CFCM

CANADIAN FINISHING & COATINGS MANUFACTURING MAGAZINE

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Taken in Mimico, ON, even public art projects to discourage graffiti, are not safe from tagging.
Photo by Pete Wilkinson

By Sandy Anderson

It's called "Tagging the Town". When youth without enough constructive things to do with their time will grab a can or two of spray paint and make their mark on public property. We may not completely understand why it is done, but paint and coating manufacturers know exactly how to beat it. CFCM magazine spoke to several manufacturers of anti graffiti coatings about their products and what they offer to the marketplace.

Michael Kelly, President of Allied PhotoChemical, Inc. explains, "Anti-graffiti coatings are really broken down into two distinct markets:

1. In-line manufacturing solution – Defined as a fixed manufacturing operation that applies ultra violet (UV) coating and cures UV coating in-line.
2. Mobile UV solution – Defined as field applied operation that utilizes portable spray/roller and UV curing devices in a mobile operation. Both markets are important and have specific requirements that must be met." Kelly says that the coatings are a Liquid format with 100 per cent solids UV or water-based UV (and other technologies being investigated). They have No Solvent or Industrial pollutants. The product is designed to provide a protective barrier against other coatings, including specific etching products, provide a protective

continued on page 10

ALSO IN THIS ISSUE

- Biocides, Algaecides and Preservatives
- How to Choose a Conveyor System
- Masking
- Robotics and Gun Motion
- Manual Plating Lines
- Plating on Plastics

AND MUCH MORE!

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HOT SHOW SEASON

CFCM was busy since last issue covering seven industry events happening all around the same time. Extensive trade show photo coverage is featured. More photos on-line at www.cfcm.ca

Rob Hinkle, Fostoria Process Equipment during the Fabtech show in Atlanta.

Chris and Merrilyn Currie from John. E. Goudey at the CPCA Chairman's Dinner.

Mike Thies, ITW GEMA.

More photos on-line at www.cfcm.ca

IN THE NEWS

Association News

CPCA's 2010 Recognition Awards, Roy Kennedy Outstanding Achievement Award and New Board

The Canadian Paint and Coatings Association (CPCA), the national voice of Canada's paint and coatings industry, recognized organizations and an executive for exemplary service to the sector at its Annual Conference in October in Montréal, QC.

Introducing the 2010 Recognition Awards, Pierre Dufresne, Chair, CPCA Board of Directors said, "Responsible product stewardship is nothing new to the paint and coatings industry in Canada." He added, "We have been developing and managing product stewardship programs since 1994 and now have programs in British Columbia, Alberta, Saskatchewan, Ontario, Québec, New Brunswick and Nova Scotia. Our stewardship efforts have been successful due in large part to the great work of two stewardship partners, whom we are honouring here tonight."

The CPCA conferred a 2010 CPCA Recognition Award on Product Care Association for its programs, which help protect the environment by diverting left-over and end-of-life products from landfills, waterways and sewers.

Éco-peinture was honoured for bringing together paint manufacturers and brand owners

continued on page 2

continued from front cover

Sharon Kelly

in Québec, and its work promoting the recovery and reclamation of post-consumer paint.

Sharon Kelly was presented with the 2010 Roy Kennedy Outstanding Achievement Award for the critical role he played as a CPCA Board Member in the transformation of the CPCA to a successful, modern association.

"Sharon Kelly's integrity, honesty and hard work have positioned him as a leader in the paint and coatings industry," said Dufresne. "He epitomizes everything that Roy Kennedy represented—dedication, commitment, persistence and hard work."

The CPCA also, welcomed its Board of Directors at its Annual General Meeting, in Montréal.

"The CPCA is delighted that these extremely capable individuals will serve on our Board of Directors as we work to help the sector continue to meet the health-related needs of Canadians, the public policy objectives of government and the business goals of industry," said Jim Quick, CPCA President.

The new CPCA Board of Directors includes:
Pierre Dufresne, Akzo Nobel Canada Inc.; André Buisson, Société Laurentide Inc.; Dale Constantinoff, General Paint; Andrew Doyle, American Coatings Association; Rick J. Duha, The Duha Group; Brian Edwards, DuPont Performance Coatings; Sharon M. Kelly, Kelcoatings Ltd.; Mike Klein, Dominion Color Corporation; Ron Nakamura, PPG

Wink Vogel

Canada Inc.; Darrin Noble, Home Hardware Stores Ltd.; Ed Thompson, L.V. Lomas Ltd.; Richard Tremblay, Benjamin Moore & Co. Ltd. Fred Veghelyi, OPC Polymers Canada and Tim Vogel, Cloverdale Paint Inc.

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

Wood Show Moves

The 2011 edition of the Woodworking Machinery & Supply Expo (WMS), Canada's premier woodworking event, is moving to the state-of-the-art Direct Energy Centre with the new dates of October 27-29.

WMS had previously been scheduled to return to the International Centre in Mississauga, ON, Sept. 29-Oct. 1.

A significant impact of the move is that exhibit booth rates will be reduced below those of recent WMS shows. Past and prospective exhibitors can expect to receive 2011 space applications soon from Hall-Erickson Inc., show management of WMS.

WMS will attract thousands of furniture, cabinet, millwork and other secondary wood product manufacturers to view displays by leading international manufacturers and Canadian distributors of woodworking machinery, supplies, components, materials and more. In addition to the expo, plans are underway to present 2011 WMS attendees with the most extensive educational conference in the show's history.

To learn more about WMS, visit Woodworking-Expo.ca.

Global News

Smog-Eating Coating

Smoggy London is attacking its perennial air-pollution problem with an invisible pavement coating that is designed to trap particulate emissions.

Transport for London (TfL), the city's transit agency, will be spraying road surfaces at two locations with a dust-suppressant solution that helps PM-10 particles emitted by vehicles stick to the road, preventing them from recirculating in the air.

PM-10, produced mainly by engine emissions along with tire and brake wear, is one of the most harmful types of pollution.

The two roads, the A3211 and A501, have high levels of particulate matter and are in danger of exceeding European Union legal limits on particulates. City officials hope the spraying will reduce PM-10 levels by up to 20 per cent.

Meanwhile, there is a proposed smog-eating purple skyscraper in Hong Kong, using photocatalytically active nanocoatings.

Epoxy Resins Market to Reach 1.93 Million Tons

Global Industry Analysts Inc. (GIA) has released a report on the global epoxy resins market. The report forecasts the market will reach 1.93 million tons by the year 2015 due to rising demand from end-users. GIA says the epoxy resins market is influenced by the patterns in GDP growth and is largely susceptible to economic downturns and impacted by the automotive and construction and housing sectors. The economic recession across global markets during 2008 and 2009, and the sharp decline in the construction and automotive sectors, severely impacted the epoxy resins market. Decline in demand for epoxy resins in electrical laminates, and paints and coatings, resulted in a significant drop in the overall market. However,

Take **Your Kid** to **Work Day**

How many of you brought your grade 9 child to work on November 3 for "Take Our Kids to Work" day. To make it interesting for my daughter Heidi, the Home Hardware people in nearby Burford, ON, were willing to let us tour their paint manufacturing facility. Lisa McLaughlin, Materials Manager, set it up for us and John Kershaw, Quality Control Supervisor, took us around on a very informative tour.

I had been there 5 years ago and noticed that a lot had changed. They have undergone several expansions in all areas of operation, warehouse, lab and production, the most recent being 50,000 sq ft. Kershaw was like a teacher and asked Heidi questions to make sure she was paying attention. He also pointed out a lot of career directions that people otherwise may not think about. She got to peek in kettles and watch product being filled and packed. I think she surprised Kershaw in the lab though when she asked him a chemistry question (they had just studied it at school). Later I spoke with general manager Darrin Noble and asked if the Beaver Lumber acquisition a few years ago was the main reason for the expansion.

"The Beaver acquisition was a great boost to business, but that's way behind us now. The current expansion has been driven primarily by growing the brand through our existing Dealer network."

He adds, "We're proud to have incorporated 'Environmental Sustainability Best Practice' into the expansion, including geothermal heating and high efficiency lighting."

Noble says, "Although the expansion adds warehouse space, the new found space is not driven by adding inventory. What we really needed was manufacturing space to expand our production facility. We are investing in state of the art latex manufacturing equipment, to supplement the technology we already have in place."

Research and Development is ongoing in new products. The waterborne Rust Coat was introduced over a year ago in basic black and white. "Quite frankly, the uptake is disappointing," says Noble. "The upside is that our traditional alkyd Rust Coat has been formulated to 400g/l, is performing extremely well and its sales are better than ever." The company is planning to introduce tintable bases in waterborne to allow Dealers colour flexibility. Pre-tinted colours will follow as demand grows.

The company will begin production of a new high performance exterior low-sheen product to meet the needs of commercial and OEM users.

"Our lab has expanded in size and scope," says Noble. "We don't have the benefit of a multi-national parent to manage our innovation platforms, so it must come from within - way out here in little old Burford."

Despite it being busy, the company prefers to stay on a 10 hour day/4 day/week, one shift plant format. "It helps put people and families first," says Noble. "Our safety record is seven years without a lost time accident. I believe this shift structure supports that."

John Kershaw was our guide for the morning November 3, 2010, at the Home Hardware paint facility in Burford, ON.
Photo by Sandy Anderson

New was the use of plastic cans and tote bags. "Plastic paint cans have been terrific for Dealers and end users - they don't rust, dent or leak," says Noble. "Tote bags and our unique handling system reduce waste and makes material handling more efficient and safer."

"Oil base products are declining but still slowly. We sell a lot of Rust Coat and stains, but the shift to waterborne is accelerating," says Noble.

The company has 4200 colours including the new Simon Change, Style at Home and Sesame Street exclusive collections, and will be adding 1200 more in the near future.

The one thing we noticed in the plant is the element of closeness, a family-like atmosphere. It might have something to do with being part of such a small community surrounded on four sides by Paris, Woodstock, Simcoe and Brantford. They had a big party and open house complete with BBQ and balloons to celebrate their 30th anniversary this past June.

Thanks Home Hardware!

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CONTENTS

FEATURES

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Industry In Review from TOSCOT

By Jake Jevric and Dave Saucier

As the global economy attempts to rise from the ashes of the second great modern recession, the Canadian coatings industry continues to wage its own struggles, both internally and internationally.

Internally, we are facing the ever-looming threat of "non DSL" status for desired raw materials. As we see (and hope) for the need and demand for more environmentally friendly products, we also see the threat of having new novel chemistries remain beyond our reach, stifled by regulatory compliance.

Internationally, Canada's manufacturers are stuck in the middle of the currency war between China, the EU, and our US neighbors. For the near future, the pending outlook is that the US government will continue to depreciate their own currently in order to jumpstart their economy. For the U.S. population this is a form of taxation, which will only reduce their overall wealth and purchasing power, but for Canadians, this will mean more exports out of the U.S., more head office consolidations, repatriation of manufacturing to US plants, and more U.S. produced coatings sold into Canada. Given the strength of the Canadian dollar (a strength that is further backed by our significant oil reserves), the next decade is a strong signal that the time for Canadian manufacturers to rely on the weak Canadian dollar is over, and that we must innovate to compete globally.

On a more visceral note, the industry in general has been astounded by some key raw material shortages. As the raw material suppliers attempt to rationalize what they are seeing from the supply/demand situation, we have seen large scale production consolidation of key raw materials. As many key raw materials used in the paint and coatings industry are manufactured in large scale, state of the art, continuous flow facilities, the production rates at times cannot be scaled back. The choice for the raw materials manufacturers is often to continue production in a market where supply exceeds demand, or simply shut the facility down.

This situation is exactly what happened to Titanium Dioxide, which continues to be in short supply, while those who can supply are experiencing a dramatically extended lead. In addition a dramatic and similar shortage in acrylic resin also caught many latex paint producers off guard, as material tightens and prices rise. Some paint manufacturers have expressed thanks that their overall demand for paint has declined by as much as 25 per cent, for based on their latex acrylic allocations, this reduced demand is currently all they could supply. Conversely, we have seen Epoxy Resin price points plummet as manufacturers fight for geographic control of volume, and market share.

Throughout this, TOSCOT continues to examine our value proposition for the coatings industry. Our legacy of offering a world class educational program for entry level coatings professionals, in both the manufacturing and sales functions is indeed the best means for TOSCOT to service the industry at large, both in Canada and potentially globally. In this regard, TOSCOT has started the conversion of its "in-class only" Diploma in Coating Technology to a cutting edge, first class online Introduction to Coatings Course. Semester 1 of our 3 semester program will launch September 6, 2011. The online format will contain all of the previously offered elements of the standard "in-class" educational program, with the benefits of additional audio/visual elements to aid the educational process. The end goal is to allow a student to move through a 1-year program, emerging with the required basic technical knowledge to function as a well-informed contributing member within any paint and coatings organization.

Finally, we are looking forward to concluding the merger with the Canadian Paints and Coatings Association sometime in the spring of 2011. This merger is strategic to the continued usefulness of TOSCOT to the coatings industry and the ultimate success of the online diploma course.

Jake Jevric is Vice Chair and Dave Saucier is President of the Toronto Society of Coatings Technology

the market is likely to recover from the downturn and is poised to gain momentum and register growth in the near term.

Asia-Pacific represents the largest and fastest-growing regional market for epoxy resins worldwide.

www.strategyr.com/Epoxy_Resins_Market_Report.asp.

Evonik, Coatex Plan New Production Facilities

Global specialty chemicals giant Evonik Industries will build a new production plant for its forthcoming MMA product called AVENEER, while additives maker Coatex will expand its Asian presence with two new facilities in China, the companies have announced.

Evonik's new plant will use a new Methyl Methacrylate manufacturing process that the company has been testing for nearly three years at a pilot plant in Germany.

Evonik recently launched a $334 million MMA integrated production network at its new Shanghai facility, but the location of the new plant will not be announced until 2011, with completion slated for 2014.

Company News

Protech-Oxyplast Group Wins Surface Innovation Award

The Protech-Oxyplast Group Montreal, Canada, won the Surface Innovation Award during the Surface Exhibition held in The Netherlands from October 12-14, 2010. The award was granted to Protech-Oxyplast Belgium for the development of its ag-kote range of low-curing powder coatings. Ag-kote is an environmentally friendly coating with higher efficiency and better properties and contributes to a considerably lower consumption of energy, a lower use of powder coating and higher productivity.

L V Lomas buys Harcrima

L. V Lomas Limited, Brampton, ON, has purchased of Harcrima Holdings Inc. and its subsidiaries Primex Customs and Logistics Inc, Primex Packaging Services Limited, and R.V Storage and Assembly Co. Limited. The acquisition was completed on September 3rd, 2010. Hacrima Holdings and the subsidiary companies will be amalgamated with the third party logistics business of L. V. Lomas Limited which operates under the name of Lomas Logistics, www.lomaslogistics.com.

Sherwin-Williams Acquires Becker Acroma

The Sherwin-Williams Co., Cleveland, OH, has closed a definitive agreement to acquire wood coating specialists Becker Industrial Products AB, a subsidiary of AB Wilh. Becker based in Sweden.

The deal was for SEK 1.7 billion ($227 million). It will be part of the company's growing Global Finishes Group following the acquisitions of Sayerlack (2010), Inchem (2008) and Becker Powder Coatings U.S. (2008).

Ametek Buys Atlas Material Testing Technology

Ametek Inc., a global manufacturer of electronic instruments, has announced that it has purchased Atlas Material Testing Technology LLC for $159 million in cash.

Chicago-based Atlas provides weather test instruments and services for paints, coatings, aerospace, plastic, vehicle and other manufacturers. Atlas, formerly owned by private investment firm Industrial Growth Partners, has additional manufacturing operations in Germany and a global network of outdoor and laboratory testing facilities. The company has expected 2011 sales of approximately $85 million.

Atlas joins Ametek, based in Paoli, PA, as part of Ametek Measurement & Calibration Technologies (M&CT). M&CT is a division of Ametek's Electronic Instruments Group (EIG), a provider of advanced monitoring, testing, calibrating and display instruments with expected 2010 sales of approximately $1.3 billion.

Sale of Cognis' UV Acrylates Business Completed

Global specialty chemicals supplier Cognis and IGM Resins B.V., based in Waalwijk, The Netherlands, have announced that the sale of Cognis' UV acrylates business has now been formally completed.

Following the signing of the Sale and Purchase Agreement in April 2010, and fulfillment of the necessary closing conditions, the sale has now been formally concluded.

The UV acrylates business, which had been part of Cognis' Functional Products strategic business unit, manufactures and sells monomers and oligomers for UV applications marketed under the Photomer brand name. The sale of the UV acrylates business includes the Photomer trademarks, intellectual property, inventory and the Charlotte, NC, manufacturing site in the United States.

Univar to Acquire Basic Chemical Solutions

Univar Inc., a global chemical distributor, and Basic Chemical Solutions, L.L.C. (BCS), a global distributor and trader of commodity chemicals, have signed a definitive agreement for Univar to acquire BCS. The acquisition is expected to close in the first quarter of 2011, subject to customary closing conditions.

Momentive, Hexion Complete Merger

The parent companies of Momentive Performance Materials Holdings Inc. and Hexion Specialty Chemicals Inc. have merged.

The combined company, Momentive, is a supplier of silicones, epoxies, quartz, phenolics, acrylics, aminos, Versatic Acids, and other products used in paint, coatings, and range of other materials.

Valspar Corp. Announces Buyback of 15M Shares

The Valspar Corp. Board of Directors has authorized the repurchase of up to 15 million shares of outstanding common stock—about 15 per cent of the company's current outstanding shares.

The new authorization is effective immediately, does not expire, and replaces the authorization approved in October 2009, which allowed for the repurchase of up to 4 million shares.

Container Maker BWAY Acquires Plastican Inc.

BWAY Holding Company, a major North American supplier of general-line rigid containers including paint cans, acquired Plastican Inc., a U.S. producer of injection-molded plastic containers, in a stock-purchase transaction.

Plastican, based in Leominster, Mass., produces a range of plastic pails used for industrial and consumer products. The company operates manufacturing sites in Leominster; Macon, Ga.; Dallas; and Phoenix, and generated net sales of $90 million in 2009.

BWAY operates 23 plants (including Plastican facilities) in the U.S. and Canada.

Valspar Completes Acquisition of Wattyl

The Valspar Corp. has completed its previously announced acquisition of Australian paint manufacturer Wattyl Ltd.

Minneapolis-based Valspar acquired all outstanding Wattyl shares for about $142 million and assumed Wattyl's existing debt. Wattyl had 2009 sales of $381.4 million.

