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The Voice of SSPC: The Society for Protective Coatings

FEATURES

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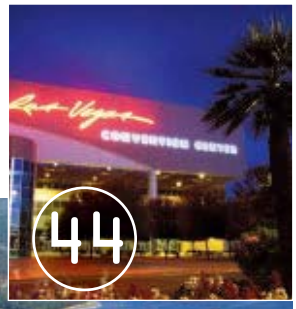
DEPARTMENTS

Also This Month



From the Offices of

SSPC The Society For Protective Coatings

Staff

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Skate Where the Puck is Going

I recently read the biography of Steve Jobs and was struck by an event that occurred during the design of the original iMac shortly after Jobs retook the reins at Apple in 1997. According to the book, upon deciding that the new computer shouldn't include a floppy disk drive, Jobs quoted a favorite maxim of NHL all-time great Wayne Gretzky: "Skate where the puck's going, not where it's been."

That maxim worked well for Jobs, just as it did for Gretzky in the NHL. At SSPC, in our effort to skate where the puck is going, we're happy to offer you SSPC 2012 featuring GreenCOAT next month in Tampa, FL, January 30–February 2, 2012.

Everything kicks off on Monday morning, January 30th, with the Annual Meeting & Awards Luncheon, where attendees will find out from the Board of Governors where we think the "puck" is going. SSPC will also recognize the superstars of our industry via the SSPC and *JPCL* awards, including the Honorary Life Member, John D. Keane, SSPC Outstanding Publication Award, *JPCL* Editors' and SSPC Structure Awards, among others. Following the luncheon meeting, several workshops and technical tracks precede the popular Welcome Reception, sponsored by Carboline.

On Tuesday, we'll start with a glimpse inside the White House and thoughts on the upcoming presidential election at the Keynote Session with Marlin Fitzwater, former press secretary for Presidents Reagan and G.H.W. Bush. After a full slate of technical programming, including the *Women in the Industry* and the *Commercial Coating & Flooring Symposium* (sponsored by *D+D*), the Exhibit Hall opens Tuesday evening with a reception and 100,000 sq ft of exhibit space.

Wednesday's lineup starts with the PCS breakfast, which honors the industry's leading coatings experts, followed by more technical programming. Featured content includes the President's Lecture Series selection, "A KYTC Study of the Effects of Chlorides on Bridge Coatings Performance," by Bobby Meade of the Kentucky Transportation Center and the *Protecting the Military* track. In addition, the full-day Mega Rust follow-up meeting is scheduled for Wednesday.

Thursday's highlights include the annual Facility Owners breakfast hosted by SSPC QP contractors, followed by the Facility Owner Peer Forums, where members from a host of industries, including defense, transportation, marine, water, power, and oil and gas, gather to discuss common issues and solutions. That night, we'll conclude with the annual Closing Party, sponsored by Brock and the SSPC Hampton Roads chapter. A preview of the 2013 show in San Antonio also will be featured.

Throughout the four-day event, featured GreenCOAT tracks and presentations are integrated into the programming so that attendees can learn about green solutions in a context that applies to track-specific topics. By the end of the show, attendees will have participated in 20 tracks encompassing 65 hours of technical programming, 82 presentations, 8 workshops, 21 pre- and post-conference training and certification programs, and 31 different SSPC committee meetings. In addition, the Florida Board of Professional Engineers has approved the *entire* curriculum at SSPC 2012, including the technical program and all training courses, which means that professional engineers licensed in Florida can earn 16 PDHs by participating in the conference.

Please look at the Advance Program in this month's *JPCL* for complete details about the conference, and personalize your own Technical Program tracker at www.SSPC2012.com. We hope to see you in Tampa!

Mike Kline
Director of Marketing, SSPC

Maintenance Matters

Because of the importance of regular coating maintenance and of upgrading our infrastructure, we publish as much information as we can about good work practices.

