceptional, as well as AkzoNobel to continually improve and tweak our coatings and processes to ensure that all of us remain the leaders of our respective industries for years to come."

In a statement released about its April 2011 Environmental Achievement Highlights, Selba Industries Inc. sums it up, "It is important to note, that we didn't do this because we were legislated to do it, nor did we do it because our customers demanded we do it. We did it quite simply, because it was the right thing to do. We did it so that all our employees could work in a much safer environment. We did it so that we could all tell our children and their grandchildren that the company we worked for cared about their future on this planet."

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TRENDS IN Furniture Finishes

In speaking with manufacturers of furniture finishes, trends that seem to be predominant in the marketplace are two-component (2K) urethane finishes, and user and environmentally friendly water based coatings plus more automation in order to satisfy both the functional and emotional needs of the customer.

Ron Wilson of CanLak based in Davelyville, QC, says, "As a major supplier of wood finishes to the woodworking industry in Canada, the furniture industry rep-

resents both an interesting and challenging major market." He adds, "There is no limit to the types of furniture being produced for a wide variety of target markets based on style, price point, and functionality."

Wilson explains, "The two main goals of the furniture manufacturer when it comes to selecting an industrial coating is to satisfy the needs of the end customer, which are both functional and emotional." He continues, "Since furniture ranges from mass production knock down furni-

ture to hand made pieces of art, the target markets are so varied and eclectic it lends itself to the whole range of available technologies in coatings."

Canlak produces a full range of wood coating technologies to satisfy customer requirements ranging from basic NC Lacquer to high end polyurethane/polyester systems.

The type and technology of the industrial wood coating depends on the physical and chemical characteristics and the "look and feel" required, explains Wilson.

"By selecting the correct type and coating technology the furniture manufacturer can satisfy their customers needs while at the same time providing the efficiency required to meet the desired price point," he says.

"Furniture manufacturers looking for ways to increase sales through new markets are capitalizing on the shifting demographics, which are creating a new trend of 'freedom furniture'. The trend is to buy higher end outdoor furniture creating a new living space in the patio or backyard, says Wilson. "This of course creates the demand for a range of coatings, which can handle the outside elements."

Canlak carries a high end water base polyurethane line, which is designed for the outdoors. Full systems are available in impregnating stain, sealers and topcoats. These are applied with standard spray equipment and can be used for both rough and smooth wood substrate.

"Another trend in furniture is the environmentally friendly theme," says Wilson. "In line with this theme furniture manufacturers are demanding products, which are VOC compliant, formaldehyde free, HAPS Free which pass all of the physical and chemical resistance requirements." Canlak produces a full lines of water base, UV, and Clean Guard product lines to meet these requirements. The "Clean Guard" product line complies responsibly to environmental standards, without compromising on performance.

Tony Guertin Jr., CEO at Superior Finishes Inc. in Winnipeg, MB and the US operation Superior Finishes of America

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New Facility Expansion

To satisfy Superior Finishes, Inc.'s customer needs they are moving into double the size (30,000 square feet) manufacturing plant with four times the laboratory space located in the Inkster Industrial Park in Winnipeg, MB. They hope to be completed in November 2011. Twenty new jobs are to be added. They have three acres at their new site and already are contemplating a 50 per cent further expansion for their new head office/manufacturing. The expansion plans of Superior Finishes has been assisted by an \$800,000 Manitoba Industrial Opportunities Program (MIOP) loan from the province. Superior Finishes, Inc. will invest approximately \$3 million this year and their expansion will create a number of new technical positions. Also, Superior Finishes of America have added a laboratory, color matching and mixing operation in their Michigan operation.



Photo courtesy of Valspar

explains, "Customers are asking for more user friendly coatings for application. This is due to the unskilled labor market and high turn over."

Guertin says 2 K urethanes are becoming more predominate in North America. "High end furniture customers are switching or have switched already due to the quality benefits," he says. Customers are also getting more into automation in their facilities. "More automation happening on a regular basis, due to the cost of labor, unskilled labor, and the need to get productivity up and costs down," says Guertin.

"More solvent base customers converting to water," says Guertin. "Current water base customers are asking for improvements on hardness, sag resistance and flame spread ratings."

He says that when it comes to water based finishes it is important to work with the customer and meet their requests for improvements. "Water base UV customers are asking for a variety of improvements," says Guertin. "If your customers aren't phoning you for any type of improvements to the paint then they probably aren't using your paint anymore."

Rob Penfold, Product & Marketing Manager, Wood Coatings Group – Canada, The Valspar Corporation in Mississauga, ON says, "What we are seeing in finishing really depends on what segment of the furniture industry you are talking about. In terms of the remaining residential furniture business in Canada, that market still largely relies on high solids acid cured coatings as they have for some

time." He adds, "If we were to look at the institutional/office furniture industry there has been a big move toward low and no formaldehyde coatings. With hospitality furniture we see manufacturers moving toward solvent based and water based UV cured flatline coatings."

"Valspar's biggest growth in the furniture segment has been with our zero formaldehyde products for office furniture and our varnish that meets the SEFA requirements for laboratory furniture," says Penfold. "Our UV products, especially water based UV, has been a strong performer for use in the last few years as it will continue to be."