Clayton, Dubilier & Rice to Invest in Univar

Clayton, Dubilier & Rice LLC (CD&R) and CVC Capital Partners have announced a definitive agreement for CD&R to acquire a 42.5-per cent ownership interest in Univar, a global distributor of commodity and specialty chemicals valued at $4.2 billion. With revenues of $7.2 billion, Univar operates a network of 179 distribution facilities and distributes more than 11,000 products and 110,000 SKUs to over 80,000 customers in more than 100 countries.

The transaction is expected to close in the fourth quarter of 2010.

Fusion Uv Systems And DVUV Holdings, Llc Announce Strategic Alliance

Fusion UV Systems, Inc. and DVUV HOLDINGS, LLC, leaders in the ultraviolet (UV) curable coatings industry, announce an alliance to jointly market UV-curable powder coating systems for heat sensitive substrates. Both will market and promote UV-curable powder coating application systems using Fusion's UV-curing lamp technology and DVUV HOLDINGS's solvent-free UV-cured powder coating chemistry and application technology.

PPG Forms Solar Performance Group

PPG Industries has announced the formation of the PPG Solar Performance Group. The new group will focus on the continuous development and commercialization of glass and coatings technologies for the solar-power industry.

The PPG Solar Performance Group will use the expertise of the entire corporation to develop durable, "green" lead-free protective coatings, adhesives and sealants. The PPG Solar Performance Group is headquartered at the PPG Glass Business and Discovery Center in Harmar, PA.

AkzoNobel Ranked No. 1 on Dow Jones Sustainability Index

AkzoNobel has been named the 2010-11 "Supersector leader" for the chemicals industry in Dow Jones' Sustainability World Index, the largest global analysis of corporate sustainability leadership.

The world's largest paint and coatings company, which is also a major producer of specialty chemicals, is one of 18 Supersector leaders in this year's index, having achieved the highest score in its industry. This marks AkzoNobel's sixth year on the list; last year, it ranked second in its industry.

Rhino Linings Corporation Acquires Tobin Manufacturing

Rhino Linings Corporation, a global provider of protective polyurethane, polyurea, polyaspartic and epoxy coatings has acquired Tobin Manufacturing, LLC , a leading manufacturer of two component positive displacement meter/mix/dispense equipment. Tobin equipment dispenses polyurethane elastomers, epoxies and foams into molds for high volume production. The acquisition provides Rhino with a wider customer base and a stronger market position in the polyurethane industry. Tobin will relocate its operations to the Rhino facilities in San Diego, California.

Hanson Buys Aragon

The Hanson Group, LLC has acquired Aragon Elastomers, LLC. Aragon Elastomers is a leading supplier of cast urethane parts for rock climbing holds, wheels, mining parts, Forti-Mold and Forti-Cast (no silicone required urethane molds for casting concrete into rock and other shapes). Aragon Elastomers specializes in custom urethane formulated systems used for casting to meet customers' needs.

Braskem launches project for green propylene industrial unit

Braskem, the largest thermoplastic resin producer in the Americas ha concluded the conceptual phase of the project to build a green propylene plant.

In 2011, work will be concluded on the basic engineering studies and, once final approval is obtained, the project's installation will begin, with operational startup expected in the second half of 2013. The plant should require investment of around US$100 million and have minimum green propylene production capacity of 30 kt/year.

To produce green polypropylene, Braskem will adopt technology that has already been proven on an industrial scale and use as an input sugarcane ethanol. The green polypropylene will have the same technical, processability and performance properties as polypropylene made using traditional production routes.

The company says the preliminary eco-efficiency study has shown very favorable results, given the benefits from the environmental advantages of green ethylene. The study was conducted in partnership with Fundação Espaço Eco and was based on conceptual engineering data. Each ton of green polypropylene produced captures and sequesters 2.3 t of CO_2.

Bayer MaterialScience LLC pioneers use of waterborne PUDs and blocked polyisocyanates in coatings for glass containers

Glass represents a challenging substrate for the coatings chemist. Fortunately, new developments from Bayer MaterialScience LLC are making waterborne polyurethane dispersions (PUDs) and blocked polyisocyanates an attractive option for coating the exterior of glass bottles and jars.

Using a polyurethane dispersion/blocked polyisocyanate system for glass coatings offers improvements in abrasion resistance, scratch & mar resistance, chip resistance, grip, impact strength, lubricity control and ultraviolet (UV) stability.

These one-component systems also provide

design freedom, meaning the glass containers can be transparent or pigmented, with a high gloss, matte or frosted look.

Kremlin Rexson, SAMES, and Johnstone have changed their logo

The new logo shows the company commitment to grow both locally and internationally highlighting and elevating the three product brand names. They illustrate the Kremlin Rexson, SAMES, and Johnstone strength and commitment to innovation enabling us to offer customers complete solutions - from a pump to a complete application system.

Kremlin Rexson, SAMES, and Johnstone are experts in Finishing and Dispensing Solutions. They are present in most markets on a worldwide basis (automotive, aerospace, rolling equipment, plastic, wood). These new logos will replace all existing designs.

The new website of EXEL North America clearly highlights this new positioning with clarity and strength. Please see our video that explains the transition of our logos below.

www.exel-na.com

Polyurethane Competition

Nanotech Industries International Inc.'s Green Polyurethane™, billed as the first polyurethane coating product formulated without the use of isocyanates, recently won second-place honors in the Polyurethane Innovation Award competition.

The competition is hosted by the Center for Polyurethane Industry (CPI), part of the American Chemistry Council. The CPI's recent Polyurethanes 2010 Technical Conference focused on advances in polyurethanes and the economic benefits of "going green."

The winner of the Innovation Award was BASF's FilterPave Porous Pavement System, a pavement material that combines specially treated post-consumer recycled glass with a polyurethane binder to create a porous surface for use in stormwater-management applications.

Industry News

12th Annual Strike Out Arthritis Paint Industry Challenge

ARTHRITIS FIGHT IT!

The 12th Annual Strike Out Arthritis Coatings & Plastics Industry Charity Challenge will be held Saturday, February 19, 2011, at Classic Bowl, Mississauga, ON.

The 10-pin bowling tournament has been supported by Ontario paint manufacturers and suppliers since its inception, and has raised more than 285,000 for arthritis research, education and community-support services. Nearly 4.5 million Canadians suffer from arthritis, and roughly 65 per cent of those suffering are of working age. Arthritis is a disease that seriously impacts our workforce, as nearly 600,000 Canadians are unable to work due to their arthritis.

To enter a team into the tournament, a minimum donation of $340 per 4-person team is needed. Beyond that, teams are encouraged to raise other donations in support of arthritis research. Individual or team entries can be registered by calling Lorna Catrambone at The Arthritis Society at (905) 455-6273 x221 by email at: LCatrambone@on.arthritis.ca, or online at www.arthritis.ca/onevents.

Catrambone also manages the sponsorships available at the event.

Teams are guaranteed 3 games, with a handicapping system used to determine semi-finalists and finalists. The event also features a Silent Auction and a special Try For-a-Prize Lane, lunch and the opportunity to network with colleagues in the industry.

Paint Industry committee members this year are: Lisa Martella, Univar Canada; Chris McDougall, Univar Canada; Pasky Oliveria, Serif Coatings; Jason Young, Ferguson Chemical and Lorna Catrambone, The Arthritis Society.

For more information: Lorna Catrambone, The Arthritis Society, 905-455-6273 x221, LCatrambone@on.arthritis.ca.

BPA Updates

BPA is a key component in the epoxy resins that are used to make coatings of every type, from protective and marine coatings for ship hulls, tank linings and oil platforms; to powder coatings for automotive parts, metal roofing and gardening tools; to anti-slip and industrial floor coatings; to—most controversial—linings of food cans.

BPA is also a key component in the production of polycarbonate plastic, which is used to make a huge variety of products, from baby bottles to bullet-resistant shielding, bicycle helmets, kidney dialysis machines, incubators, face shields and safety glasses, and adhesives for home and construction use.

A Statistics Canada study released in August found that 91per cent of Canadians ages 6 to 79 had detectable concentrations of BPA in their urine. Concentrations were higher for children ages 6 to 11 than they were for adults ages 40 to 79. The highest concentrations, however, were measured in teens aged 12 to 19.

The safety of BPA has been the subject of growing recent global debate. The government of Canada recently added the chemical to its Schedule 1 list of Toxic Substances under the Canadian Environmental Protection Act, causing sparks from the chemical industry, which said the risk of BPA had been exaggerated.

Canada's Environment Minister, Jim Prentice, announced that the Government of Canada is proposing a new regulatory instrument to address releases of bisphenol A (BPA) through industrial effluent days after the Government of Canada announced that BPA, a chemical that can be harmful to both human health and the environment, is being added to Schedule 1 of Canadian Environmental Protection Act, 1999 (CEPA 1999). The federal government has made good on a two-year-old promise to add bisphenol A to the country's list of toxic substances, in spite of industry opposition.

In 2008, Canada became the first country in the world to ban BPA in baby bottles, after finding that the chemical mimicked the hormone estrogen, and could eventually lead to prostate and breast cancer.

The delay in its listing was due to a formal notice of objection from the American Chemistry Council, filed on July 2009, stating the decision was "contrary to the weight of worldwide scientific evidence, unwarranted and will unnecessarily confuse and alarm the public." The Council added, "BPA is one of the most thoroughly tested chemicals in commerce today . . . Extensive scientific studies have shown that BPA is quickly metabolized, excreted and does not accumulate in the body."

Ottawa rejected the request on the grounds that it did not "bring forth any new scientific data or information with respect to the nature and extent of the danger posed by bisphenol A."

The regulatory instrument is a Pollution Prevention Planning Notice that has been published in the Canada Gazette Part 1 on October 16, 2010, that initiates a 60-day public comment period.

The Pollution Prevention Planning Notice is the latest in a series of government actions to manage the risks of BPA, including the prohibition on the advertising, importation and sale of polycarbonate baby bottles containing the substance, and ongoing work with Canada's provincial and municipal counterparts to address potential releases that could occur during the disposal or recycling of products.

The European Food Safety Authority announced recently that it would not lower the official limit on accepted exposure to Bisphenol A, despite requests by some European countries to do so. France, German, Denmark and Sweden all have taken steps to rein in BPA exposure.

The World Health Organization and U.N. Food & Agriculture Organization met in Ottawa in November to discuss BPA safety.

Meanwhile, new research has found a significant association between workplace exposure to the chemical Bisphenol A, widely used in coatings, and decreased sperm count and function—the first research to make that connection in humans.

A study of Chinese factory workers by Dr. De-Kun Li, MD, PhD, in an article published October 2010 in the journal Fertility and Sterility found that BPA was "statistically significantly associated with" decreased sperm count, vitality, motility and concentration.

For further information about bisphenol A, visit the Chemical Substances website at *www.chemicalsubstanceschimiques.gc.ca.*

Pricing Updates

Ashland to increase global prices of Natrosol hydroxyethylcellulose

Ashland Aqualon Functional Ingredients, a commercial unit of Ashland Inc. increased the price of its Natrosol hydroxyethylcellulose products by 12 per cent on average effective Dec. 1.

The company says the price increase is necessary to offset the recent cost increases of key raw materials used to manufacture hydroxyethylcellulose. Responding to changing market conditions allows Ashland to continue to invest in new capacity and product innovation.

Ashland Aqualon Functional Ingredients is the global leader in the production of products that manage the physical properties of aqueous and non-aqueous systems.

DSM to increase prices for all acrylic resins, beads and all urethane resins in North-America

Effective December 1st 2010 or as contracts allow, DSM NeoResins increased prices in North-America

for all its liquid acrylic resins, beads and urethane resins with .05 to .15 $/lb, depending on the product line and product. For some products the increase was higher, depending on the dynamics of the specific raw material.

The price increase affects the entire Textile, Adhesives and Graphic Arts portfolio, including NeoCryl waterborne acrylics and acrylic beads, NeoPac waterborne urethane-acrylics, NeoRez waterborne urethanes, NeoRez, Uraflex and Solucote solvent borne urethanes and Uracron solvent borne acrylics.

Steve Hartig, business unit director DSM Neo-Resins says: "The price increase is necessitated by the continued escalation in the costs of key raw materials. These escalations are driven by a combination of sequential outages and structural capacity removal in these markets. Raw materials involved are acrylate monomers, methacrylate monomers , acrylic acid and its esters, aliphatic isocyanates to name a few."

Clariant's Polymer Additives Business increases prices

Clariant's Business Unit Polymer Additives recently announced 10-15 per cent global price increases for its coatings products.

The price adjustments are necessary to compensate for significant increases in raw material and transportation costs, alongside continuing high energy costs.

"We have absorbed significant cost increases through production optimization and other efficiency-increasing measures, but we have now reached the limit of what we can do with these tools," says Jérôme Abrahmi, Head of Clariant's Polymer Additives Business Unit. "Our objective is to ensure a long term commitment to the coatings industry and a continuous supply of high quality products and services, therefore, the current situation leaves us no alternative other than to increase our prices."

Clariant customers will be contacted individually regarding the specifics of the price increases as they apply to their products and regions.

New prices will be effective for all deliveries as of September 15, 2010 or as contracts allow.

Huber Engineered Materials Announces Global Price Increase for Precipitated Silicas and Silicates

Huber Engineered Materials, a division of the J.M. Huber Corporation, recently announced a global price increase for its precipitated silicas and silicates. The increase was effective Oct. 15, 2010, 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 labor, manufacturing, regulatory and supply chain.

People on the Move

Steve Becker promoted to Director of Sales


Steve Becker

Schenck AccuRate, Whitewater, announces the promotion of Steve Becker to Director of Sales. In his new position he will be responsible for directing the North American sales force for chemical, food, pharmaceutical, plastic, cement, aggregates, gypsum and steel industries.

In the fifteen years that Becker has been with Schenck AccuRate he has held the positions of Mechanical Engineer, Mechanical Engineering Manger, Alternative Fuels Market Manager and Director of Heavy Sales. Becker is a 1986 Graduate of the University of Illinois, Champaign and received his BS in General Engineering.

Steve Houston resigns as The Powder Coating Institute's Executive Director and turns the reins over to Interim Director, Ken Kreeger

The Powder Coating Institute has announced that on November 15, 2010, Steve Houston officially resigned as the Executive Director of PCI. Steve assumed the role as Director in May 2008 and has been on a whirl wind tour of new programs and added benefits for the industry and the PCI membership. Steve will join TCI as Vice President of Sales and Marketing and Business Expansion. Ken Kreeger, has supported PCI through his more than 41 years with Nordson Corporation and has become the interim Executive Director, a search committee has been formed to begin the interviewing process for a permanent director.

"I have been involved in PCI since its formation in 1981 and remain dedicated to the association and look forward to working hard to continue the new and exciting things PCI is offering to the market today," says Kreeger.

Calendar of Industry Events 2011

February 19: 12th Annual Strike Out Arthritis Paint Industry Challenge, Classic Bowl, Mississauga, ON. The 10-pin bowling tournament has been supported by Ontario paint manufacturers and suppliers since its inception, and has raised more than 285,000 for arthritis research, education and community-support services. LCatrambone@on.arthritis.ca, or online at *www.arthritis.ca/onevents.*

February 23-25: Smart Coatings 2011 in Orlando, FL, Smart Coatings symposium is an annual international event that brings together scientists and business leaders from across the globe to discuss the latest developments and trends in cutting-edge technologies pertaining to 'smart' materials and coatings. *www.smartcoatings.org*

June 14-15: SUR/FIN 2011 in Rosemont IL. (Chicago) *www.nasf.org*

October 4-6: NAI The North American Industrial Coating Show, *www.nace.org, www.powdercoating.org*

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.ccaiweb.com*

Calendar of Industry Events 2012

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

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

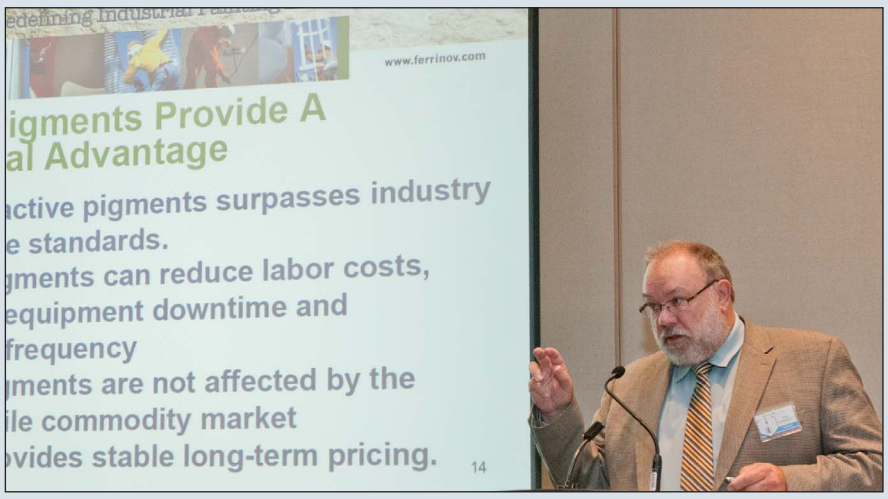
HOT SHOW SEASON

The **UNIVAR Case Expo,** held Sept. 29, 2010, was well attended. There were over 21 technical presentations to go with the exhibits. Fred Ketchen from Scotia Capital was the luncheon speaker.

More photos on-line at www.cfcm.ca

Lauren Hill, Environment Canada.

Natalie Janowsky and Thomas Papasso Evonik with Wagdi Kaddis, Société Laurentide.



Louis Archambault, Ferrinov Inc.

Eastman -Daniel McManus, Mark Hufford, Sylvia Bayliss, Gary Robe.

Umberrto Torresan, Cindy MacIntosh, Lance Cooper, Jacques LeRoux, Dow Chemical.

A.Nakamuru ,Kusumoto Chemical, Chris Fesenmeyer, King Industries, T.Tawaraya, Kusumoto Chemical.

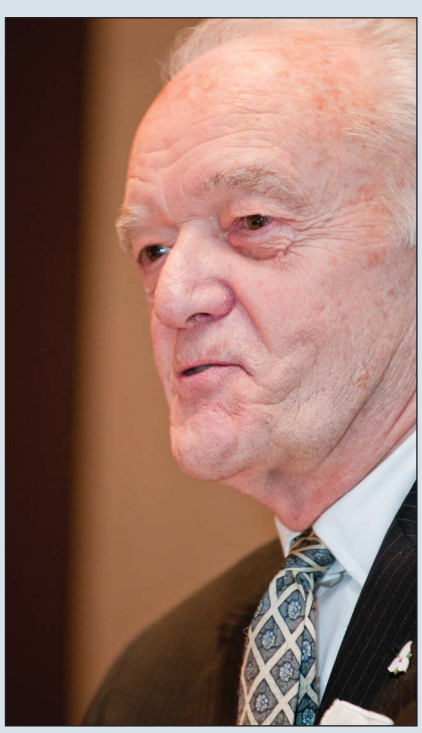
Justin Conklin and Victor Sarantschin, ANGUS Chemicals.