We also try to follow good practice in *JPCL*. Every few years, we conduct a journal's version of coating maintenance—we redesign *JPCL*, as we did in 2003, for example. In this issue, we present our latest work, *JPCL* designed with an eye to the changes in how we all access and share today's exponentially increasing information, in print and digital formats.

Here's a quick tour of what we have and haven't changed.

Our mission: It's the same since our launch in 1984. We remain honored to be The Voice of SSPC: The Society for Protective Coatings, and we will continue to report about good practice, new technology, standards, and other advances in high-performance protective and marine coatings for corrosion protection.

The logo: Its clean font frames "paintsquare.com," *JPCL*'s electronic home. These days, whatever your business is, you want people to know who you are and where you are in the virtual universe. You'll find the *JPCL*, its archives, and much more on paintsquare.com.

The cover: The photo is cover-size, with teasers also in trimmer fonts, all to clearly announce each issue's themes.

The editorial: You'll still hear from the leaders at the offices of SSPC each month.

The layout: The streamlined fonts allow for more white space, giving the photos and text more room to breathe, and giving you pages that are easy on the eyes.

The articles: Thumb through the magazine—you'll see the new look on our standard fare, such as Top of the News, Problem Solving Forum, Cases from the F-files, Research, SSPC News, Company News, Project Preview, and, this month, our annual, comprehensive feature, the Advance Program for SSPC 2012 featuring GreenCOAT (pp. 56–116).

You'll also see four new columns that support the more immediate, personal, and interactive exchange of information in the electronic age.

"The Buzz" (p. 10) distills what's happening on our daily *PaintSquare News*. The e-news comes so quickly that we want to make sure you don't miss a big story, the quiz leaderboard, or anything else on PaintSquare that has people talking. And it's never too late to join the conversation.

The monthly Q&A with an SSPC Protective Coating Specialist (p. 14) adds to the well-deserved recognition of SSPC-certified professionals around the world.

The Crossword (p. 135), with a coatings theme every month, lets you have a little fun with your work.

In "The Takeaway" (p. 136), you'll find some thoughts from us on the industry.

Check out the whole issue. If you have suggestions, you can share them on paintsquare.com or on the digital edition of *JPCL*; or let me know directly through email or telephone. Or tell me at SSPC 2012. I hope to see you there.

Karen Kapsanis
Editor in Chief, *JPCL*

No Cost to Participate

SSPC and *JPCL* will offer 25 education and training webinars, each an hour long, on good practice in protective and marine coatings throughout 2012. These webinars are intended to provide continuing education as well as technology updates on important topics for contractors and their employees, facility owners, third-party engineers and consultants, and suppliers to the industry. Participants can attend the webinars at no charge, courtesy of webinar sponsors.

The series is called The SSPC/*JPCL* Webinar Series: Education and Training in Protective Coatings. Webinar topics include descriptions of the contents and use of recently developed SSPC standards and guides on wet and water blasting, profile measurement, and measurement of dry film thickness. Some webinars will be devoted to safety issues, such as confined space entry; others will inform about new regulations; and others will give step-by-step directions on how to achieve efficiency in abrasive blasting, how to inspect and repair transmission pipeline, how to measure moisture in concrete, and how to apply plural-component coatings.

Webinar Education Series

A test will be available after each webinar for persons who want to use the webinars to acquire continuing education credits from SSPC to apply to recertifications, such as Protective Coatings Specialist.

Additionally, the webinars will be archived and available for playback and testing after viewing on sspc.org and paintsquare.com, *JPCL*'s web site.

Webinar Subjects and Dates

The schedule of webinars is shown below, including the titles, dates, and times of day (EST). This tentative schedule is subject to change, but if schedule changes are required, timely notice will be given to participants.