In conclusion, when it comes to trends in furniture finishes, environmental concerns continue to influence research and development. Manufacturers are listening to their customers and creating water based solutions. There is a demand for high end products and an increase in two-component finishes. Furniture finish manufacturers do not see these trends ending anytime soon. ■

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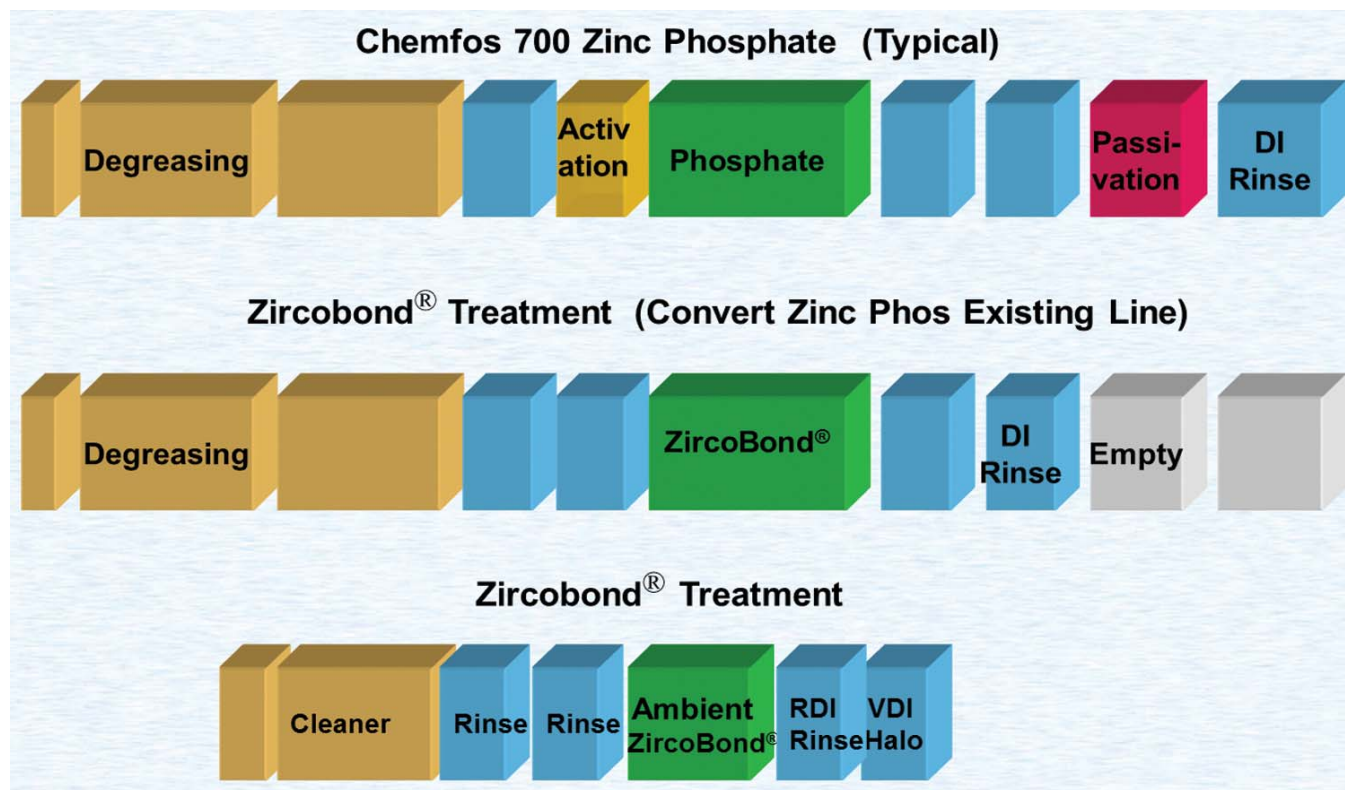
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As CRITICAL as COATING



A current trend in pretreatment and washing is ambient temperature pretreatment and the use of environmentally friendly products. Newest pretreatments are considered “green” because they have no zinc or low to no phosphorous.

Andrew Conway, P.Eng., Vice President, Sales & Service, PPG Chemfil Canada Ltd. Says, “Right now it’s all about ambient temperature pretreatment and phosphate and APE-free products.” He adds, “Energy costs, raw material costs and waste effluent restrictions are all driving the development of these types of products.”

Chemfil’s automotive zinc phosphate replacement, Zircobond, which is a phos-

phate-free ambient pretreatment, has now successfully replaced zinc phosphate at four Canadian assembly plants (40 per cent of the Canadian automotive market is on Zircobond); Ford St. Thomas, CAMI/GM Ingersoll and two lines at GM Oshawa.

“More than one million vehicles have now been processed with Zircobond since its introduction” says Conway. “The industrial versions of Zircobond are also gaining traction.”

Chemfil’s low cost, ambient, APE-free (Chemklean) cleaner, is now in use by six Canadian Original Equipment Manufacturer (OEM) assembly plants and 30 industrial accounts

across Ontario and Quebec.