Lunch

Rima Mendonca, Gary Meenink, and John Taylor, General Paint.

The UNIVAR hosts.

Jean Meng, DuPont.



Luncheon Guest speaker Fred Ketchen, Scotia Capital.

continued from front cover

barrier against weather and elements and can be field repaired. Kelly says that customers are typically interested in a Fixed In-Line manufacturing solution and a Mobile UV solution. The attributes of these solutions are: ease of application with spray, roller or brush; ease of cure with sunlight and/or handheld UV curing device; cost control; 100 per cent solids UV coating provides 1,604 square feet at 1 mil thick with no waste; water-based UV coating provides 800 square feet at 1 mil thick with minimal waste as well as chemical resistance and weatherability.

Kelly says there is very high demand for the product. It is substrate dependent, so testing should be conducted before widespread application. "There is no generic product that cures all graffiti issues," says Kelly. Allied PhotoChemical has UV Coatings Technology specifically developed as an anti-graffiti coating. It is a mobile UV application applied and cured in the field. It is applied via spray or hand-rolled/brushed as a clear or tinted coat. It has high chemical resistance and can be adapted for in-line fixed manufacturing.

Kelly discusses methodologies.

"Proactive Methodology: The key with anti-graffiti coatings is that the technology is proactively applied to protect a given area. Initial investment is required for field applying the UV anti-graffiti coating, but the area is protected against damage.

Reactive Methodology: After graffiti has been identified as an issue, Mobile UV solution can be achieved in the field. Mobile UV solution can also cover up current graffiti and then act as a protective layer against additional graffiti events." The product has no or minimal VOCs, HAPs and NVPs.

Daniel J.Agnew, P.Eng., SSPC Protective Coatings Specialist, President, Amercoat Canada says Amercoat Canada is the licensed Canadian manufacturer/distributor of PPG Amercoat Protective and Marine Coatings. "While most of our products are designed for heavy duty corrosion protection, some of the topcoats have excellent anti-graffiti properties and have been used on steel, concrete and composite material structures."

He continues, "Anti-graffiti coatings for Amercoat are all two-component liquids, that cure to a hard, glossy finish. Manufacturing is not very different from other protective coatings, although colour of gloss is often important. Products must retain their original gloss and colour after removal of graffiti from spray bombs, markers etc. by specialty graffiti removers.

Customers want easy cleanability and no "ghosting" of the graffiti. Demand is variable.

Tried and true products are our Amershield Aliphatic High Solids Polyurethane and newer PSX 700 Engineered Polysiloxane. Main applications are exterior walls of schools and public places, bridge abutments, railway or subway cars, and specially designed structures or statues. Application is mostly by airless spray but can be by roller for smaller areas. End users would have to answer this question specifically. Generally users of A-G coatings want speedy removal of offensive graffiti with minimum labor. Once graffiti is on unprotected surfaces such as bare concrete, it is very difficult to totally remove from the pores. Our products are all VOC compliant. PSX 700 is solventless prior to mixing and emits a small amount of alcohol after mixing."

Nobuo Keto, Category Manager, Akzo Nobel Decorative Paints Canada says ICI Paint stores sell the VandlGuard anti-graffiti system from Rainguard. It is a liquid, sold in a single gallon size or 5 gallon pail. Rainguard products are manufactured by Rainguard International. Keto explains, "Anti graffiti coatings are of two basic types – sacrificial and non-sacrificial. With sacrificial coatings when you attempt to remove the graffiti you also remove the surface of the coating. The VandlGuard anti-graffiti system is a non-sacrificial coating where the polymer system cross-links to form a tight three dimensional network. This makes it difficult for graffiti to adhere and allows it to be removed more easily.

The VandlGuard system is a non-sacrificial single part anti-graffiti coating that provides a tough and durable graffiti resistant finish. This is a cross-linking co-polymer material coating that dries clear (non-yellowing) with a low luster sheen. It is intended to guard against many of the commonly available spray paints and to allow their removal with the least effort."

Keto says customers are asking for ease of application, warranty support, effective and easy removal of graffiti and the right products to use if cleanup is required. "This product has strong demand in commercial as well as some residential applications." Keto adds, "All surfaces to be coated must be structurally sound, clean and dry. VANDLGUARD is to be applied using airless spray equipment at recommended coverage rates." It is recommended for use on: Concrete, Brick, Stucco, Stone, Metal, Wood, Plastic, Aggregate panels, EFIS and cement plaster, Water Borne and Solvent Based Coatings and Previously or newly painted surfaces.

Because this system requires airless spray equipment, professional installation is recommended," says Keto. "Removal of graffiti is time consuming and expensive. The removal costs are greatly reduced if a high quality anti-graffiti coating has been applied, which can be guaranteed in service for up to 10 years. Costs of application vary greatly depending on labour, number of coatings, application and substrate, but as an example, one gallon of VandlGuard can cover up to 250 square feet of brick, or a material cost of $3.49 per square foot.'

As for environmental concerns, Keto explains, "The anti-graffiti coating is low VOC at <20 g/L. Many graffiti removers have significant VOC concentrations in their formulations. Alternatively, you can use pressure wash systems which are quite energy intensive. Once you have applied the VandlGuard product, graffiti removal is relatively simple with the biodegradable Rainguard graffiti cleaner or remover. Over the life of the substrate, the addition of an anti-graffiti coating reduces total emissions significantly. This system can be used on unpainted, painted, and waterproof surfaces by applying various treatments prior to using the VandlGuard system.

Additional coatings will provide improved material warranty; up to a 10 year warranty is available."

Scott Grace, director, business development, waterborne dispersions, Coatings, Adhesives and Specialties business unit; Terry Wayt, technical manager, construction coatings, NAFTA business development, Coatings, Adhesives and Specialties business unit; and Kathy Allen, associate scientist, NAFTA business development, Coatings, Adhesives and Specialties business unit, all of Bayer MaterialScience LLC say, "The key concerns in manufacturing an anti graffiti coating are the same as in any coating material. It must be of acceptable quality (i.e., gloss and color stability when exposed to UV light, sufficient chemical resistance to withstand graffiti cleaners) and be consistent from batch to batch. Bayer's graffiti-resistant coating is a two-component, water-based, cross-linked polyurethane. It consists of a waterborne OH functional acrylic dispersion and a water-dispersible polyisocyanate, and has an extremely low VOC level (< 50 g/liter). Bayer also has conventional 2K solvent-borne polyurethane coatings, which also have good anti-graffiti properties. These conventional coatings have very good chemical resistance and weatherability, but have a VOC level which is much greater (i.e., > 420 g/liter).

They explain that Bayer's waterborne anti-graffiti coating system is designed to provide durability and easy cleanability such that graffiti can be cleaned off surfaces using a citrus cleaner and scrubbing.

According to Bayer, "Customers are asking for a coating to maintain its original appearance, despite repeated cleaning to remove graffiti, without harming the coating (i.e., changes in gloss or color)."

Bayer's new anti-graffiti coating system consists of a waterborne polyacrylate and a water dispersible polyisocyanate. This system can be formulated at less than 50 grams per liter of VOC. It can be formulated to be high gloss to matte based on the choice of polyacrylates.

This coating is used primarily on buildings, concrete structures or roadways. It is applied by brush and roller, but could also be spray applied. The new

polyurethane system survives repeated cleanings which makes it less costly than repainting over graffiti. Graffiti can simply be cleaned from the substrate using low cost mild solvents, rather than painting over the graffiti with additional paint (and the labor needed to apply it).

Bayer's graffiti resistant coating system can be formulated at less than 50 grams per liter VOC, which is an acceptable value under most global regulatory VOC environments.

Dupont has an anti graffiti clear coat. Logan Macpherson, Marketing Specialist, DuPont Industrial CoatingSolutions explains, "DuPont Imron EZ-3460S Clear Coat is a liquid product. It provides outstanding cleanability, coupled with resistance to chemicals and graffiti. The chemical formulation for the two-component polyurethane clear is based on DuPont Teflon technology. As a result, it offers exceptional cleanup properties while resisting dirt, road tar and tree sap, as well as graffiti. This product is very popular with transits and cement/concrete fleets because of its cleanability and chemical resistance. DuPont(tm) Imron(r) EZ-3460S Clear Coat is easy to apply using standard paint equipment. It mixes 3:1 with no induction time. One cross-coat provides the desired build and appearance, with no flash between coats for added productivity. It delivers good flow-out and excellent sag resistance. This product is VOC compliant at 3.5 VOC lbs/gallon."

Christopher Klein, Commercial Product Development Director, Strathmore Products, Inc. explains, "We manufacture multiple anti-graffiti coatings for different industrial and commercial applications, including 100 per cent solids, zero-VOC radiation curable coatings. Regardless of the coatings chemistry, in all cases the products are designed to provide a very low surface energy surface. Most of our customers are not motivated by the cost of the coating versus cost of graffiti removal as much as they are concerned with the cost of taking the painted unit off-line or out of service in order to remove the graffiti."

Tristar Coatings also offers views and products relative to anti-graffiti measures against vandalism. Brian Whiston, President of Tristar Coatings, explains, "Protection against unwanted graffiti in urban environments is a growing expense. In some instances, a relatively inexpensive "sacrificial" coating is designed to be removed with whatever graffiti has been applied. A hot water pressure sprayer is generally used. Recoat is regularly required, but not necessarily with every type of graffiti vandalism. Depending on the severity and penetration of the graffiti, several cycles may occur before recoat is necessary. Alternatively, a "permanent" high-quality catalyzed protective coating offering a high degree of molecular cross-linking will withstand repeated cycles of graffiti application/subsequent cleaning. In effect, the coating surface becomes impermeable to both the graffiti as well as the subsequent cleaning solvents. The graffiti, rather than penetrating the coating, merely resides on the surface only and therefore can readily be removed with the appropriate solvents. In turn, the coating must also be resistant to the solvents, otherwise the appearance and long-term durability of the protective coating would be compromised. The varieties of both the coating and cleaning solvents are virtually limitless. Typically, polyurethanes would be used for outdoor, UV protection and the less expensive epoxies for indoor applications. Both waterborne and traditional solvent-based formulations are available with varying degrees of graffiti/solvent resistance. Colors including clear, as well as gloss are added variables to satisfy the preferences of the property owner. Lastly, graffiti removers are available in spray can, liquid or gel formulations including biodegradable water based formulations. Tristar Coatings offers anti-graffiti waterborne high solids formulations, namely Proteus 940 polyurethane and Proteus™ 960 epoxy, depending on outdoor/indoor environmental requirements. Most importantly, these coatings have highly superior solvent/chemical resistance to assure long-term anti-graffiti performance. Proteus 960 boasts 0.3 g/L VOC with resistance to 400 double MEK rubs. Proteus 940 is a low 156 g/L VOC and will withstand 600 double MEK rubs. Both products pacify customer concerns with respect to odour with their low and non-offensive smell. In fact, the Proteus 960 is used extensively in the retail food chains on checkout counters and freezers requiring full service the following morning when the stores open and any residual odor cannot be tolerated.

In summary, Tristar's Proteus anti-graffiti liquid coatings are engineered for superior long-term durability, appearance and ease of application. Properties to overcome the broad range of graffiti challenges include: exceptional resistance against graffiti penetrating the coating - it just sits on top; ease of cleaning without compromising the appearance after repeated cycles over many years; high solids, low VOC waterborne technology with exceptional performance against the LEED environmental design rating system; ease of application for both brush and roll or spray application on a wide variety of substrate; non-offensive, virtually odorless for indoor application and competitive and comparable pricing to conventional but superior polyurethanes and epoxies.

WACKER Silicones has an anti graffiti coating called Silres IC 701. It is a clear silicone elastomer anti-graffiti coating that can be applied to exterior concrete, masonry and metal surfaces by brush, roller, and professional spray equipment. Not for aerosol use.

WACKER SILRES IC 701 Anti-Graffiti Coating. Photo courtesy of Wacker.

It is a permanent coating that does not need to be recoated after graffiti removal like alternative sacrificial systems. The tagging is removed with a cold water pressure cleaning of ~1,200 psi, without the use of special cleaning agents. Designed for professional use only. Robert Sherrow, Market Development Manager, Construction Chemicals for Wacker Chemical Corporation says that the product was a result of major customers coming to them looking for solutions. He says the only thing that will stick to it is itself. It is designed to be applied in the field with a roller or brush as a topcoat. Physical properties include high UV resistance, excellent gloss retention, heat resistance, enduring release properties, elastomeric properties and hydrophobicity. It also has good breathability. Paint can be rubbed off. Performance Parameters are as follows:

- Vertical hang: 15-25 wet mils
- Solids: 75% by weight • VOC: < 250 g/l
- Gloss: ~ 60% @ 60° • Dry to touch: < 2 hrs. • Tack Free: < 4 hrs.
- Anti-graffiti properties: 24 hrs. / 15 mil application
- Can be recoated with itself
- Cold water removal of graffiti at 1,200 psi cold
- Pass removal of graffiti after 30 days minimum

In a continuing effort to discourage graffiti vandalism, or tagging, barrier coatings have begun to find widespread usage. Coatings manufacturers have met this need through polymeric materials and silicone elastormeric coatings so that property can be protected. ■

HOT SHOW SEASON

The **Canadian Paint and Coatings Association** held their annual conference in Montreal over three days early October. Participants were treated to a walking and bus tour of Montreal including the Notre-Dame Basilica, the old town and even drove the Circuit Gilles Villeneuve F1 race course in a bus. Sunday evening at the Chairman's Dinner, Sharon Kelly of KelCoatings was presented the Roy Kennedy Award and Product Care received the 2010 CPCA Recognition Award. Éco-peinture was also recognized for its paint recycling activities. Monday held a day of presentations on marketing, market trends and sustainability.

More photos on-line at www.cfcm.ca

Andrew Sefton, Ontario Painting Contractors Association and Jared Elliot, Celanese Emulsions.

Mike Morden, Troy and Susan Richardson of Micca Paint.

Pierre Dufresne, Chairman of the Board of CPCA.

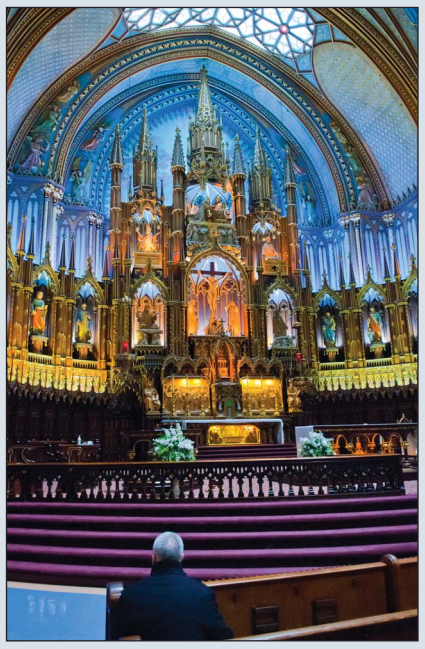
Tour group outside the Notre Dame Basilica.

Darrin Noble, General Manager of Home Hardware Beauti-Tone paint, Margaret Kenny, Director General Chemical Sector Environment Canada and Rand Lomas of LV Lomas.

Jim Quick, CPCA give Sharon Kelly, Kelcoatings The Roy Kennedy Award, with Pierre Dufresne, AkzoNobel.

Errol Bonaventura and Jean Marc Pigeon, Inortech Chimie.

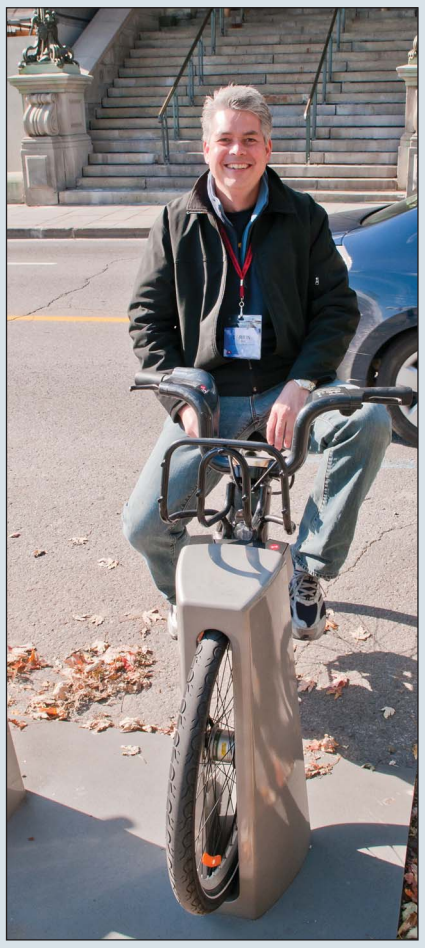
Richard Olson, OPC Polymers, Sharon Kelly, Kelcoatings and Gary LeRoux, Industry Government Relations Group.



Notre Dame Basilica.

Andy Doyle American Coatings Association and David Faherty, Troy Chemical.

Jim Quick, CPCA, Pierre Dufresne, AkzoNobel, award 2010 CPCA Recognition Award to Wink Vogel Product Care with Darrin Noble, Home Hardware.



Darrin Noble, Home Hardware

Formaldehyde-free Wet-State Preservation for Premium Paints and Coatings:

Is It Possible?

By Gary Horacek

The trend toward more environmentally-sensitive paints and coatings is well established worldwide. Whether driven by new regulatory constraints imposed by national, regional or local air quality organizations or by a desire to carry a quality certification from such organizations as GreenSeal™ or GreenGuard® , the die is cast. While initial efforts focused on volatile organic compound (VOC) content of the final coating, the next phase is going beyond VOC reduction. This current effort is geared to removal of other specific objectionable materials from paint formulations, including formaldehyde.

For the preservative supplier and user, reduction of VOC content attributable to preservative use has been on-going for several years. As a result, it is now possible to provide adequate preservation to coatings without carrying any measurable preservative-based VOC into the coating formulation. Added costs are generally modest; perhaps 1.5 – 2 times as much as the older preservation programs being replaced. This cost increase is generally acceptable for a premium coating, but less palatable for an economy grade coating. Therefore, the latter paint grades will continue with older preservation technology since some carry much less than 2-5 g/L of VOC into a coating.