- Jan. 4, 11:00 a.m.-Noon, **"Using SSPC's VIS 4 and VIS 5 Surface Cleanliness Guides,"** instructed by Rick Huntley, KTA-Tator
- Jan. 18, 11:00 a.m.-Noon, **"Illumination of Industrial Painting Projects,"** instructed by Bill Hansel, CALTRANS, and sponsored by Larson Electronics

Bill Hansel

- Feb. 8, 11:00 a.m.-Noon, **"Field-Applied Fluoropolymer Coatings for Bridges,"** instructed by Bob Parker, AGC, and sponsored by AGC
- Feb. 15, 11:00 a.m.-Noon, **"Quality Control of Industrial Painting Operations,"** instructed by Bill Corbett, KTA-Tator
- Feb. 29, 11:00 a.m.-Noon, **"Measuring Adhesion to Concrete,"** instructed by David Beamish, DeFelsko

David Beamish

- March 14, 11:00 a.m.-Noon, **"Achieving Efficiency in Abrasive Blasting,"** instructed by Bill Nelson, Axxiom, and sponsored by Axxiom
- March 21, 11:00 a.m.-Noon, **"Writing a Clear Coating Spec for Wastewater Facilities,"** instructed by Jim Machen, KTA-Tator
- April 4, 11:00 a.m.-Noon, **"Conditioning Atmospheres Inside Tanks for Cleaning and Painting,"** instructed by Brian Peroni, Florida Power & Light
- April 18, 11:00 a.m.-Noon, **"Intumescent Coatings: State of the Technology,"** instructor to be named
- April 25, 11:00 a.m.-Noon, **"Field Inspection and Repair of Transmission Pipeline Coatings,"** instructed by Bud Senkowski, KTA-Tator
- May 9, 11:00 a.m.-Noon, **"Inspection and Assessment of In-Service Concrete Coatings,"** instructed by Aaron Dacey, North Carolina Department of Transportation
- May 16, 11:00 a.m.-Noon, **"Effects of Water Treatment Chemicals on Ballast Tank Linings,"** instructed by Brian Goldie, *JPCL*

Stan Liang

- May 30, 11:00 a.m.-Noon,

"Avoiding Pitfalls in Scaffolding," instructed by Stan Liang, KTA-Tator

- June 13, 11:00 a.m.-Noon, "Selecting the Right Abrasive," instructed by Earl Bowry, Newport News Shipbuilding, and sponsored by GMA Garnet
- June 27, 11:00 a.m.-Noon, "Measuring Moisture in Concrete," instructed by Ken Trimber, KTA-Tator
- July 9, 11:00 a.m.-Noon, "Waterjetting—New Standards for Assessing End Condition Cleanliness," instructed by Rich Burgess, KTA-Tator, and co-sponsored by NLB
- July 18, 11:00 a.m.-Noon, "Selecting Coatings under Insulation," instructed by Brent Griffin, Chevron Energy Technology Company, and sponsored by Thermion
- Aug. 8, 11:00 a.m.-Noon, "The New SSPC Surface Profile Measurement Conformance Standard," instructed by Bill Corbett, KTA-Tator
- Aug. 22, 11:00 a.m.-Noon, "Introduction to CAS (Coating Application Specialist program)," instructed by Anton Reusing, IUPAT DC78-Florida Finishing Trades Institute, and sponsored by SSPC
- Sept. 12, 11:00 a.m.-Noon, "Hull Coatings to Optimize Fuel Efficiency," instructor to be named
- Sept. 26, 11:00 a.m.-Noon, "Applying Plural Component Coatings," instructed by Art Webb, Naval Research Laboratory, and co-sponsored by WIWA LP
- Oct. 17, 11:00 a.m.-Noon, "The New PA 2: Procedure for Determining Conformance to Dry Coating Thickness Measurements," instructed by Bill Corbett, KTA-Tator, and sponsored by Fischer Technology
- Oct. 31, 11:00 a.m.-Noon, "Fundamentals of Thermal Spray for Corrosion Control," instructed by Bill Medford, Inspec, Inc.
- Nov. 21, 11:00 a.m.-Noon, "Understanding OSHA's Confined Space Construction Industry Standard," instructed by Stan Liang, KTA-Tator, and sponsored by Larson Electronics
- Dec. 5, 11:00 a.m.-Noon, "Update on Regulations Affecting Protective and Marine Coatings," instructed by Heather Stiner, SSPC, and sponsored by SSPC