“They have saved hundreds of thousands in waste treatment, water and energy costs,” says Conway. “At one automotive assembly plant alone, the combination of these two technologies has saved \$1.2M per year.”

Conway says industrial customers are asking for the remaining OEMs to approve the use of Zircobond (GM and Ford have approved), so that they can use this new technology instead of zinc phosphate on lines where they are painting parts for all of the major OEMs (GM, FORD, Chrysler, Honda, Toyota) on one line. “As they continue to cut costs to compete, they are looking for technologies to reduce chem-

ical, energy, and water costs,” he says.

Chris Ellen, Director of Sales, Canada for Chemetall says, “Non-phosphorous cleaners and one of or a combination of zirconium, titanium or silane based under paint coatings” are the newest when it comes to pretreatment and washing in Industrial Finishing.

Ellen says that customers are asking for automation of control and data logging, low temperature treatments and water savings.

“Pretreatment is a critical part of a chain of steps required for quality coatings,” says Ellen. “The other parts of the chain are a good quality substrate and quality paint and paint application.”

Chemetall is a global company committed to specialty chemistry. The Group’s activities focus on products and processes for the chemical treatment of metal surfaces and plastics, as well as selected fields of fine chemistry, e.g. lithium and cesium compounds.

When it comes to Silane, a silane molecule consists of a silicon atom combined with an organic molecule. In pretreatment, organofunctional silanes are used. Through proper selection the chemist creates an organofunctional silane molecule that reacts and forms stable bonds with both metal hydroxides on the substrate and organic groups on paint resins. When these organofunctional silanes are reacted with water during the pretreatment process, they form polycondensates, which retain the paint and metal-bonding properties of the silane, but in a user-friendly form. The polycondensate is the safe chemical form of silane products made commercially available to metal finishers. In use, as the silane film dries on the pretreated substrate, neighboring hydroxyl groups on the silane molecule react with each other to form a dense cross-linked network.

Many manufacturers supply advanced pretreatments that are environmentally friendly and that save water and energy and overall... cut costs. Using a dual coating principle, a zirconium coating and an organic silane or phosphonate coating is applied. The end result is a more robust paint performance.

Conway sums it up by saying that pretreatment and washing in industrial finishing processes is “As critical as the paint itself.”

Editor’s note: The companies contributing to this article can be reached at the following:
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Powder Coating Thickness

BY DAVID BEAMISH AND TOM SIMKO

When applying powder coating, it is important to monitor the dry film thickness. This helps to prevent waste through excess application, while ensuring the desired adhesion and appearance of the finish. Such testing can also reduce the number of reworks and customer returns due to coating defects.

A variety of instruments are available to measure powder thickness before and after the curing process. The method employed depends on the substrate, the thickness range of the coating, the size and shape of the part, and the economics of the job.

Every powder coating operation should know what equipment is available and how to use it.

CURED COATING MEASUREMENTS

Most thickness testing specifications concern the cured powder thickness. Traditional approaches rely on micrometer measurements (the difference between readings on coated and uncoated surfaces), and microscopic observations of part cross-sections or incisions in the coating.

Dry film thickness (DFT) gages are currently more commonly used to measure cured powder thickness. They are hand-held, easy to operate, relatively inexpensive and non-destructive. They employ magnetic, eddy current or ultrasonic principles depending on the substrate material.

Mechanical DFT gages can be used if the part is made of steel. They use a calibrated spring to measure the force required to pull a permanent magnet from the coated steel surface. Magnetic pull-off gages are rugged, simple, inexpensive, portable and usually don't require calibration adjustments. They are a good, low-cost alternative in situations that require only a few readings during production.

Electronic DFT gages are more popular for reasons of simplicity, versatility, accuracy and record keeping. They rely on magnetic fields for measurements on steel substrates and on eddy-currents for readings on other metals. Some instruments have both ferrous and non-ferrous measurement capabilities.

Measurement results are displayed on an easy to read liquid crystal display (LCD). A wide selection of probes is typically available to access unusual part shapes or to accurately measure very thin or very thick coatings.

Powder coating DFT measurements on non-metal substrates such as plastic or wood require an ultrasonic pulse-echo

technique. Electronic handheld ultrasonic DFT gages present opportunities for industries previously unable to perform non-destructive quality control at affordable prices.

PRE-CURE MEASUREMENT

Measuring powder in the pre-cured, pre-gelled state helps ensure correct cured film thickness. It enables the application system to be set up and fine-tuned prior to curing. In turn, this will reduce the

amount of scrap and over-spray. Accurate predictions help avoid stripping and re-coating, which can cause problems with adhesion and coating integrity.

ASTM D 7378 describes three measurement procedures for the thickness of applied, pre-cured coating powders to predict cured thickness.

Rigid metal notched (comb) gages

Electronic coating gages with a special powder probe

NON-CONTACT ULTRASONIC INSTRUMENTS

Metal-notched (comb) gages are hand dragged through the uncured powder and powder height is considered to be a range value between the highest numbered tooth that made a mark and has powder clinging to it and the next highest tooth that left no mark and has no powder clinging to it. Marks left by the comb may affect the characteristics of the cured film.