MEASURING FORMALDAHYDE

A basic requirement for proving a low formaldehyde content is a measurement method that is accurate, reliable, reproducible, sensitive, and widely accepted. Furthermore, what is meant by 'free', 'total', and 'theoretical' formaldehyde must be discussed and agreed upon. Finally, a basic requirement is an understanding that the measured formaldehyde content of a coating depends on how you measure it, including under what conditions this measurement is performed. Measurement by another method or even the same method under different conditions will yield a completely different result. The lower the actual formaldehyde content the greater the relative effect of testing variations have on the reported formaldehyde content.

Under alkaline aqueous conditions, formaldehyde is in dynamic equilibrium between different loosely bound forms. Because of this equilibrium, trying to measure 'free' formaldehyde depends heavily on the test conditions.

To avoid test results that under or over represent the amount of formaldehyde potentially present, a method must be used to assess the total formaldehyde that can be liberated from the coating. Many analytical methods have been used for years, but better methods are required and are being developed.

There are organizations that have promulgated regulations that contain detailed methods for the measurement of formaldehyde content of paint and coatings. One example is the Chinese GB 18582-2008 method, which has an Appendix C that carries the unfortunate title of "Determination of Content of Free Formaldehyde". Unfortunate, because the method does not measure 'free' formaldehyde but rather something between "free" and total formaldehyde. In practice, the method is prone to some large inter-laboratory variations (see graph) and under the best of conditions has an expected error of ±20 per cent. But it may become the standard as no other organization or country has leapt so prominently into the forefront.

Preservatives are one potential entry point for formaldehyde, or for products that can degrade to it under test conditions. The foremost one is 1,2-benzisothiazolin-3-one (BIT). Others are the classic mixed isothiazolin products (a 3:1 mixture of 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one), bronopol (2-bromo-2-nitropropane-1,3-diol), and mixtures of these materials.

THE POWER OF THE PRESERVATIVE

On the plus side, some wet-state preservatives are not only well known in the industry, they are also VOC-free. On the negative side, none of the individual products will be the total solution to providing effective, reliable wet-state preservation. In practice, it does not take long to find situations in which each of these chemistries will fail dismally as a preservative. Sometimes the failure is based on chemical incompatibilities such as a coating pH, temperature, or the presence of reducing compounds. Other times the failure is based on the lack of disinfecting 'power' in the preservative itself – it works too slow to stifle out-of-control situations, its mode of action is too weak for the problem organisms, or it cannot be used legally at high enough dose rates.

As an example of an ineffective preservative, Exhibit 2 shows a typical two tier challenge study in which a test coating is treated with a preservative ladder (BIT in this case) and then the survival of bacteria is monitored over time. During each tier, survival is measure after 24, 48, and 166 hours of exposure. Successful completion of two tiers of challenge testing is widely regarded as indicative that the coating is well protected and suitable for market. The observed patterns from the graph are quite common when testing BIT alone in many coatings. The relative bacterial sur-

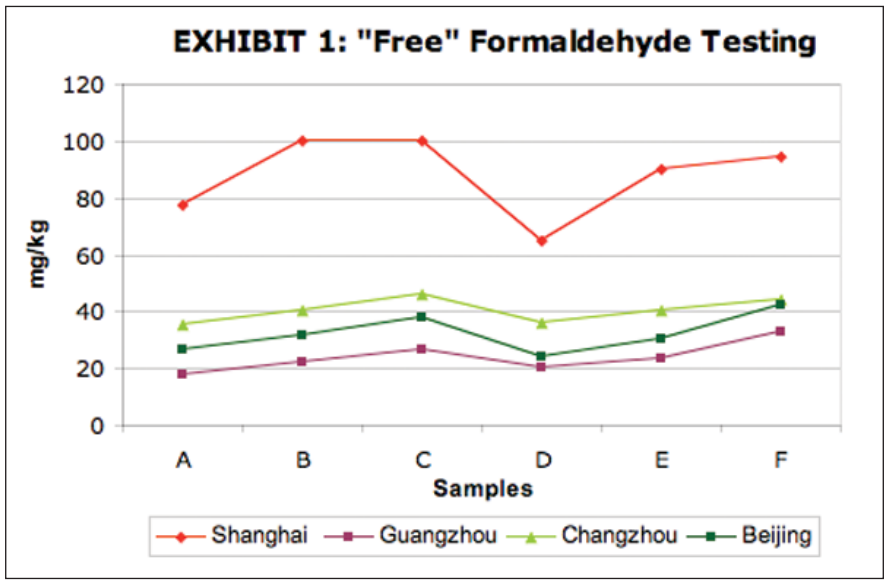


Exhibit 1: "Free" formaldehyde as measured by four Chinese laboratories authorized to perform Chinese Standard GB 18582-2008. Six different paint samples were sent separately to each of these noted authorized test labs for 'round robin' testing.

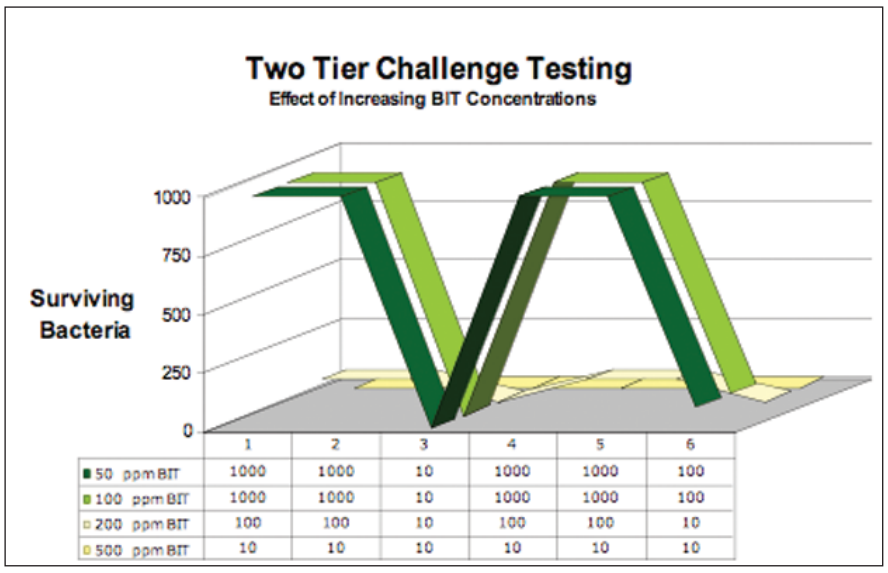


Exhibit 2: Two tier challenge test results in a commercial coating. The coating treated with ladders of BIT was challenged twice with a standard mixture of bacteria. Challenge was at day 0 and day 7. Survivors were assayed after 24, 48 hours and then 7 days after each challenge (columns labeled 1 through 6). The survivors are plotted for each assay time. A dose and matrix determined plateau effect is often seen with BIT products. More BIT does not equal better bacterial control. .

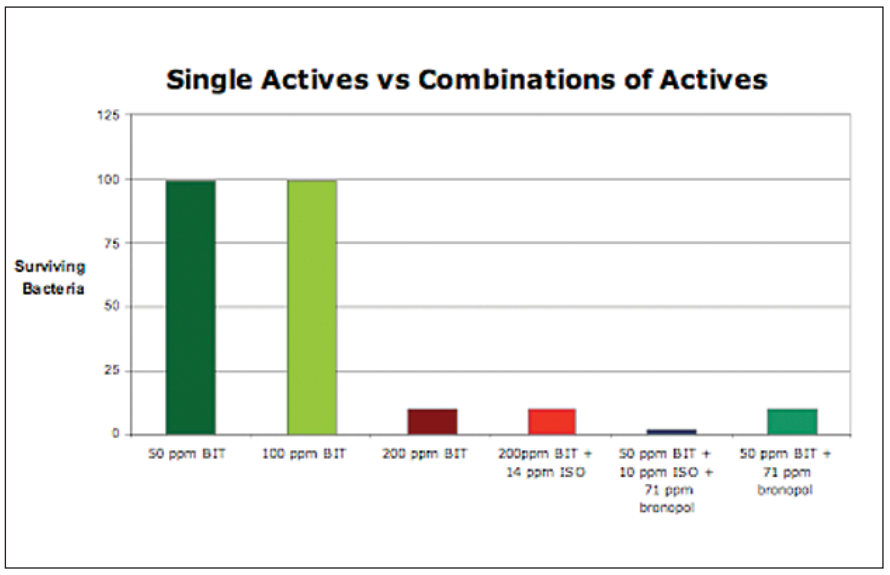


Exhibit 3: Final results of two tier challenge testing in a commercial coating. The treated test coating was challenged twice with a strong bacterial mix. Survivors were assayed after 24, 48 hours and then 7 days after each challenge. The dose rate providing the lowest number of survivors on the seventh day after the second challenge is reported. The value of using a combination of actives is evident.

vival at the end of the testing tends to be somewhat insensitive to BIT concentration once some matrix determined dose rate threshold is reached. At higher BIT dose rates, the peak bacterial populations after a challenge event are muted; but the ending bacterial population is about the same (lack of dose response). In this case, even if the system is wildly overdosed with BIT, the end point remains essentially the same.

Sometimes BIT is not sufficient and other possible alternative preservatives also have recognized shortcomings. Isothiazolin-based preservatives often do not have the necessary longevity in coatings with a pH greater than 8, especially when stored at elevated temperatures. The presence of any reducing agents left over from the polymer manufacturing process will also dramatically shorten the half-life of these products. Likewise, bronopol is adversely affected by these conditions, albeit more slowly.

Two routes forward are suggested. One is improved strategies for wet-state preservation at the final packaging step, the other is to improve plant hygiene to deliver the coating to the fill head in a condition making it much easier to protect by the available preservatives. Both strategies are ultimately required to succeed in many cases.

IMPROVED PRESERVATION AT PACKAGING

Significant work has been performed to show that combinations of the available zero-VOC, zero-formaldehyde preservatives can work effectively together to deliver a final preservation package of significant power. After studying numerous mixing strategies, the best strategy seems to be to 'base load' with a BIT-containing product and then supplement with one or more of the other more powerful, but shorter-lived, preservatives. The complimentary preservatives essentially cover the short term inadequacies of BIT as well as the well known Pseudomonas gap in its range of coverage. Interestingly, even with the known short-life span of the supplemental preservatives in a typical coating, it can be readily shown that the final preservation provide by such a combination is not only effective but robust and able to withstand repeat bacterial challenges (See Exhibit 3).

IMPROVED PLANT HYGIENE

Volumes have been written on plant hygiene and its importance in the production of high quality coatings and paint. Preservation programs applied as a part of a plant hygiene program can be constructed in such a manner as to provide long term benefits to the final product by acting as supplements to the final preservation program. Preservatives that would not qualify as acceptable for the final protection of a 'green' coating could well be the key to allowing those deemed 'acceptable' preservatives to succeed at the end of the day. 5

Examination of volumes of preservation data shows that one of the key preservatives for producing green coatings, especially while keeping BIT additions at reasonable concentrations, is bronopol. However, there is a potential downside to bronopol that must be recognized. While bronopol is not a formaldehyde adduct and does not act through the release of formaldehyde, there is a theoretical potential for some minor formaldehyde release.

CONCLUSIONS

It will be possible to adequately protect some coatings by simple substitution of preservatives that are formaldehyde and VOC free. For coatings, this substitution will most often be with BIT since it shares fewer of the drawbacks found with other substitute formaldehyde-free actives. The amount of active required will be more than was needed under previous preservative programs and treating costs will be higher. However, in many cases, a preservative program featuring multiple actives will be required due to BIT's performance drawbacks. Bronopol and standard mixed isothiazolin products are valuable actives that can be used effectively. Even with known pH and temperature limitations, voluminous data exist to show that these products in combination with BIT do provide benefits to establishing a long-lasting preservation program. Even the classic formaldehyde adducts can be used to treat raw materials and for plant hygiene programs as long as careful attention is paid to application rates and application points. Finally, the paint manufacturer should consider which 'rating' organization to submit their green paints for certification. Some rating organizations base their ratings on "formula checking"; others require some actual performance testing. The latter is likely to give the manufacturer more options since using formulary examination as the determinative decision point leads to unnecessarily conservative, non-technical judgments. ■

Gary Horacek PhD, is the Director, Technical Microbiology Services Americas for the Troy Corporation, Florham Park, NJ.

Masking Concerns

By Sandy Anderson

When it comes to Industrial Finishing, quality masking is key to prevent coatings from going where they are not suppose to be.

Kissak Sarajian of EPSI says "Concerns regarding a masking area is common knowledge when the area needs to be grounded or some threaded area needs to be masked, etc." Sarajian continues, "In the past one would paint and then grind the area or re-thread the hole. This was double work and costly. Masking comes in different forms, depending on the part to be masked and the budget available. Due to high temperature requirements, anything from cardboard, cork, wood, rubber and polyester are used these days."

Mike Hudson of Caps'n Plugs says, "Depending on the heat and duration exposure, we find Silicone by far the best material to use."

He says Customers are asking for more Custom masking jobs, specifically using Silicone. "Our plant is very well set-up for this type of work and can turn parts around very quickly from a design to prototypes to full production in only several weeks time."

The company offers CAD produced design drawings from customer supplied prints to prototype approval stages within three weeks to final production run in under two months.

Caps'n Plugs customers are mainly in the Aerospace, automotive, powdercoating, E-Coating and spray painting industry as well as manufacturing and pipe product lines.

In regards to cost, masking manufacturers are very competitive in their pricing. Caps n Plugs has introduced a "Custom Inventory Control Program" to monitor stock for production lines in the aerospace, automotive, rail and coating lines.

Christopher Gray of Alliance Industrial Masking says the key points of concern for masking in industrial finishing are:

- Heat resistance of the masking media
- Whether or not the masking media will leave a residue on the finished part
- How much cost will we incur from masking supplies and labour

"Our most popular masking tapes are crepe paper and high temp polyester. This is most likely because they are used in wet paint and powder coating processes which tend to require the most masking," says Gray "When a customer comes to me for custom masking they are looking for a masking solution that is going to save them time and money and will not take weeks or months to be delivered. The demand for custom masking is low but the need is great. I think this is caused by the industry standard of high price and long lead times."

With its innovative manufacturing process and emphasis on serving the customer, Alliance Industrial Masking is able to offer our customers inexpensive custom masking solutions with the option of next day delivery.

"Our customers can eliminate the need for the archaic process of paying employees to sit around a table and hand mask parts all day long with a roll of tape and a razor blade.

Our product is simple. We offer custom tape masks and masking kits for all finishing processes from wet paint to blasting. Our die-cut quality masking is delivered on a roll and can be easily peeled from the backing and applied to the part within seconds.

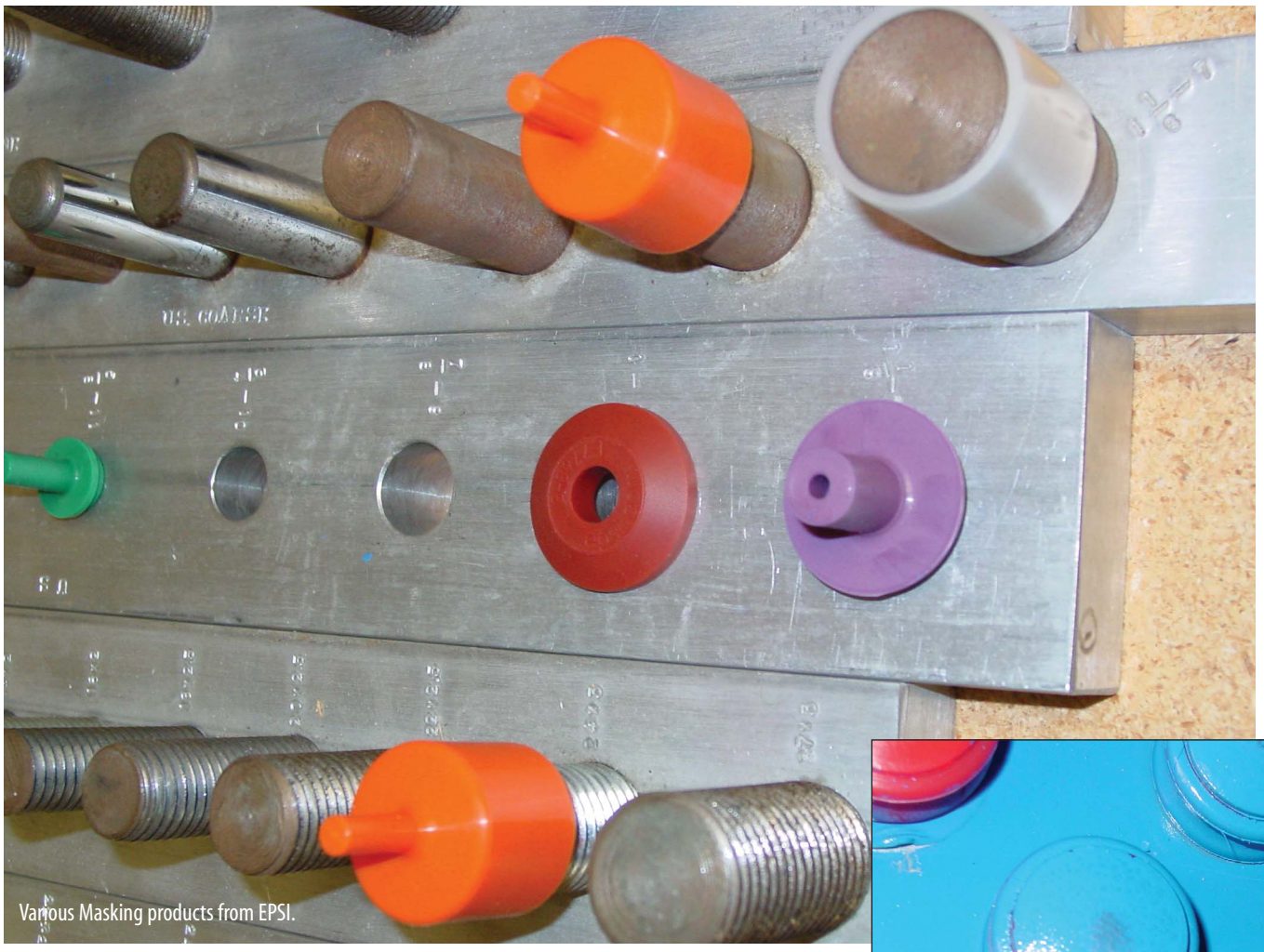
Our innovative manufacturing process allows us to keep pricing low. In addition, we do not charge any design, set-up, or any other additional fees, which are standard when dealing with our competitors.

At Alliance Industrial Masking we are aware of environmental concerns and are currently researching ways that we can lessen our environmental footprint," says Gray.