Heather Stiner

Gerry Churchwell Achieves SSPC Master Coatings Inspector Status

Gerry Churchwell of Western Technologies has become the fourth coatings professional to achieve SSPC's prestigious Master Coatings Inspector status. To reach MCI, one must qualify for certification as a Concrete Coatings Inspector (CCI) as well as qualify for two of the three other SSPC inspector programs: Bridge Coatings Inspector (BCI), Protective Coatings Inspector (PCI), and the NAVSEA Basic Paint Inspector (NBPI). Churchwell is qualified as a CCI Level II, BCI Level II, and PCI Level II Inspector.

Churchwell began his career in the steel construction field where he was exposed to coatings processes and many of the shortcomings of inspection procedures. In addition to his multiple SSPC certifications, he is an AWS Certified Welding Inspector; Certified Radiographic Interpreter; ASNT Level III in MT, PT, UT, and RT; and Certified EIFS Inspector.

Churchwell said he was proud to represent SSPC as only one of four individuals who achieved the MCI designation. "I

am very fortunate to have attended the SSPC training and certification programs for the professional coatings education and information I've received and recommend them to anyone wanting to further their career in coatings and inspection."

The goal of the MCI program is solely to recognize and honor those individuals whose experience and training has afforded them the prestige of multiple inspector certifications. SSPC recognizes that it takes tremendous personal commitment and dedication to the industry to maintain professional qualifications, and that task in and of itself is a core reason why so many of those people are so widely respected.

For more information on how to become an MCI, contact Terry Sowers at 877-281-7772 ext. 2219 or sowers@sspc.org.

The BUZZ on PaintSquare.com

By Anita Socci, JPCL

HOT TOPICS

What do you think about the Occupy Wall Street Movement?

On this hot-button issue, 221 readers responded.

• 85 respondents (38.5%) thought 'Wall Street isn't the problem—that's free enterprise in action.

F. Carr: *"Free enterprise died a long time ago when corporation[s] become monopoly entities…effectively displacing small and independent initiatives."*

• 72 respondents (32.6%) said 'Right on! Corporate greed and tax breaks are bleeding our economy.

Richard McLaughlin: *"I do feel that the system is corrupted. Just look at [what] the insider trading congress (both sides, both parties) is getting by with. Look at all that, and the many other intrusions in to the capitalist system done by our Government over the last 25 years in the name of 'leveling the playing field' or for whatever cause gets a candidate a permanent position of power, then can you honestly say it's 'Capitalism that's at fault?' I can't.*

• 64 respondents (29%) answered that the Movement is a good cause(s) lost to a fuzzy focus.

Brian Chapman: *"I believe that the vast majority of protesters in this movement don't truly understand the issues. They are just followers looking for some cause to take up."*

In today's economy, what path would you advise next for a new high school graduate?

The choice, according to the respondents below, depends largely on the individual and the economy.

• 54% of respondents said that a 4-year college is the way to go.

Tom Schwerdt: *"All are viable options, but going straight to a 4-year school is the most expensive and probably riskiest option financially."*

• 18% said a 2-year college.

Catherine Brooks: *"Two year college is a stepping stone for 4 year college. Funding or lack of confidence is often the deterrent for kids to further their education."*

• 15% said work full time and defer additional education.

Ken Sisco: *"An option would be to enlist in military, and pursue education after enlistment."*

• 12% would recommend a trade school.