Some electronic gages have micro pins



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integrated into a special probe that penetrate the coating powder down to the substrate. The probe is then manually pressed down to the surface of the powder to take a thickness measurement. This procedure is only applicable to flat metal substrates and it can leave marks in the product.

Since powders generally diminish in

thickness by as much as 50 per cent during the curing process, the above two procedures require a reduction factor to predict the cured film thickness for each particular coating powder. This factor is obtained from before and after measurements.

Non-contact ultrasonic gages are rela-



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tively new types of instruments that have become a popular solution for dry powder thickness measurement. These hand-held instruments measure the uncured powder and predict the final DFT without leaving marks on the finish. Their simplicity of operation and ergonomic design allow them to be used quickly and efficiently by line operators.

QUALITY ASSURANCE

By investing in a simple system that records and analyses DFT results, powder coaters can study trends, reduce costs, and retain customers by providing them with documentation showing their ability to meet a required specification.

A quality assurance program can be as

simple as developing a procedure that calls for a certain number of thickness measurements from the same location on each part. Variations can be analyzed at regular intervals and corrective action can be taken if necessary.

DATA MANAGEMENT

Data collection and analysis is greatly simplified with thickness gages that automatically store measurement results in internal memory. Such digital data can be easily stored, reported, and archived.

Some instruments can be programmed to separate jobs or parts into batch memory and to display real-time average thickness results and min/max limits. Alarms warn the user when a thickness result falls

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outside specifications and immediate corrective action may be required.

Measurement data is typically transferred to a computer via USB or Bluetooth wireless communication. The results can be analyzed and displayed with software specific to the gage or exported to commonly-available spreadsheet programs.

Some gages are now available with built-in flash memory (mass storage) and the capability to wirelessly upload measurement data to the cloud for archiving and sharing with web-enabled devices

anywhere in the world.

The timing is right for powder coating operations, large and small, to look seriously into updating their test instruments and quality systems. There are opportunities to take advantage of advances in both powder thickness measurement and in simple but powerful data reporting and management.

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The temp-gard data logger comes in two configurations: 12 temperature probe connections or 6 probe connections. The data logger has a new innovative design with a large color graphics display and USB memory stick connection for easy data transfer. Documentation and analysis of temperature profiles is made easy with the included temp-chart software: all you need to control and optimize your baking process. Features include:

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Enthone Introduces ELPELYT G-7 Bright Nickel Process

Enthone Inc., a business of Cookson Electronics has introduced ELPELYT GS-7 bright nickel process. Specially engineered for plating on metal substrates, ELPELYT GS-7 reduces costly buffing and polishing steps in the manufacturing process, significantly decreases nickel metal consumption, and enables new product design. It reliably deposits nickel thickness in



extremely low current density (LCD) areas. The immediate improvement in throwing power versus traditional bright nickel processes results in reduced nickel metal consumption, new design enablement, and increased performance. The exceptional leveling reduces the number of buffing and polishing steps, thereby substantially decreasing costs and increasing performance. The need to over plate is eliminated.

www.BrightNickel.org.

Portable Sludge Level Detector

The hand held Sludge Gun makes keeping the environment clean simpler. It can be used to easily find sludge levels in lagoons or clarifiers, or any other process where there is a sludge/liquid interface. These processes are the first steps in cleaning paint and coating operations. The design is portable, rugged and weather proof. Sensitivity is adjustable for thick or thin sludges. An animation of the Sludge Gun® in use can be found at www.sludgecontrols.com