DEMAND AND COST

"Demand comes in multiple levels. Ideally we try to find a way to avoid masking unless absolutely necessary," says Sarajian from EPSI.

"Of course, this is cost savings to our customers. A good masking company will try to achieve this savings for their customers in order to gain their business



Various Masking products from EPSI.

when they are really in need of masking."

"The cost of masking is an important factor for the end product," says Sarajian. "The more complicated and sophisticated the masking project, the more challenge for masking companies to provide the best masking solution at the lowest possible cost. The more complex a part is to mask, the more profit for the painters. Becoming involved in the masking industry can be profitable overall."

EPSI has multiple patents for masking and says it is working tirelessly to develop better, less costly and faster masking methods. This is what high-end painting job shops and factories demand from their masking suppliers. They feel that the company that develops better masking devices with lower cost, will readily gain their customers' business. "Our patented products are simple dots, which can easily be removed, expendable devices to block any leaks in complicated breaking systems, magnetic devices to prevent certain areas from paint, etc., which is cost efficient," says Sarajian. "Cost of masking obviously transfers to the cost of a part. On average, the cost of masking should not be more than 0.5 per cent of the total cost." EPSI has made over 70,000 masking parts in the last 20 years. "Each masking task has its own challenges." Sarajian says, "We have not known a masking challenge that we have not been able to solve. Generally we have found that simplicity, low cost and adaptability will solve most masking problems. Above all, masking parts need to be user-friendly. Our best selling items are a simple dot made of polyester and silicone material, a cap, or a simple stopper. Our customers demand that we make our products as simple as plugging a hole with a stopper!"

Bob McElroy, Marketing Manager, Sales Program Support, for Sherwin Williams says one the largest areas of application for masking is the military. The company carries 3M, EPSI and Shurtape masking products.

High heat masking material, although having been around for 10 years, is one of the newest developments.

Sherwin Williams has recently gone through changes due to expansion. One change is that product finishers can now order supplies and equipment more easily with ProVisions. This program provides an innovative solution to production line needs. The extensive catalog at sherwin-williams.com/oem includes a variety of finishing solutions — from abrasives and masking to safety tools and spray equipment. It also reduces administrative and inventory costs through simplified order placement, tracking and just-in-time delivery.

APPLICATION

Masking devices must be applied easily and quickly while parts are moving on a conveyor belt system. In some cases parts are being masked and hung simultaneously. EPSI works with each individual customer at their design level with EPSI's staff of engineers ready to design parts in advance of manufacturing to determine the best possible solution for each project, whether it involves painting, plating or finishing.

ENVIRONMENTAL CONCERNS

"Powder coating translates to a lower VOC," says Sarajian. "EPSI introduced disposable hooks to eliminate the requirement of a burn-off oven, thereby eliminating some environmental concerns. However, the economics of having to burn hooks and/or washing parts will be on-going for some time before this work will be eliminated or prohibited by cost. EPSI is currently working on electrical conductive plastic hooks with multiple uses which could be recycled into different forms of plastic material.

Most of the silicone parts used in masking today usually last a long time and can be reused in the same application."

The Caps' n Plugs plant stays within all Government guidelines and environmental concerns and will supply full documentation, C of C and Material safety data sheets if requested.

There are masking solutions on the market for every Industrial Finishing need and manufacturers are there to answer the call. ■

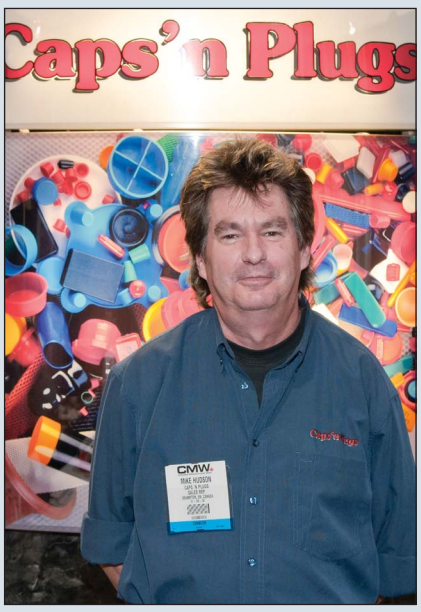
HOT SHOW SEASON

Canadian Manufacturing Week 2010 took place over three days at the Toronto Congress Centre.

Paul Kelly, Terry Kueneman, Craig Bertrim, Exel Industrial and Ron Weening, Weening Brothers Manufacturing.

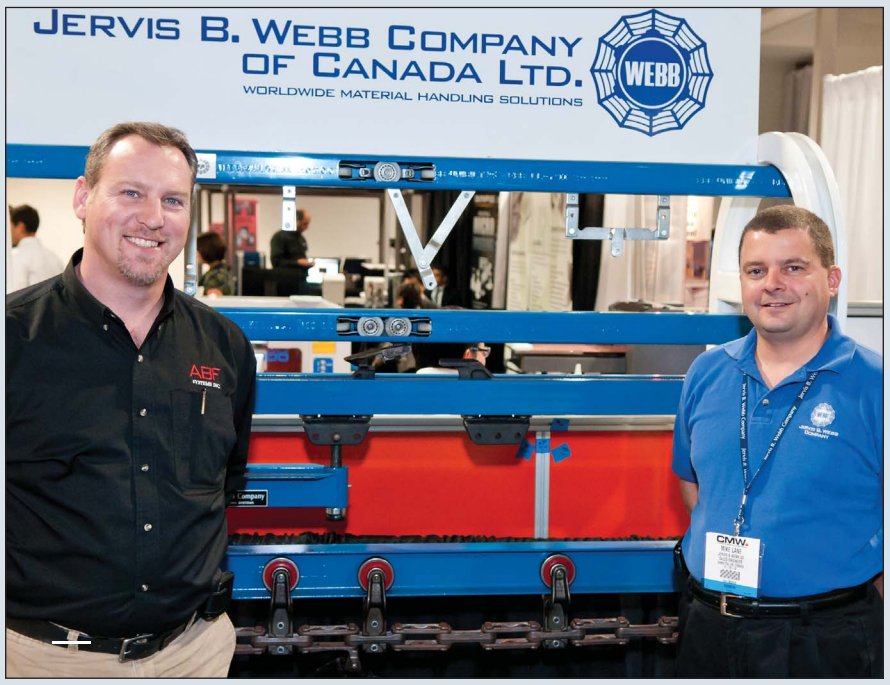
Euriah Vold and Ronnie Guindon, Global Finishing Solutions

Jacob Kleiman Integrity Testing Laboratory Inc.

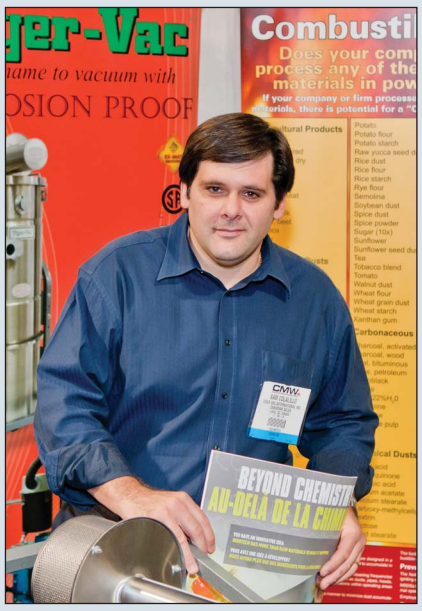


Mike Hudson, Caps'N'Plugs.

Ihor Weryha and William Jones, Henkel Canada.



Chris Hall, ABF and Mike Lane, Jervis B Webb.



Sam Colalillo, Tiger Vac.

Bob Slover, Porcelain Technologies Ltd.

Bob Tucker, Stone Tucker Instruments.

Doug Smith, Alliance Plastics.

Carl Roulston and Reid Finlay, Stoncor Group.

More photos on-line at www.cfcm.ca

Choosing a *Conveyor* System

By Sandy Anderson

Choosing the right conveyor system for the job can make or break your efficiency. CFCM asked manufacturers their advice.

PAC-MAX Overhead Conveyor, courtesy of Pacline.

POINTS TO CONSIDER

Michael J. Lane, C.E.T. Manager Product Sales and Services, **Jervis B. Webb** Company of Canada Ltd. Says, "Before the type of conveyor is chosen, the Finisher should have already consulted a finishing systems integrator to determine which process components are required, whether to use liquid or powder paint, the type of washer or parts preparation, oven requirements, etc." He adds, "Those decisions could have an impact on the type of conveyor system that would be best suited for their requirements."

When it is time to consider the conveyor system the Finisher should determine how they intend to handle the part to be painted. The part needs to be held on the conveyor in such a way that all surfaces that need to be covered are exposed to the painter or robotic spray nozzle.

The weight and size of the part will play a part in deciding on a type of conveyor. Multiple parts may be positioned on one carrier if the weight and size are small enough, whereas larger heavier parts may require separate carriers.

Production rate is an important factor in designing a system layout. The higher the production rate the more densely loaded the conveyor may need to be. The production rate will determine the time available to load and unload the conveyor. It will also have an impact on the conveyor speed.

The finisher should consider the use of drip trays between the conveyor track and the part carrier. Drip trays will capture any excess oil and debris that may fall from the conveyor chain. For lighter parts the use of the Webb's Inverted Unibilt Enclosed Track Conveyor provides protection from contamination without the need of a drip tray.

Karl Scholz, **Pacline Corp.** says, "As there are many styles of conveyor that can be applied to a finishing application and each with its own strengths and weaknesses, the first consideration is function." He says a Finisher should ask himself, "Is my operation synchronous or non-synchronous?"

He explains that Synchronous means that when hitting the START button, the conveyor starts with all parts moving at the same pace along the same path similar to an assembly line.

"This is a low-cost solution," says Scholz, "but the synchronous conveyor (SC) has distinct disadvantages over the non-sychronous conveyor (NSC)." The NSC allows products to be stopped and started independently of each other, allowing the options of stopping an item in the spray booth for painting and rotating, or stopping products at a small oven for a prescribed time for proper curing. And the NSC works much like a train, whereby the product can change tracks and follow a different path if required.

"This is ideal for a multiple colour paint operation with three booths, or one in which high volume simple product is sent to an automated spray booth and low volume complex product is sent to a manual spray booth," says Scholz. "And then the various products merge together to go to a common curing oven."

He says once the decision of SC vs. NSC is made, the next question would be, "What type of conveyor mechanism is most appropriate?" And this has more to do with the product itself and whether it is best conveyed on a cart such as in a tow-line (TL), or hanging from an overhead chain conveyor (OCC), or mounted above an inverted chain conveyor (ICC). A coffee table is best placed on a TL, which is basically a cart pulled by a chain on the floor. Like Henry Ford used to pull Model T's on his assembly lines. This type of product is difficult to hang and has four legs that do not receive paint on their undersides, so it is an ideal candidate. The top platen of the TL cart can be made to rotate without touching the part, which is works well and results in a high quality application. Another ideal product would be a 2,000 lb. tractor part. Hanging this weight from an OCC would result in a huge steel support system, whereas a TL would be outfitted with larger carts to accommodate the load and not much other cost. Also, if the finish is to be of the highest quality possible, the product should be placed above the conveyor so that there is no possibility of a defect due to dirt or oil landing on the product. This is most common in the finishing of automotive A surfaces.

Matt Chorski, System Sales Manager, **Richards-Wilcox Conveyor** says when designing a system the Finisher should consider size of the load, weight of the load, rate, dwell times required, loading and unloading considerations such as it being continuous or if stopping is required. Elevation changes are also a concern especially if the load is very heavy.

WHAT'S NEW

Lane from Jervis says, "There are not a lot of new innovations when it comes to conveyors used in industrial finishing sys-


Unibeam 3 - Courtesy of Jervis B. Webb

tems." He adds, "The current chain conveyor offering has been around for many years. We have refined the design of some of our components that make up a complete system in order to reduce maintenance costs and to make installations easier."

Scholz of Pacline says, "Pacline's new PAC-MAX conveyor is probably the latest and greatest offering out there." He adds, "We preach 'enclosed track' designs where the conveyor chain is protected from overspray by the encompassing track and this eliminates chain contamination." The PAC-MAX's flexible design allows the customer's product to be placed above or below the track, and the slot in the track can be placed in any orientation … slot up, slot down, or slot sideways.

"Finishing people recognize the advantages of this if they have ever had product contamination due to oil or dirt getting on their product," says Scholz. "The conveyor can carry a 220 lb. load from a single point, and its drive is sized to be able to pull up to a 1,000 feet of chain on a single drive unit." A bonus feature is its bolt-together design, which helps if a test setup of a small scale system is required for proving out the process.

Richards-Wilcox offers in-house computer simulation services to prove out system rates and trouble shoot.

MOST POPULAR

The Jervis B. Webb Unibilt Enclosed Track Conveyor is most commonly used in paint finishing applications. It is ideal for lighter parts weighing up to 250 lbs., is simple to layout and install and is economical with very low maintenance requirements. For heavier parts and a more complex system design, the Webb Unibilt Power and Free conveyor is another popular choice. The Jervis B Webb Company manufactures a wide range of material handling equipment. The chain conveyor products, those often used in paint finishing systems, are the core products, developed over ninety years ago. Webb is one of the largest baggage handling systems providers, supplying systems to airports around the world. They also manufacture automatic guided vehicles (AGV) and, an off-shoot of that, our SmartCart product, which is an economical light duty automatic guided cart (AGC). They design and supply automatic storage and retrieval systems, bulk handling conveyors, in-floor tow line conveyors, drag line conveyors as well as belt and roller conveyors.

Pacline's most popular product is its enclosed track PAC-Line (C-250) conveyor. Scholz says it has been around a long time due to its flexibility. Features include a bolted design, zinc-plated, horizontal curves as small as 12" radius, and all modular components. Pacline stocks all parts for quick delivery. Pacline supplies the following styles of conveyors: PAC-Line (C-250) with a capacity of 50 lb. from a single point or 200 lb. from a loadbar arrangement; PAC-MAX with a capacity of 220 lb. from a single point or 880 lb. from a loadbar arrangement; PAC-BEAM I-beam style conveyors in 3", 4" and 6" sizes; PAC-TRAK towline conveyor to carry individual loads as large as 24,000 lb. and Power and Free non-synchronous conveyors to carry loads up to 880 lb.

Chorski of Richards-Wilcox says their most popular item is the Twin-Trak for applications where space is a consideration (side by side power and free configuration). It is used for light to medium applications with the benefit of lower cost and space savings.

Richards-Wilcox carries the Safe Rail manual push, Zig-Zag Powered Monorails, Twin Trak, Over-Way and Inverted Over-Way Power and Free conveyors.

THE SYSTEM

Lane explains, "Typically paint systems consist of 3 main components: a parts preparation (shot blast and/or wash), paint application and bake oven. Through the parts preparation and paint application the conveyor track should be shrouded to prevent overspray from reaching the chain and trolleys. An additional measure of protection is to install an air feed to the shrouding to add positive air pressure around the track thus eliminating the possibility of paint overspray from reaching the track.

Lane adds, "As far as the ovens go, all of our chain and trolley products are rated for use in temperatures up to 450 degrees Fahrenheit."


Courtesy of Richards-Wilcox

COST AND ROI

As for cost Lane says, "Depending on the customer's operations, complexity of the conveyor system, production rates etc., return on investment can be as quick as 6 months to a year and up to two to three years."

Pacline's Scholz says, "To determine your return on investment ROI when considering a new capital investment in conveyors, the first step is to predict the labour savings as well as other savings such as scrap or quality, your enhanced ability to process volume, etc. Factor in depreciation (write-off) amounts, the cost of money or lost interest, health and benefits reduction, and you will come up with a rough number.

"The signs we as salespeople look for are over-crowded shop floors, multiple shift operations and quality issues (scrapped parts). These operations are usually the ones that will provide the greatest ROI potential. It is not uncommon to have a payback of 1-3 years. And these conveyor systems will run for 10-15 years without major issues so the benefits can be long-lasting.

Chorski says a conveyor system will pay for itself, "Anywhere from 1 to 2 years."

HOT SHOW SEASON

The Powder Coating Institute launched the NAI North American Industrial show in Indianapolis, in October, to replace the former Coatings Show.

More photos on-line at www.cfcm.ca

Livio Agnoletto, Alex Ashour and Tom Burke, Prism Powder Coating Ltd.

Nordson Robot.

J.B. Pullen, Superb IPC, and Jay Cressman, Uni-Spray Nozzles Inc.

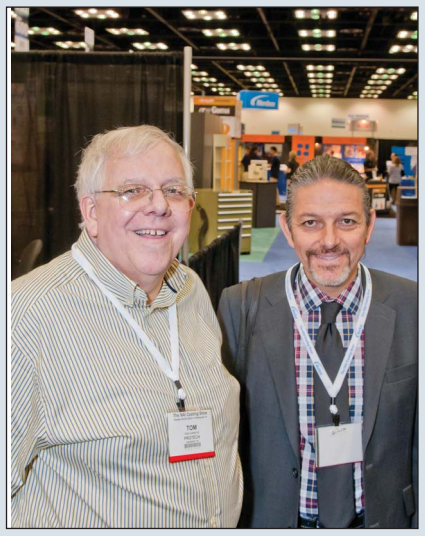
Brian Coutts, Bob Whitman, Josh Peters and Barry Coutts, EPC Erie Powder Coatings.

Trena Benson and Robert Ablamowicz, DuPont Coating Solutions.

Jijo George,Polyrheo Inc.

Zoran Pavlic, Cytec Inc.

Roger Mallette, Madison Chemicals.



Tom Christie and David Addes, Protech Chemicals.

Robert Langlois, Alliance Surface Finishing and Stephen Kelly, ABB.

Darren Borstmayer, Bourgauld Industries and Greg Taylor, ITW GEMA.

Paul Lomax and Ron Glaser, Fischer Technology.

Robotic and Paint

Application Equipment Advancements

By Brad Sparkman

With the recent advancements in paint shop robotics and paint application equipment, the addition of this equipment to your factory will effectively improve your painting process and assist you in becoming more cost efficient.

HOW DO YOU KNOW IF A ROBOT OR ROBOTS MAKE SENSE FOR YOUR BUSINESS?

Ask yourself the following questions:

- How efficient is my current paint process? How much of the paint being sprayed actually ends up on the part?
- How much of the paint ends up going to the filters or water curtain as paint overspray?
- Is the paint line consistently achieving the target mil thickness? Often, parts are sprayed under the required mil thickness and must be sent through the painting process again, resulting in high part costs. Worse, the parts get out in the field and often come back as warranty claims.
- Does my paint line over-coat? Often a paint line will over-coat the parts resulting in problems like fatty edges, paint drips etc. There is a significant, unnecessary cost associated with the extra paint that is being used on the parts, which come right off of your bottom line.
- How flexible is my paint line? How easily can my paint line accommodate change?
- Is my paint line high-volume? Do we paint the same type of parts on a regular basis?
- Is there frequent colour change? How efficient is the colour change and how much paint and solvent is wasted every flush?
- How environmentally-friendly is our paint facility? Where does that wasted paint and solvent go?

AFFORDABLE

Often many paint shops assume that painting robots are far too expensive to be used in industrial and general industry facilities and are only for use with Automotive Facilities. This was true in the past for most manufacturers, but is no longer the case.

Today when you look at the capabilities and efficiencies of paint robots and the new process equipment, it is clear to see that these tools are very affordable and will assist in a very respectable return on investment (ROI).

There is now more variety in paint robot models, and the pricing has become very cost effective. Imagine having a painter that will consistently paint parts from morning 'til night without taking a break.

Today, most painting robots are offered with hollow wrists that are designed to allow all of the tubing to be routed down the inside of the arm and wrist, eliminating the potential of kinking Teflon paint lines or catching the hose loom on painted parts or part racks. This design allows for a clean, maintenance-free routing of your paint and process tubing, which results in longer life of your tubing. Most painting robots now are developed with a much higher wrist payload (typically 15 kg) rating, enabling the robot to carry an electrostatic air spray gun(s) or a bell applicator.

Most robotic painting manufacturers offer a full six-axis robot as their standard configuration that can be floor, wall or invert (ceiling) mounted pedestal robots. These robots are all shipped standard with approvals and are compliant with the Class 1 Division 1 Explosion Proof Requirements. This means that your robot can be installed inside your spray booth without having to make modifications or seek approvals for this equipment. New innovative designs also allow some of the new robots the ability to reach in front, overhead or even behind the robot. This technology is recent, allowing users of these new robots a much larger and more flexible work envelope.

NEWEST PRODUCTS

FANUC Robotics has released new products over the last couple of years that are directly targeted to the Industrial Finishing Marketplace. The Paint Mate 200iA (Standard Arm Robot) and the Paint Mate 200iL (Long Arm Robot) are cost effective and offer: precise gun to target placement, application accuracy, flexibility for future applications, increased productivity, total process control, color i pendant control, high motion performance, can fit into all existing booths, and be installed inverted or wall mount or pedestal configuration and the 5 kg payload provides mounting flexibility and its hazardous rating enables operations in severe and explosion proof environments.

Some six-axis robots can now carry colour change valves (CCV's) in the forearm, allowing for reduced paint and solvent waste and much faster colour change times. In-arm trigger valves offer very fast gun on/off response times. 2K mixing equipment is now available as an integrated package on some robots. This design allows for the robotic controller to control 2 servo pumps that are located inside the arm of the robot. This eliminates the additional cost for a PLC to control this process mixing equipment. These servos drive a gear pump that is also located within the arm allowing extremely precise dispensing of your 2K materials. This technology also minimizes the material and solvent wasted, while significantly reducing the time it takes to complete a 2K colour change.

The Sames PPH 707-SB is equipped with a high velocity air-bearing turbine (HVT). In a world where productivity is the key point, all manufacturers are looking for speeding up their paint lines and reducing the number of robots, which results in the applicators having to spray with higher paint flows. This is why HVT is

PPH 707-SB

PPH 707 - Bell in action

so important - because every atomizer must spray more paint in a reduced amount of cycle time. Consequently, the turbine of the rotary head spins faster to ensure that consistent paint particles are being atomized from this bell cup.

The SAMES PPH 707-SB permits spraying 700cc/min at 70,000 rpm / minute.

This high velocity turbine matches the famous and renowned quality of SAMES' turbines and incorporates all the latest improvements. Due to the innovative Sames air-magnet bearing, it allows a frictionless rotation without wear, which ensures a long service life of these components. It can be mounted on any multi-axis robot. It is a highly compact applicator equipped with nano valves installed as close as possible to the bell cup in order to reduce paint loss and provide quick and efficient flush sequences during colour changes.

In the constant search for paint savings, productivity enhancement, automotive and industrial users are very satisfied with the "Hi-TE" (High Transfer Efficiency) technology of PPH-707-SB Bell, which is located on the head of this atomizer. The atomizer head (assembly of bell cup & air shroud) is the key component of a Bell applicator, because this is what ensures and consistently delivers the excellent finishing results.

"Hi-TE" is a system of combining Dual Shaping Air, located at the bell front end.

Bell applicators have more tubing and air lines than traditional electrostatic guns that need to be routed within the hollow wrist and robot forearm. As a result many robots now offer a much larger hose aperture (68mm) than the previous models allowing for easy hose loom installations and maintenance serviceability.

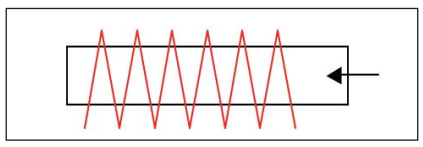


Image 1: Saw Tooth Technology "Reciprocators and Gun Movers"

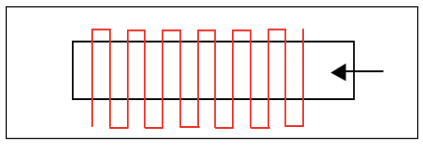
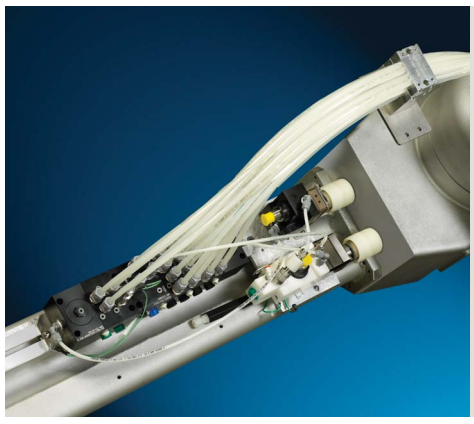


Image 2: Square Wave Technology "Robotic Application"



In Arm Process Equipment:

- In Arm Servo driven 2K Mix and meter system for very accurate mix and metering of paint.
- In Arm Colour Change Valve capability for very fast colour changes and minimal paint and solvent waste.
- In arm gun trigger valve for instant gun triggering.
- Easy access for maintenance personnel for serviceability.

Test Panel Machines

Spraymation manufactures Automatic Test Panel Machines that prepare laboratory samples of paint for coating design, weathering, and quality control. The standard machines are used with conventional spray guns by most paint manufacturers.

David Kerzel of Spraymation, Inc. says, "Automatic Test Panel Machines are used because of their incredibly repeatable and accurate speeds, pressure control, and timing." He adds, "In the past few years, questions about using the rotary atomizers for use with robots have been coming more frequently. The robot rotary atomizers are much larger and heavier than a conventional atomizer. The spray patterns they produce also tend to be larger and circular rather than in a fan shape."

Those using older Automatic Test Panel Machines will find that the new rotary atomizers will not fit. Longer, larger machines are needed so that accurate velocities can be established and correct painting distances can be maintained. These atomizers have a number of pneumatic signals and electrical control signals needed for proper operation not associated with a conventional spray gun. These changes and extra pneumatic and electrical interfaces are available and are engineered for the specific robotic atomizer a customer chooses. Machines are made larger and custom mounts are made to simulate the robot arm. If a customer is going to use a robotic rotary atomizer, they need to be thinking about testing and quality control with the same exact atomizer.

APPLICATION

A robot will apply just about any coating including powder, solvent based paint, water-based or two-component paint. Advantages include reliability, high uptime, simple to program and maintain, variable speed, precise control of a finish and more.

All robots being manufactured today must comply with Safety requirements as specified by the Robot Industry Association (RIA).

The general rule in painting is to process with a 50/50 overlap to ensure a uniform and consistent film build. This process can be achieved with a high degree of accuracy using a robot, thanks to square-wave technology.

Imagine a flat sheet of steel hung horizontally on a rack. Envision this rack moving down line and you will be painting this sheet using a reciprocator. This will result in what is known as saw tooth spraying. The end result: the coating will not have a consistent 50/50 overlap as the gun will spray the bottom of the part (while the part is moving on the conveyor). By the time the gun reaches the top, it will have finished a few inches downstream of the starting point, (same thing on the downstroke) resulting in the saw tooth pattern. However, a robot can process the same part using square wave technology and maintain a consistent 50/50 overlap. The encoder on the line tracks the part as it moves downstream. The robot sprays straight across to the other side, then moves sideways (whatever is required to make the 50 per cent overlap) and then straight back, resulting in a uniformed 50/50 overlap. A robot can achieve this because it moves side-to-side and not just in a fixed line.

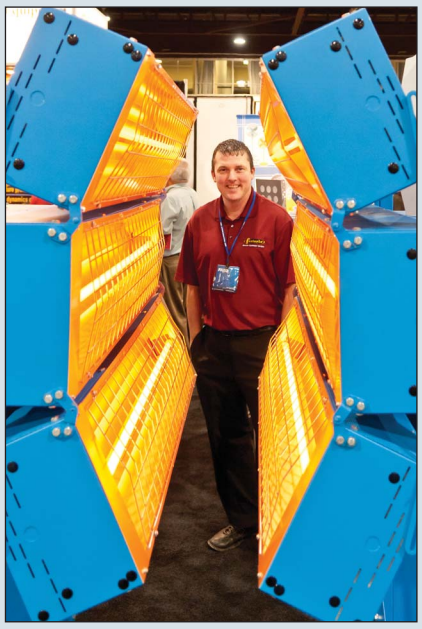
Advancements in the paint shop automation world are continuously changing as the coating technologies are becoming more and more sophisticated. Robotic paint shop automation and new advanced paint application equipment will greatly assist your company in optimizing manufacturing efficiencies and overall cost savings. ■

Brad Sparkman is President of Innovative Finishing Solutions Inc., Orangeville, Ontario.

HOT SHOW SEASON

The CCAI Chemicals Coaters Association International joined with the Fabtech show in Atlanta, Over 26,000 registrants guaranteed a steady stream of attendees over the 3 days.

More photos on-line at www.cfcm.ca



From front cover: Rob Hinkle, Fostoria Process Equipment during the Fabtech show in Atlanta.

From front cover: Mike Thies, ITW GEMA.

Duane Davison, Exlco and Wayne Hoogenboom, General Paint.

Dave Roland, John Huth and Marty Powell, Global Finishing Systems.

Ron Harris Air Power, and Doug Hooker, Graco.

ITW Industrial.

Christian Canzano, Derek Bowen and Mike Simmerer, Bex Engineering.

Damen Toushman and Jay Cressman, Uni-Spray Nozzles.

Dennis Houseweart, ElektroPhysik.

Robert Weber and Paul Lomax, Fischer Technology.

Ralph Krise and Richard Northrup, DeFelsko.

Nordson Spray Demo.

Bill and Brendan Johnesee, Walther Pilot.

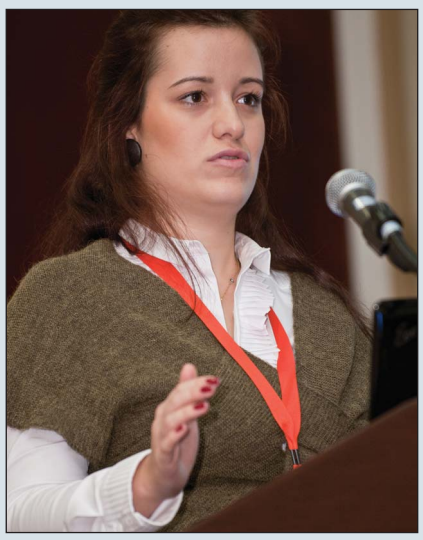
HOT SHOW SEASON

The 19th **Aluminum Anodizers Council** three day International Conference was held in Montreal, QC, in October, with the participation of numerous Canadian exhibitors and speakers.

More photos on-line at www.cfcm.ca

Frank Pazstor, JBC, Leo Palmieri, High Tech Anodizing and Tom Cina Houghton Metal Finishing.

Paul Pajunen, ECO-TEC Inc.



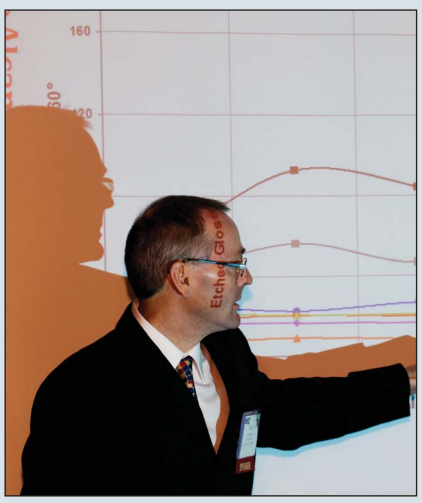
Neslihan Alpay, McGill University.

Waasy Boddison and Frank Munk, American Plating Power with Jan-Olov Nilsson, Sapa.

Greg Courval, Novellis.

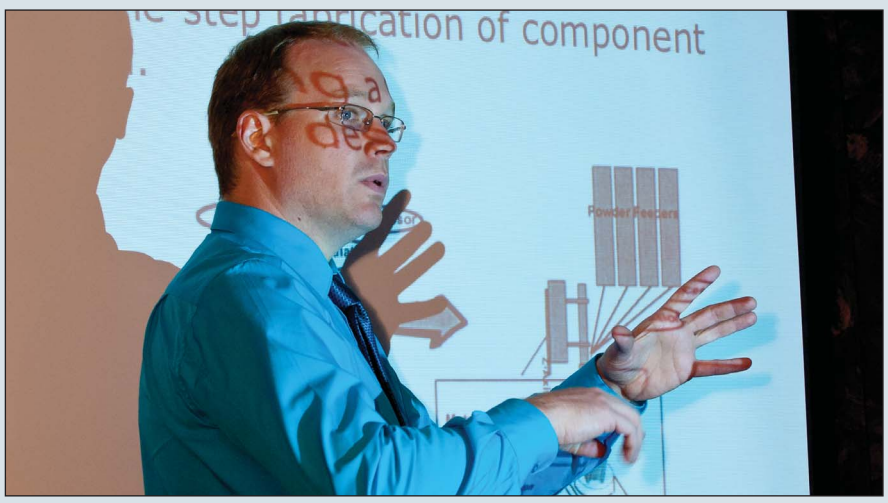
Mike Jones from Wm. L.Bonnell, with Melvin Todd and Randall Castro, and D.D. Lewis,Potash Corp.

Chad Ayres, Sodrox and Greg Jessup, Northern Technologies.



Nick Parsons, Rio Tinto Alcan.

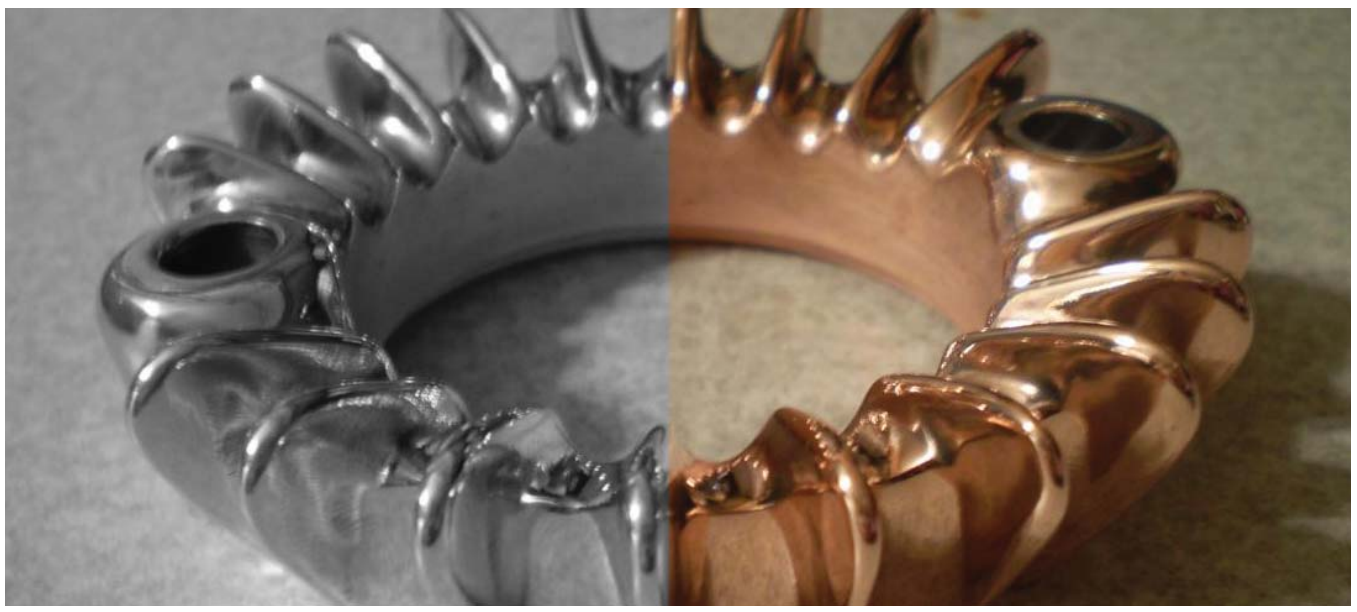
Ross Borthwick, Premier Environmental Services.



Mathieu Brochu McGill University.

Manual Plating – THEN & NOW

By Joe Pasquarelli



The earliest commercial plating started in the 1840's in Europe. Electroplating followed the successful development of the battery. Success was almost guaranteed because electroplating offered safer and more effective ways to apply gold and silver to consumer products and architectural structures. Gold and silver plate caught on quickly with the new rich (wealth generated by the Industrial Revolution) for artwork could now be produced at much lower costs. So much like Henry Ford and his production lines, the plating industry created the manual plating line.

EARLY QUALITY CONTROL

Manual plating lines changed and developed as the natural outflow of the skills and knowledge of electroplating as it slowly spread throughout the industrialized world. For instance, a scale was added to the rack when plating an item like a silver tray. This was an early Quality Control effort installed after a customer complained. The plater would remove the item when the scale indicated the proper weight had been reached. Today we do this with an amp hour meter. From these simple beginnings, other decorative and non-decorative metal plating baths where developed and filled the manual plating lines to create more and better finishes.