New Products continued on page 33

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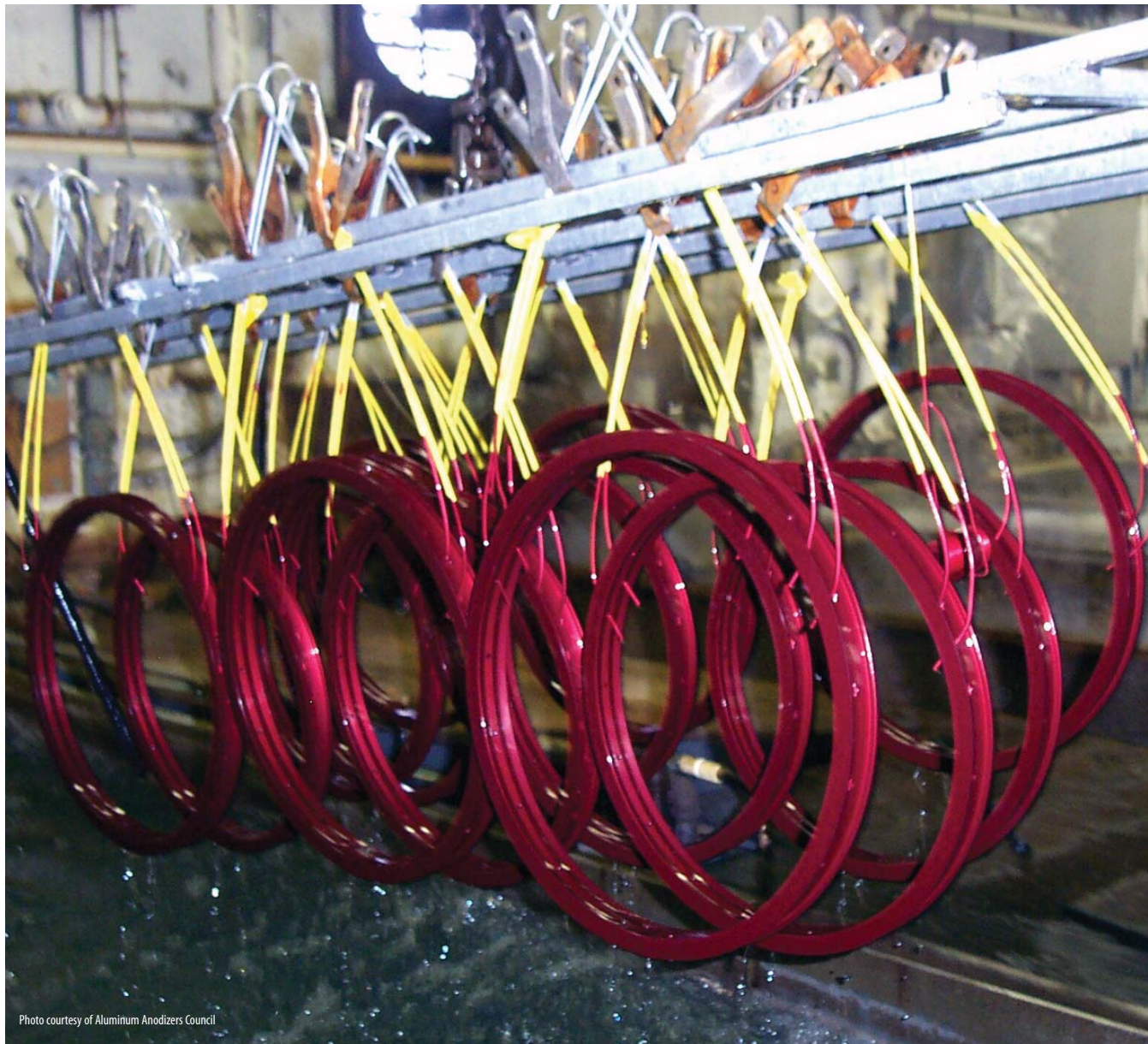


Photo courtesy of Aluminum Anodizers Council

DYNAMIX Blending Technology, Service and Value



Dynamix is the largest Canadian owned manufacturer and supplier of metal finishing chemistry. "The philosophy at Dynamix is simple - enhance our customers' performance and profitability, while dealing with all of our partners in an open and honest forum."

The primary focus of Dynamix is the design and manufacture of specialty chemicals for the metal finishing industry, covering all aspects of metal finishing from anodizing to zinc plating. Toll blending, packaging and distribution of custom formulated products are also available.

We offer a service that encompasses all of our values with a highly skilled and motivated team. The laboratory at Dynamix is well equipped and able to provide analytical solutions specific to a particular sector of industry and/or customer. Products are designed at Dynamix to provide unsurpassed performance and solution economy. Superior chemistry is only the beginning, as the company realizes that technical and application knowledge are just as vital to the metal finishers' success.

Let Dynamix demonstrate how we can maximize your plating chemistry productivity by providing the most robust chemical processes available.

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- Conversion Coatings.
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- Paint strippers for use on ferrous and non-ferrous substrates.



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area and time than the acid contact dissolution model and in effect dissolves the coating as fast as it is formed.

HEAT

Heat also plays a significant role in the dissolution/quality of the coating. Heat is generated by the electricity that flows from the bottom of the pores into the solution. As the film thickens the heat can't escape as quickly and this softens all of the coating but affects the outer coating the most, which in turn makes it easier for the outside of the coating to dissolve.

NEW STUFF IN ANODIZING PULSE WAVES

Pulse rectification shortens the processing time by increasing the average current density for the anodizing process. The higher the current density the faster the electroplating or anodizing cycle is completed. Pulse wave forms can be many different types. The research of most interest is square wave pulse. Over sine wave pulse, square wave pulse allows for wider operating parameters, which allows the user the most process flexibility. Square wave pulsing works by alternating a high current density with a much lower one. It is the lower current density that allows the aluminum surface and the coating to "rest"/recover. Research has shown times between 10 seconds and two minutes work well. The rest time is critical because it allows us to come back to the parts with higher current densities (higher current densities than can be run with straight DC without burning), which cre-

ates shorter process times. This equals more tank loads per day. The recovery effect allows for the loss of the heat generated during the anodizing process. Speeding up this heat loss is key to developing the same deposit thickness in a shorter period time.

The very latest research into shedding the heat leads us to a different pulse wave form – pulse reverse. Pulse reverse anodizing features a train of pulses in the anodic direction (which generates oxygen at the aluminum surface and forms the coating) followed by a much briefer/smaller train of pulses in the cathodic direction. The cathodic pulses generate hydrogen gas at the bottom of the pore and the act of the gas leaving the pore helps to cool the coating. This speeds up the anodizing process more than just using the "rest" period very low current density.