LINES OF THE 40S

The 1940s saw the beginning of several new industries. Radio (the first electronics industry) helped to fuel the technology growth in the electroplating industry. Music and entertainment beamed across the airways and into homes, keeping people informed in the unstable times leading up to the Second World War. Military and Aviation modernization needed the finishes the industry had to offer. Equipment had to operate after weeks and months of the worst conditions imaginable around the world. But, what did the manual line look like? Tap water with its metal and organic contaminates would have to be pure enough for plating tanks because ion exchange resins were in their infancy. There was stream distillation for water conditioning, which was all right for the Lab, but too energy intensive for most manual plating lines. Soak cleaners were hardly adequate, so it was a good thing that most of the plating bath chemistry was cyanide based. Cyanide baths can handle a fair amount of oil/contaminates dragged in with the parts and still produce excellent quality. Rectifiers were improving and produced a "cleaner" wave form with less AC ripple. Straight lines were common for the shape of manual lines. Simplicity of pre-cleaning and plating chemistries combined with the use of single rinse tanks helped to keep the lines short.

Wooden tanks were not an unusual sight at the time because plastics are not commercialized until just before the war. The rapid increase in the use of plastics & plating in aviation during World War II became part of a recurring theme: replacing scarce resources with more common and sometimes cheaper materials.

The war years saw the development of modern Plating Specification Standards because the lives of people came to depend upon the quality of the metal finishing.

THE FIFTIES

Now it is the mid-1950s and the plating bath solutions in manual plating lines are starting to change. Cleaners are improved and working on more types of soils with greater affinity for oils/greases. So, we don't need the cleaning power of a cyanide plating bath to insure that parts do not peel. This opens the way for cyanide plating bath chemistry being replaced with safer and more efficient plating baths based on acid formulations.

The improvements in electronics starts showing up in rectifiers, which in turn improves the quality of deposits. Thick gold plating for electronics had a few shops scrambling to meet the newly tightened gold standards with gas testing (nitric acid gas in a glass container), which measures porosity of the deposit. In a wonderful case of serendipity, it was discovered that turning off the DC rectifier for a minute and turning it back on started a new set of gold grains/crystals growing. The new grain edges did not line up with the earlier grain/crystal boundaries. This decreases the porosity in the gold deposit and was the first practical use of pulse plating. The manual line strikes again with another technical innovation.

NEW CHALLENGES

On to the 1970s and everyone is just a little nervous. New challenges for the manual line enter stage left Environmental Regulations. These regulations have directed the research and development of the surface finishing industry for forty years and counting. The electroplating industry responded by shining a light on the "dark corners" of the shops. With the thought that not one drop of solution should touch the floor, the manual line was equipped with slanted drip trays between tanks to return solution to the exited tank. Counter-flow rinses, air-lift pumps, combination drip and spray rinses, evaporators, ion exchange resins, membrane technologies, electrowinning systems are just a few of the manual line add-ons. When totaled up, all this stuff exceeded the value of the manual line. Straight lines no longer worked. The operator would wear-out a pair of boots by the end of the week. U-shape lines are easier on the feet and more productive.

WEAKEST LINK

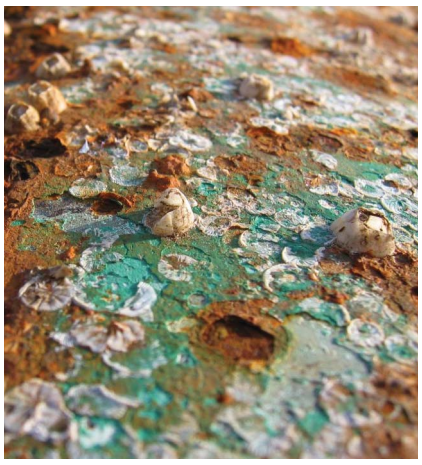
The manual line's weakest link is its operator. Brings to mind a little story: a shop owner knows a little "somethin - somethin" about pollution and puts eight counter-flow rinse tanks in a row after the plating solution. This number of tanks should yield water clean enough to go straight to the drain. When tested the water was nowhere clean enough because the operator was not sufficiently strong over eight hours, to hold the racks up over the rinse tanks and wait the minute or so it takes to let the rack stop dripping. Lifting assists, as simple as a bar over the rinse tank to hook the racks on to finish dripping or as complex as a hoist, help to maintain an even work-flow over an eight hour day. Operators need training, training and oh, yes, training,

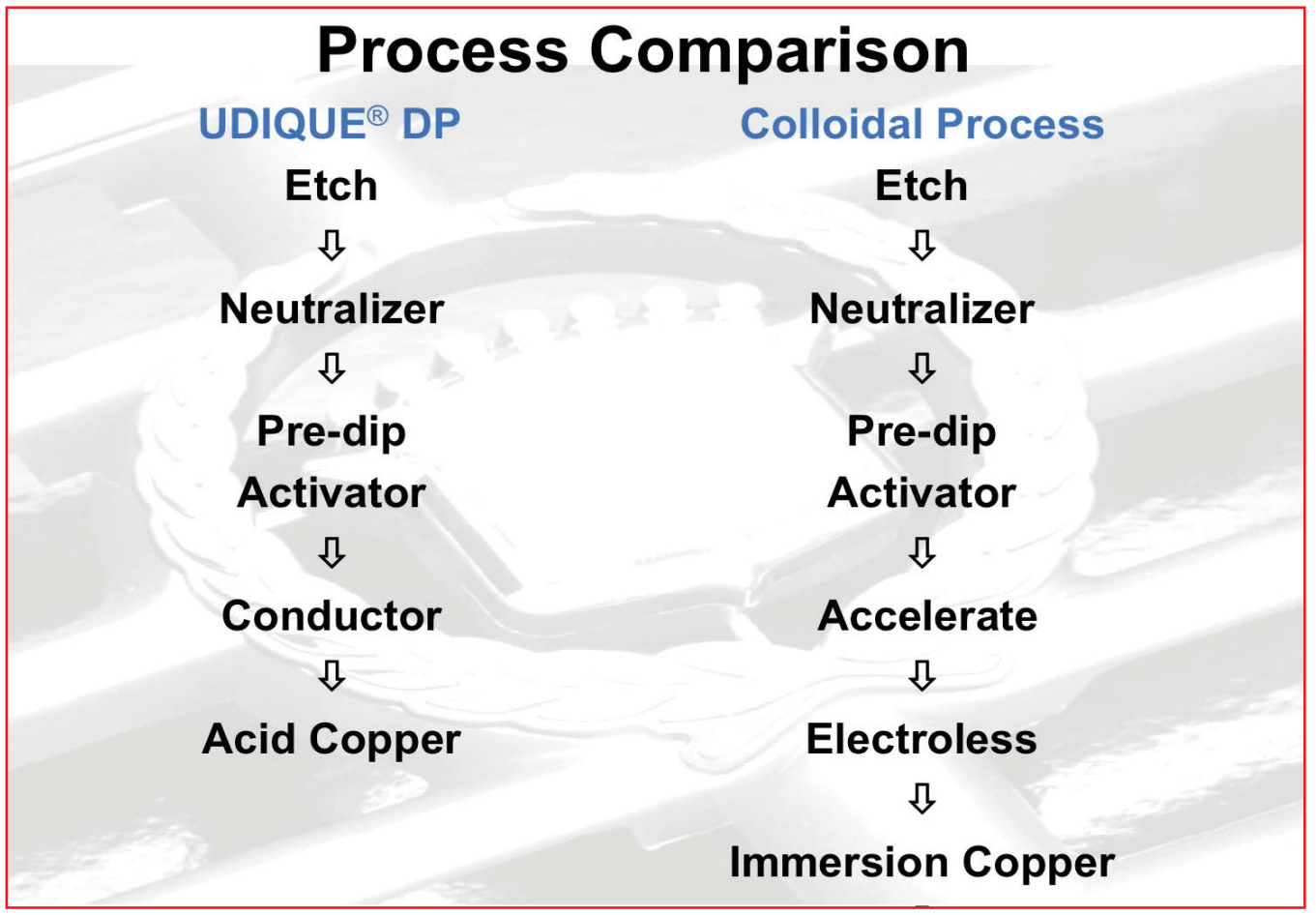
TODAY AND THE FUTURE

Manual lines are great for small lots and quick turn-round. They can be as sophisticated as the equipment and plating chemistry of today. Faster plating speeds, better leveling, throwing power and superior deposit characteristics are all possible because of new plating bath formulations. And the future of the manual line? New power supplies that can do things we can only dream of: a true "closed loop" for waste water recycling and plating solutions. Increased worker safety through reduced exposure to harmful chemicals. Manual lines are capable of finishing all kinds of decorative and non-decorative/technical plating and they will continue to find their way into new applications. ■

Joe Pasquarelli is the Operations Manager of General Magnaplate Canada, Ajax, ON.

A Solution to Corrosion and more





By Sandy Anderson

Thanks primarily to the automotive industry, plating-on-plastics in Europe and North America has been expanding.

The need exists due mostly to the corrosion issue, so besides automotive, items commonly produced in plated plastics include knobs and buttons for electronics, bathroom and kitchen accessories and appliances, namely the white goods sector.

Linda Wing, Industry Manager for Enthone Inc. says customers are asking for new decorative finishes such as satin chrome and dark chrome. She says, "ABS and PC/ABS are the common plastic materials used. Proper adhesion to the substrate, corrosion performance, and appearance are key."

When asked what's new, Wing responds, "A new plating method is 'Direct plate' where production throughput is shorter." She adds, "This process is production proven on ABS."

When it comes to environmental concerns, there is the controlling of misting of Cr solutions with PFOS free fume suppressants. Enthone's PFOS free products that address the EPA's ruling are ANKOR PF-1, ANKOR Wetting Agent FF, and UDIQUE Wetting Agent PF2. Enthone also offers a decorative trivalent Cr process to replace the hexavalent Cr process. She says there is some acceptance by OEMs at this time, but there are still concerns about long term field performance, and color matching for the "bright" or "white" decorative trivalent Cr. Lastly, replacement for chromic acid etch with non-Cr etch process: "This is under development at this time," says Wing.

At SurFin 2010, a paper was presented by Markus Dahlhaus, Enthone Germany, Amy Tsang, Enthone, Hong Kong and Linda Wing, Enthone, USA on Advancement in the Control and Prediction of CASS Test Performance. They stated that the extended CASS test requirements in Automotive standards has helped to evolve the demand for improved corrosion performance from automotive decorative chromium components over the last 20 years. It goes on to discuss the advantages of the new Fuhrmann test for corrosion of the plating layers whether on plastic or metal. The paper talked about Electrodeposition of metal layers used primarily to give surface improvement and decorative enhancement to plastic components (as well as metallic). Bright Chromium with its under layers of electroplated nickel was discussed as being a popular choice when plating plastics. Microporous Chromium was also discussed and solutions for its layers having random discontinuities such as cracks or pores.

Atotech is a world leader when it comes to plating on plastics and has been involved since the beginning. They have a tried and true method to plate any grade of ABS- or ABS/PC blend plastic.

According to the company web site, "Plastic and plastic composite materials continue to be popular because of the way they combine the advantages of both worlds. Plastics are light, corrosion-free and can be formed to virtually any shape. Even complex components can be cost effectively produced in volume."

Some of the company's products include Futuron ULTRA, a further development of Atotech's Futuron process for direct metallization on ABS and ABS/PC blends with a PC-content up to 65 per cent. Futuron ULTRA eliminates the use of any electroless nickel or copper as well as nickel or copper strike plating step considerably increasing production reliability and enhancing the productivity through its reduced pretreatment time of 25 per cent compared to conventional pre plating process sequences systems.

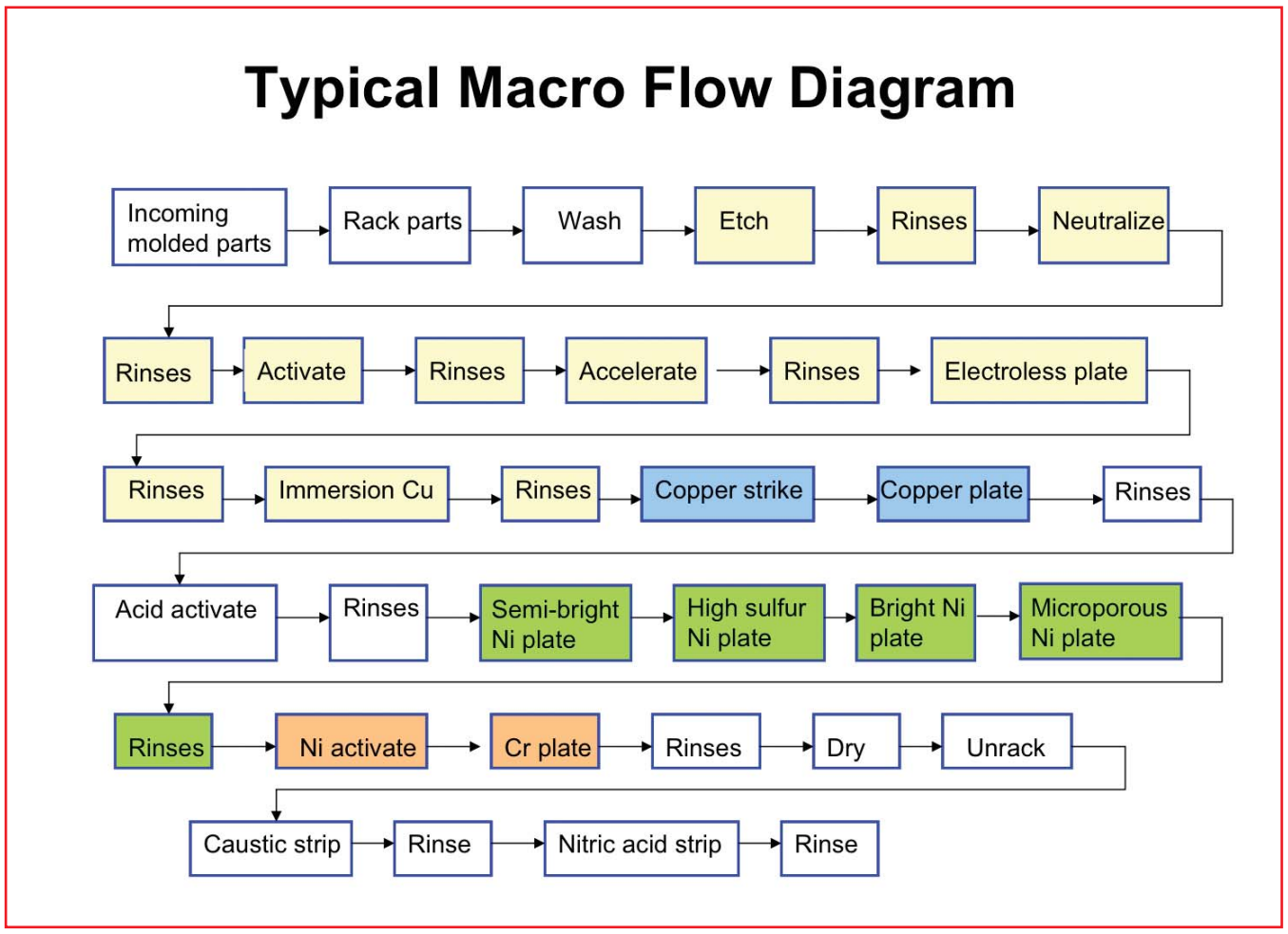
Plating on plastics with the Noviganth AK range safely and reliably plates any plating grade of ABS- or ABS/PC blend plastic. The company says the Noviganth AK process has become the worldwide standard for metallization of ABS-type base materials. The advantages of the proven, easy-to-use process are particularly appreciated by contract electroplaters encountering frequently changing product ranges.

Atotech also has Cr(VI)-free etch special process for plating on plastics. It is especially designed for pretreatment of polyamide substrates. The process is suitable for mineral-filled polyamide types used in the manufacture of components such as car-door-handles.

ELECTROPLATING OF PLASTICS – THE HISTORY

The basic problem in attempting to electroplate onto plastics substrates is that they are electrically non-conductive and cannot be immersed in a plating solution and coated like metal objects. A method was needed whereby a conductive film could be deposited onto the plastic surface to provide the basis for subsequent electrodeposition. This surface layer, in addition to being electrically conductive, should adhere well to the substrate if the final coating system was to show good adhesion.

Early processes, using conductive paint or chemically reduced silver on surfaces roughened either mechanically or by solvent attack, did not provide adequate adhesion. In the mid 1960s, etching solutions based on chromic acid were developed, which could successfully be used with acrylonitrile butadiene styrene (ABS) copolymer. Use of these solutions resulted in selective removal of the butadiene phase from the resin to give a micro-etched surface providing bonding to the subsequent conductive layer.



ELECTROLESS PLATING

This development came at a time when great improvements were also being made in the technology of electroless nickel and electroless copper deposition. These advances in electroless plating combined with the development of the etching technique gave rise to a system that provided a highly conductive coating exhibiting satisfactory adhesion to the plastics surface.

THE PLATING PROCESS

Although many refinements and improvements have been made over the years, the basic steps are as follows:

- Etch in chromic acid based solution to promote adhesion
- Neutralise excess chromic acid
- Activate the plastics surface with a solution containing tin and palladium salts. This deposits nuclei of palladium metal on the plastics that catalyse nickel or copper growth from the subsequent electroless processes.
- Coat the surface with either nickel or copper (nickel is now generally the preferred commercial process) from an electroless plating solution.

Once the plastics component has been coated with this electrically conductive and adherent surface layer it can be electroplated.

The electrodeposited coating system used on plastics substrates generally consists of an initial thick copper layer. This has been found to be necessary to compensate for the difference in thermal expansion between the metal coating and the plastics substrate.

In the early days copper was normally followed by a relatively thin bright nickel layer with conventional chromium topcoat. At that time it was considered that only thin nickel deposits were required since the plastics substrate would not be subject to corrosion in the way that metals are. However, it was subsequently shown that the thickness of nickel required on plastics substrates is similar to that necessary on metallic ones to prevent corrosion of the thick copper undercoat.

ELECTROPLATING OF PLASTICS R&D

There have also been two very significant developments in nickel/chromium electroplating technology that have ultimately greatly improved the quality of electroplated plastics.

Double layer nickel systems consisting of a semi-bright under layer with bright nickel topcoat - have been developed giving improved corrosion resistance compared to single layer bright nickel coatings of the same total thickness.

It has also become widely accepted that microdiscontinuous chromium systems, where the chromium layer exhibits either an extensive microcracked structure or is microporous, further increase corrosion resistance of nickel/chromium deposits.

Modern specifications for electroplated plastics that are to be employed in severe environments (e.g. external automotive applications) all call for the use of double layer nickel together with microdiscontinuous chromium.

RESINS FOR ELECTROPLATING

Although a wide range of plastics resins can be electroplated the market has always been dominated by acrylonitrile butadiene styrene (ABS). This has been estimated to account for 90 per cent of the material currently used in this application worldwide. Polypropylene has been used, mainly for applications where its low water absorption is important, but has generally proved more difficult than ABS to electroplate reliably and its consumption has not grown significantly.

The plastics industry has recently introduced a range of new materials consisting of blends of ABS with polycarbonate. Typically these contain 40-60 per cent ABS with 60-40 per cent polycarbonate, although a wider range of compositions can be used depending on the application. These blends not only have a higher inherent mechanical strength than unmodified ABS, but also show superior ductility in the as-plated condition. This is a most important property, particularly for the automotive industry, since it can provide a degree of recovery from impact. This may allow use of plated plastics for vehicle bumpers.

Other resins used for plating include nylon, modified polyesters, polysulphones, polyimides and polyetherimides, although the quantities are small compared to ABS. Interest is being shown in resins that are capable of being heated to higher temperatures than ABS in the as-plated state, such as rubber modified maleic anhydride copolymers. These allow coloured, abrasion resistant lacquer finishes, which require high curing temperatures to be applied on top of bright nickel as an alternative to chromium, thereby increasing the appearance options.

A metal surface gives plastics a high quality, decorative appearance, which is why the advantages of plating on plastics are being appreciated in more and more industries. ■

Images courtesy of Enthone Inc.

HOT SHOW SEASON

Environmental and Regulatory Issues Facing the Surface Finishing Industry in Canada. Topics included Chrome and PFOS Regulations, Regulation 419A and Sector Based Technical Standards, Fume Suppressants, latest surface finishing trends, Ontario Toxic Reductions Act, Nickel and Chrome Regulations and more. Organizers of the Forum are very pleased with the turn out. There were 66 registered which includes the 10 speakers. There were also six display booths.

More photos on-line at www.cfcm.ca

Photos by Sandy Anderson

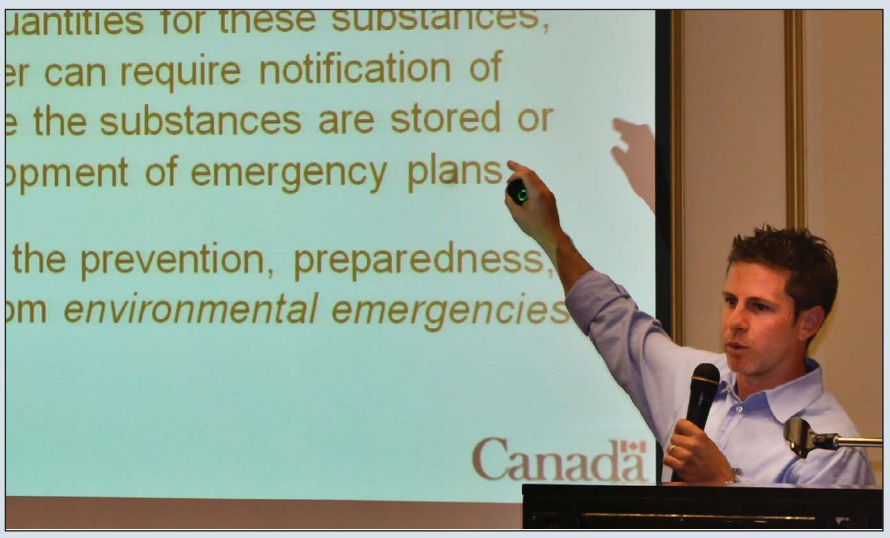
Peter Paine from Environment Canada speaks with Doug Lay, former AESF national president, currently Vice President Decorative Technology, Coventya Inc. USA.

At the Met-Pro display, Ted Fattal and Jim Lively of Met-Pro talk with customer Maurice Pestowka of Simpson Automotive Inc.

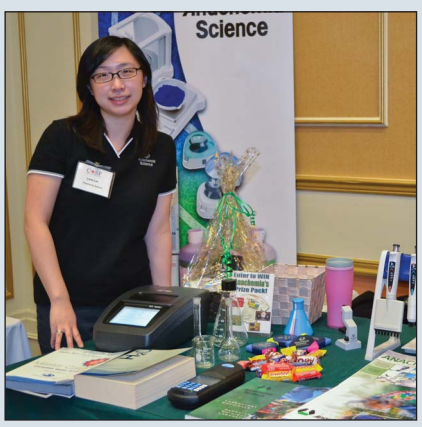
Kelly Miki of the Ontario Ministry of Environment (MOE). She talked about Ontario MOE Reg 419/05 and Cr(VI) POIO and Sector Based Standards.

Armin Hadzidedic, Plant Manager at Torcad and Jim Sutherland, Environmental Manager with the Acadian Group.

Stewart Tymchuk and Dennis Rogers at Dynamix display during the CASF Forum.



Dale Gration of Environment Canada talked about compliance.



Lena Lin at the Anachemia booth.

David Waltho of Atotech speaks with Brian Jones of CFCM.

Kelly Miki of MOE.

NEW PRODUCTS AND TECHNOLOGIES

Troy's Multifunctional Wetting Additive for Low VOC Systems

In direct response to manufacturers' efforts to comply with VOC regulations, Troy has introduced Troysol ZLAC, a substrate wetting and flow additive that contributes zero VOCs to aqueous systems. The product is the latest addition to Troy's Z-line of "green" performance additives engineered to help manufacturers achieve regulatory compliance and still maintain optimum performance. Troysol ZLAC provides the same benefits and attributes long associated with Troysol LAC, but without the VOCs.

Troysol ZLAC allows formulators to take VOCs to a New Low without sacrificing performance

Silicone-free, APE-free Troysol ZLAC is the latest in a class of multifunctional additives developed by Troy. Multifunctional additives are single additives that do the job of several. This is particularly valuable when overall system VOC level is a concern: the fewer the additives, the fewer the possible sources of VOCs. Troysol ZLAC promotes wetting of low energy substrates, and provides higher gloss, improved flow and leveling, and excellent color acceptance. Furthermore, Troysol ZLAC is easy to handle and easy to use, thanks to a new process developed by Troy.

www.troycorp.cam

Graco Launches Line of Hand-Held Sprayers

Graco Inc. has launched of a line of hand-held paint sprayers for professional and DIY users.

The sprayers feature the company's patented and patent-pending ProSpray technology. The piston-pump design delivers strong, continuous operating pressure for a consistent, even spray pattern and one-pass coverage with no thinning, the company says.

The sprayers are described as easy to use and clean and available in both corded and cordless units.

The company says the sprayers provide easy application and uniform and consistent coverage in most interior, exterior, and specialty applications, including walls, ceilings, cabinets, trim, doors, fixtures, radiators, garage doors, siding, shutters, decks, railings, fences (including lattice), and wicker and wood furniture.

Also, the new Graco XP70 Plural-Component Sprayer is designed to pump, mix and atomize high-viscosity, faster-curing materials with superior results. The system handles environmentally-friendly high solids coatings with little or no solvent, hybrid polyurethanes, epoxies, very high solids coatings (with up to 100 per cent solids content), and materials requiring heat. The company's hand-held paint sprayers are branded under the Graco TrueCoat and Graco ProShot names.

www.graco.com

Binks Introduces New 183 Series Of Pressure Tanks

A leader in fluid handling equipment for the industrial finishing market, Binks has added two new lines to their family of pressure tanks. The new Binks183G in galvanized carbon steel is used for most solvent-based applications. Suitable for waterborne coatings, Binks new 183S in stainless steel provides application flexibility and Binks best chemical resistance.

Both the 183G and 183S tanks feature:

- new fill port to make it easier and quicker to add material
- new location lug to ensure proper lid orientation
- larger handles for increased portability
- shorter height to fit smaller spaces and reduce "top-heaviness"
- ASME certification meeting NFPA standards
- availability in 2, 5, 10 and 15 gallon models
- multiple regulator, agitator, and air control options
- bottom outlet kit and other accessory options

Every Binks pressure tank is constructed from high quality materials for durability and made to ASME standards. Designed for compatibility with the full range of today's coatings, Binks tanks are found in almost every industrial finishing production application. When used with Binks low pressure regulators, Binks 183 Series tanks increase transfer efficiency to reduce costs.

Binks pioneered the development of liquid spray finishing technology over 100 years ago and continues to set the standard for industrial spray finishing.

www.binks.com.

EXEL North New Sprayguns

Exel introduces the Manual M22 Series Sprayguns. The goal was to improve the ergonomics of the spraygun by reducing the trigger pull from 2.4 kg (5.3 lbs) to 1.4kg (3.1 lbs). The trigger is mounted differently on the guns as seen in the photo below.

The new trigger pull design is depicted on the gun to the right , while the gun on the left shows the old trigger pull design.

www.exel-na.com

Clariant's Genapol wetting agent

The paint industry is on the constant look-out for sustainable solutions that improve performance and increase customer choice. Such a solution is available with Genapol ED3060, a wetting agent for emulsion paints from Clariant that has outstanding wetting and low foaming properties at very low addition levels. It improves the compatibility of binders with numerous organic pigments that are difficult to disperse in the paint, making it easier to formulate a wide range of paint colours.

www.clariant.com

Union Process Introduces a Lab Model Attritor for Small Media Milling

Union Process, Inc., known globally as a manufacturer of particle size reduction and dispersing equipment as well as related services for a broad range of research and industrial applications, has built a 05-SDM hybrid mill capable of small media milling.

The model 05-SDM combines the features of a standard wet grinding, laboratory Attritor batch mill with the added benefits of being able to handle small media milling. The typical Attritor benefits include simple operation, energy efficiency, rugged construction, no expensive shaft seals to maintain, and the ability to inspect and add material at any time during the grinding cycle. By adding a specially designed shaft and proprietary Delta Discs, the mill is able to use mini media from 0.25mm to 3mm and operate at the high shaft speeds (from 300 to 3000 RPM) required to energize small media. Union has also built its first C-20 Continuous Attritor.

The "C" Series Continuous Attritor is a "work-horse" machine that uses 1/8 - 3/8" grinding media. The C-20 Attritor is designed for applications that require continuous production of large quantities of material. It is a low-maintenance, high efficiency mill designed for processing ceramics, paints, coatings, chocolates, agricultural products, metal oxides, and numerous other materials.

This C-20 Attritor Mill has been engineered with a "swivel head" which allows for easy access to the top of the grinding chamber. It also comes equipped with a 60 HP variable frequency drive, tangential inlet assembly, media charging port, and media discharge plug. These innovations allow for easy maintenance of the C-20.

Union Process is the original developer of Attritor technology and manufactures wet and dry grinding mills as well as small media mills.

www.unionprocess.com

Pantone Heralds Commercial Launch of Compact Color-Measurement Tool

Pantone LLC, Carlsdadt, N.J., an X-Rite Inc. company and developer of professional color standards for the design industries, announced the market debut of CAPSURE, a compact, handheld device for color measurement and matching.

The company says the instrument allows design professionals, contractors, paint retailers, and do-it-yourselfers to instantly measure and match color—from small, patterned, multicolored textures and textiles to walls and carpeting.

The instrument allows accurate identification of color inspiration from any surface, material or fabric and matching to a PANTONE color, the company says.

The instrument's image-capture technology provides a preview of the surface being measured on 1.75-inch color screen, in real time, to affirm image accuracy. Those images are then stored on the device for later reference. The user can also annotate colors with a voice recording as well as a time and date stamp. The device also provides harmonious shades and identifies related colors that are lighter, darker or similar in tone to the identified color.

www.pantone.com

Xvl Series Paint Mixing Equipment

Paul N Gardner Company, Inc. introduces the following:

XVL-10 (Round) One Gallon Vortex Mixer

- Ideal for mixing all types of architectural paints and primers • Mixes round one gallon, quart & pint containers (quart & pint adapter included) • Smallest footprint of any one gallon mixer - allows unit to fit under or on top of a countertop surface • Quiet operation allows the XVL to be placed in the retail area without interrupting customer interaction • Easy drop-in loading — no need for latches to hold can in place when mixing • Kevlar reinforced drive belt prevents stretching and gear slippage • Dimensions: (W)14-5/8 x (D)21-1/2 x (H)20-3/4 • Shipping Wt: 104 lbs.

XVL-12 (Square) One Gallon Vortex Mixer

- Ideal for mixing all types of architectural paints and primers • Mixes round, square gallon & quart containers (includes adapter for round & square quarts) • Smallest footprint of any one gallon mixer - allows unit to fit under or on top of a countertop surface • Quiet operation allows the XVL to be placed in the retail area without interrupting customer interaction • Easy drop-in loading —

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Paint & Coating Manufacturing:
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AD INDEX

no need for latches to hold can in place when mixing • Kevlar reinforced drive belt prevents stretching and gear slippage • Dimensions: (W)16 x (D)22-3/4 x (H)22-3/4 • Shipping Wt: 159 lbs.

XVL-55 Multi-Size Shaker

• Ideal for mixing all types of architectural paints and primers • Mixes pints up to five gallon containers, including cases of paint • Quiet operation allows the XVL to be placed

on the sales floor with-out interrupting customer interaction • Patented intelligent clamping system automatically adjusts for multiple container sizes • Built-in roller assists with loading and unloading • Provides superior mixing stability, preventing the shaker from walking when operating • Large viewing window • Kevlar reinforced drive belt prevents stretching and gear slippage • Dimensions: (W)27-1/2 x (D)26 x (H)45 • Shipping Wt: 568 lbs.

www.gardco.com

DSM's NeoRadT U-6288- the first Easy-to-Matt 100 per cent UV curable resin

DSM NeoResins announces the launch of NeoRadTM U-6288, a 100 per cent UV curable resin, which can be used in coatings and overprint varnishes for luxury packaging and high end promotional printing. NeoRadTM U-6288 offers broad formulating latitude and high matt efficiency, working with most common matting agents

This new resin is compatible with a wide range of epoxy, urethane and polyester acrylates making it easy for the formulator to enhance the performance of the coating or varnish.

www.dsmneoresins.com

Software With Unique Features Slated for Fabricators.

Dynamic Systems, Inc., a Redmond, Washington software developer specializing in barcode data collection, has announced the launch of a low cost software suite for small to mid-sized Fabricators. We have taken our manufacturing suite and added modules to satisfy the demands and requirements fabricators need. CheckMate brings the power of much more expensive ERP systems at a much lower price. Because the CheckMate Suite includes Job Costing, Inventory and Tool racking, the software is uniquely capable of providing the fabrication company with up to the minute information to maximize profits. **www.abarcode.com**

Bayer MaterialScience LLC researcher highlights criteria for selecting resins for wood coating applications

Bayer MaterialScience LLC offers a number of one-component (1K) waterborne (WB) polyurethane technologies that can be used to formulate wood coatings for diverse applications that include flooring, cabinetry, furniture, interior windows and doors, and exterior wood. For optimal results, formulators need to select a resin with properties best-suited to the desired end-use application. Bayer MaterialScience LLC researchers have categorized their polyurethane technologies, thereby streamlining this process for formulators and, in turn, helping them save valuable time, money and resources.

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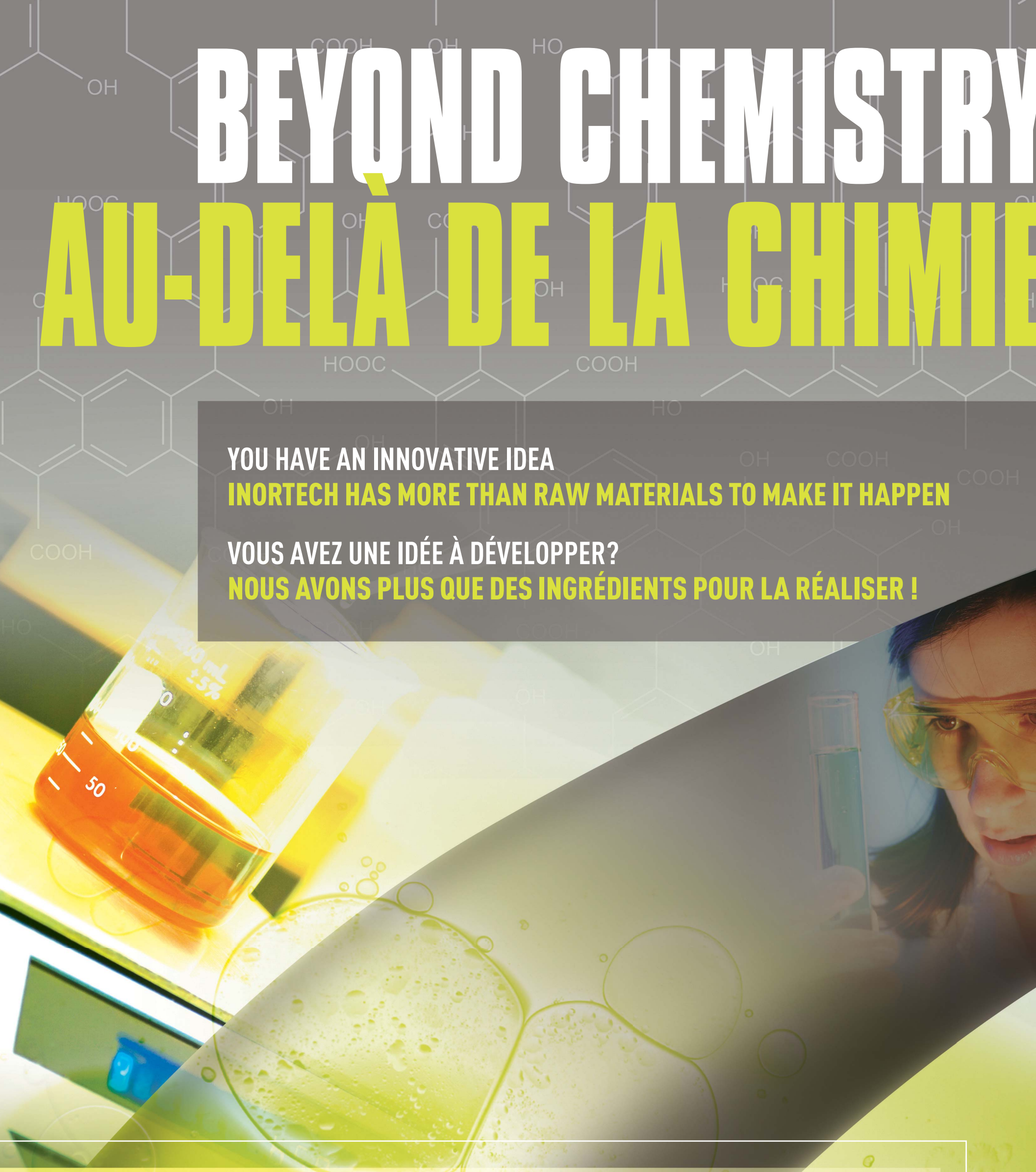

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