There is also a low tech way to cool the parts. With air agitation it has been shown that the smaller the bubble the wetter the surface of the part remains. Large bubbles move a lot of solution but force the anodizing solution away from the surface of the part. When it comes to heat exchangers the liquid types are much more efficient than air types. So we want to keep the parts as wet as possible and still move lots of solution passed the parts. A cheap source of micro-bubbles can be found in aquarium micro-air stones. Maintenance of the micro-air stones can be a problem if the aluminum in the anodizing solution precipitates in the stones spaces. There is research that shows that PVC pipe/spargers with smaller holes (around 1/32 to 1/16") can almost equal the aquarium micro-air stones for cooling and with lower maintenance.

If you have an existing DC anodizing line it can get very costly to find the full benefits in pulse. Start with the cost of a new rectifier, but it doesn't stop there. Higher current density means larger bus bars; more care of contact points and most likely additional chiller capacity. But, the rewards can also be great, like 20uM in 20 minutes.

MICRO-FABRICATION/NANO PROCESSING

Micro-Fabrication/Nano Processing can be done using anodizing. By forming an ultra-thin anodized aluminum oxide using low potentials (low voltage/amperage) the pore size can be controlled to as low as 20 nM and deposit thickness to about 70 nM. A conformal coating/polymer can be used to transfer the membrane surface to other substrates. The anodized pattern can be used as a mask to fabricate nano-dots or nano-dot arrays

You don't need to know the area of an anodizing load that is controlled with DC voltage, so that's one advantage over pulse anodizing. But, to anodize parts in 1/3 the time is a very strong argument for square wave pulse anodizing. After all time is MONEY. ■

Taking the Pulse of Power Supplies



As the cost of large pulse power supplies comes down, we foresee a shift in the thinking of how anodizing is best performed.

Dynatronix manufactures DC power supplies for the electroplating, electroforming, electropolishing, anodizing, electrowinning, electrochlorination and related industries.

JBC Limited has the division North American Rectifier (NAR, which manufactures power supplies for the following processes (but are not limited to):

- Electronic reversible rectifiers for hardchrome.
- Standard rectifiers for decorative plating.
- Crossover control for anodizing rectifiers
- AC power supplies for anodic hard colour of anodized aluminum

A look at the Power Supply and Rectifier marketplace shows a trend towards pulse anodizing.

Mark Thede, Marketing Manager, Dynatronix Inc. says, "The market for DC power supplies in metal finishing applications remains relatively tight. A potential 4Q downturn in the semiconductor industry is being largely offset by general manufacturing. Specifically, a surge in applications requiring power supplies in the 1000-5000 ampere range appears to be growing. Many of these can be found in two segments: anodizing and chromium plating.

Companies and governments are actively seeking a shift away from traditional hexavalent chromium plating. New chrome-replacement chemistries have been developed and are now making their way into industry. Many of these chemistries require replacing of the traditional SCR-based DC power supplies with higher precision units. Pulse plating is becoming more widespread, and is even required in a number of these applications. Perhaps more importantly however, customer-driven requirements for smaller physical size and lower costs are driving part of the chrome plating market toward solid state power supplies.

In the anodizing industry, companies are now taking a closer look at pulse anodizing. Pulse has rarely been used in anodizing, as it has traditionally been viewed as too costly vs. the benefits derived. However, it has been shown in many applications that pulsing can reduce the dwell time by 30-50 per cent.

For high volume shops or those that have production bottlenecks due to anodizing, this can be a significant benefit.

- High Voltage rectifiers for e-coat paint systems
- High current, medium voltage power supplies for electrowinning
- Low ripple switchmode power supplies
- Programmable pulsing switchmode power supplies
- Programmable reverse pulse switchmode power supplies

The company says their broad customer base has been very through the most challenging economic times.

According to the company, rectifier downtime can bring a plating shop to a grinding halt. Therefore, access to spare parts is important. A hypothetical situation, you run a bumper plating line. The 20,000A chrome rectifier goes down. Without spare parts, you may kiss that shift and maybe the next 3 or 4 goodbye, adding up to thousands of dollars in lost revenue. Remember the old boy scout motto "be prepared".

While all well run companies have a decent stock of emergency spares, NAR can complement the stock with a wide variety of spare parts to help reduce rectifier downtime.

So there is still a tight market for DC power supplies, but a drive toward high precision power supplies due to chrome replacement technologies. Then there is the move toward pulse plating and pulse anodizing. And to sum it up, it is always a good idea when it comes to rectifiers to keep spare parts on hand. ■

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SUR/FIN 2011 a success, SUR/FIN 2012 - Open For Business!

From all accounts, SUR/FIN 2011, held in June in Chicago, IL was a resounding success. Many attendees commented on the fact that SUR/FIN was not only bigger than

in recent years, but that the conference program and the amount of new exhibitors was impressive.

Show Management and the SUR/FIN

Steering Committee are committed to making SUR/FIN the surface finishing event of the year.

SUR/FIN 2012 is heading west for the first time to Las Vegas.

The 2012 Exhibitor Prospectus and Floor Plan are now available at www.nasf-surf.com (click on Exhibitors).

Here are some important facts:
The South Point Casino and Hotel offers a column-free exhibit hall.

Exhibit Booth Rental Pricing remains the same as in 2011.

Accommodations are only \$53 per night (\$90 on Friday & Saturday) in a beautiful resort-like hotel. NASF Corporate Supplier Members will be assigned first based on Assignment Order.



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Newly Designed PosiTector

Stone Tucker Instruments Inc. is pleased to announce the arrival of DeFelsko's newly-redesigned PosiTector DPM Dew Point Meter.

The PosiTector Dew Point Meter measures and records climatic conditions during surface preparation and application of coatings as required by ISO 8502-4 and ASTM D3276.

Accurate, versatile, durable, and easy-to-use, the new PosiTector DPM is available in both Standard and Advanced models, providing greater flexibility while continuing to give fast, accurate, repeatable readings.

Enhanced New Features

- Universal gauge body accepts all PosiTector 6000 and DPM probes.
- "Hold" function freezes the display, allowing measurement to be recorded manually.
- USB port provides connection to a PC and can supply continuous power. USB cable included.
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- Updates via the web keep your gauge current.
- Connects to PosiTector.net DeFelsko's free web-based application for data storage and analysis. Connect your gauge to the new PosiTector.net, which offers secure centralized management of measurement data. With PosiTector.net, users can upload data to a secure server, generate reports and graphs, share data with authorized users and export data to XML and text files, from any Internet browser, anywhere in the world.

Features include a large, easy-to-read LCD display, enhanced one-handed menu navigation, and durable weatherproof casing that resists solvents, acid, oil, water and dust. All PosiTector DPM gauges come with a shock-absorbing protective rubber holster with belt clip and wrist strap, and are backed by DeFelsko's two-year warranty.

www.stone-tucker.com



AEPDTM VOX 1000 Neutralizing Amine

Univar CASE Specialties offers the new Angus AEPDTM VOX 1000 Neutralizing Amine, which can help you formulate zero-VOC (< 5g/L) paints without compromising product quality. AEPD VOX 1000 Neutralizing Amine from ANGUS delivers all the functionality of industry standard AMPM, has virtually no odor and is more efficient than other low-VOC alkanolamines.

Addition of AEPD VOX 1000 Neutralizing Amine to the grind improves pigment dispersion efficiency resulting in lower primary dispersant levels. Its high boiling point and low vapor pressure make it a great fit when formulating either low-VOC or VOC-free paint while virtually eliminating amine- or ammonia-type odors.

AEPD VOX 1000 Neutralizing Amine is a distinct ANGUS amino alcohol that is chemically similar to AMP (2-amino-2-methyl-1-propanol), boasting an additional hydroxyl functional group that allows for improved open time and wet-edge improvements.

www.univarcorp.com

DUALSCOPE FMP100 and FISCHER DataCenter IP

Fischer Technology's DUALSCOPE FMP100 touchscreen coating thickness measurement instrument harmonizes the flexibility and capabilities of PC-based lab instruments with the manageability of compact portable units. The unit has Windows CE operating system with a graphical user interface and a user definable file and folder structure. The bright LC touchscreen display simplifies settings, measurements and data evaluations. It offers numerous configuration options for a clear presentation of results and the drag and drop feature enables the user to create application specific interfaces. The FMP100 and the various F-Probes form an integral measurement system with precise repeatability.

When used in combination with the optionally available inspection plan management software, FISCHER DataCenter IP, the FMP100 turns into a powerful multi-functional data terminal, opening up a whole new dimension in metrology.

Fischer also announces the Picodentor HM500 Micro-hardness Measuring System for hard material coatings. The instrument utilizes the load/indentation depth method according to DIN EN ISO 14577-1. With this high precision method, the indenter, typically a Vickers or Berkovich pyramid, is continuously pressed into the material tested with an increasing test load, and then unloaded. The respective indentation depth is measured at the same time. The hardness measurement range is specified from 0.001-120,000 N/mm².

www.fischer-technology.com



AkzoNobel Powder Coatings Unveils Comprehensive Ready to Ship (RTS) Gen III

AkzoNobel Powder Coatings has launched a new and improved ready to ship (RTS) offering to the North American Market.

RTS (Ready To Ship) Gen III, the next generation of the widely respected RTS range, draws on the expertise from across AkzoNobel Powder Coatings to offer an exciting and wide reaching assortment of powder coatings.

Developed from over 50 years of field experience and product refinement, RTS Gen III offers more than 300 Interpon products, technologies, chemistries and patented formulations. An enormous array of colors, appearances and industry specified products are available with the range, including an attractive assortment of metallic and textured effects.

Designed for customer convenience, the RTS Gen III product range offers consistency and excellent quality.

www.akzonobel.com/powder

ITW Gema Introduces OptiFlex2 Manual Powder Coating System

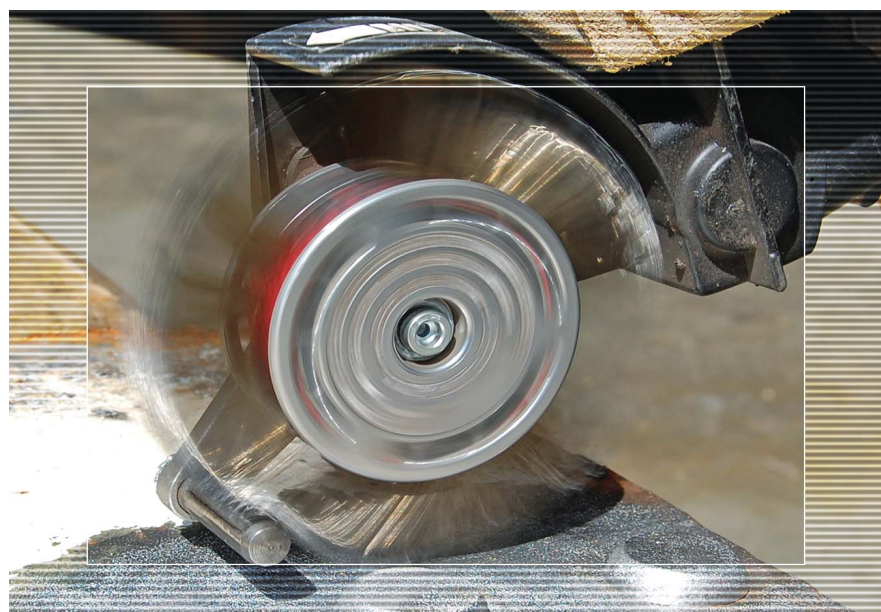
ITW Gema, the global leader in high-performance powder coating technology, announced the introduction of the OptiFlex2.



ITW Gema's new OptiFlex2 stands apart from other manual powder coating systems in several distinct ways. Its ability to spray virtually any powder with outstanding effectiveness and consistency is unparalleled. Its precision current and voltage controls ensure maximum transfer efficiency and coating uniformity when dealing with even the most complex parts. Unlike other manual powder coating equipment, the OptiFlex2 can also easily withstand the excessive heat and humidity that often cause power supply failures.

OptiFlex2 manual powder coating system has a high-performance, integrated, cascade power supply, with 100,000 volts of first-pass power, which efficiently charges all types of powders. For challenging powders such as metallic or special effects, users can call on the OptiFlex2's Precision Charge Control (PCC), for greater accuracy and adjustability of current settings below 10 microamperes (10 µA). The system's new PowerClean feature cleans the entire powder path from the pump to the gun tip using powerful blasts of air. The OptiFlex2 manual powder coating system also features an ultra-efficient powder pump design that employs the most effective angle to consistently deliver powder, resulting in optimized air consumption and less powder waste.

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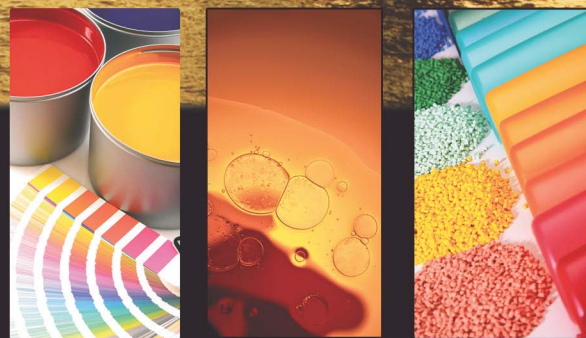
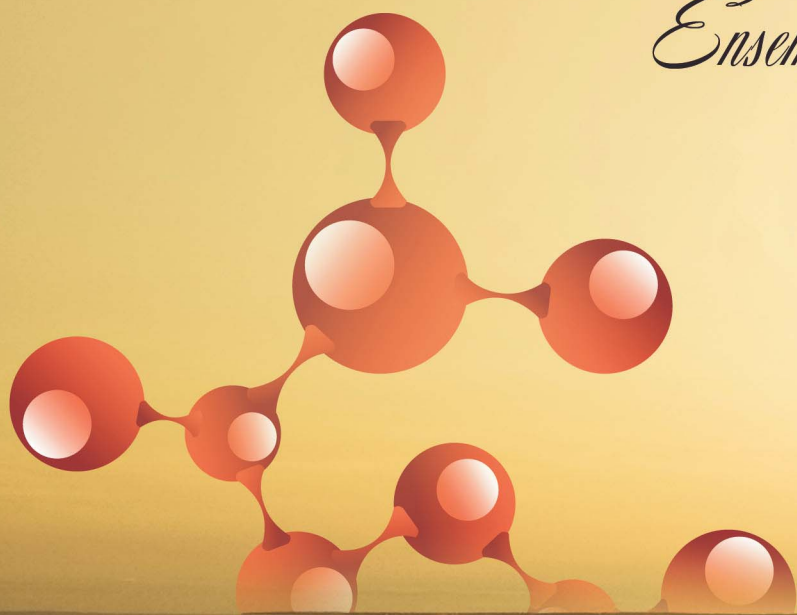
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