Ron Cros: *"If money is no problem and you have the grades then it is a no brainer. If you don't like school and haven't performed well in school, a trade or the military might work, however the military's standards have gone up quite a bit.*

Most Answered Quizzes

Nov. 4, 2011: When can you safely topcoat an inorganic zinc-rich coating? 262 respondents

Nov. 2, 2011: True or false: Abrasive blasting and other scarification techniques increase the surface area of a steel substrate and provide additional reactive sites for molecular association between paint and metal. 259 respondents

Most Read Stories

Ex-PPG Director Admits Nuclear Paint Smuggling
Town Reels from Water Tower Collapse
Paint Plant Fumes Kill Man, Injure 2nd
Caltrans Inspection Scandal Grows
GOP Battles Non-Existent Regulations
GOP Kills Infrastructure Jobs Bill
Plant Operator Rips Fatal Blast Probe
Reclaiming an Icon—and an Identity
Paint Waste Resolved; Bridge Work Resumes
Probes, Changes Follow Death of NY Tunnel Worker

Quiz Results

(As of Nov. 25)

Robert Cloutier 19 of 19
Mike Winter 19 of 19
Richard McLaughlin 19 of 19
Doug Driscoll, Sr. 19 of 19

On the Cleanliness of Stainless Steel

How can I determine the cleanliness of stainless steel for painting after blast cleaning?

From David Lemke
Team Industries

Because we are discussing only a stainless steel substrate, I will refer to only the relevant portion of SSPC-SP 16, "Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals."

The stainless substrate should be tested for chlorides first (if suspected or if the specification requires the testing) to determine the type of SSPC-SP 1 to perform. Solvent and alkaline cleaners are covered in SP 1, but chlorinated solvents cannot be used for solvent cleaning on stainless steel. Also, solvents won't remove any chloride.

Once the substrate is cleaned, and rinsed if detergents were used, the substrate is ready to be abrasive-blasted. SSPC-SP 16 does not cover what type of abrasive to use, but if something is made of stainless steel, I wouldn't think you would want to use steel grit and risk problems with steel embedded in stainless. (Steel embedded in stainless creates a bi-metallic corrosion cell. When the stainless is coated, the corrosion cell becomes a point of weakness, leading to poor adhesion.)

We have used garnet, which seems to be the preferred choice; however, aluminum oxide, glass beads, or stainless steel grit can also be considered. But if the possibility of having carbon steel residue deposits embedded in your stainless steel isn't an issue, you could use steel grit.

SSPC-SP 16 does state that a minimum profile of 0.75 mil has to be achieved. After removing the dust from blasting, you could do an ISO 8502-3 Dust Assessment (tape test) to determine the cleanliness of the substrate. Magnification at 10X is associated with ISO 8502-3, but the SSPC abrasive specification calls for the surface to be free of contaminants without the use of magnification. So do the tape test, and if you cannot see debris without magnification, the stainless steel should be ready to coat.

From Dwie Hermanto
IPI

I think the best first step is SSPC-SP 1, Solvent Cleaning, and high-pressure, fresh water washing or steam to remove all contamination. Then, the surface should be abraded, followed by fresh water wash or steam cleaning. Finally, the chloride levels should be checked. If they are acceptable, proceed to painting.

From Trevor Neale
Blastech Corporation

I submit that the current SSPC surface preparation specifications do not adequately address preparing stainless steel. Following specification of the essential thorough cleaning, the blast media and profile should be specified in detail. Generally, it is preferable to use only extremely hard mineral abrasives such as aluminum oxide or garnet of suitable particle size to achieve the required profile and density for the coating system being applied.

From R.K. Singh
Chemdale Coatings Pvt Ltd.

Blasting stainless steel should be avoided. Cleaning with chloride-free solvents, pickling, and passivation with chromic or phosphoric acid will form a thin adhesive layer for paint to adhere. JPCL

Editor's Note: The above Problem Solving Forum (PSF) question was posted on the free daily electronic newsletter, PaintSquare News (PSN), on behalf of *JPCL*. PSF responses submitted through PSN as well as those sent directly to *JPCL* are selected and edited to conform to *JPCL* style and space limitations. Send questions and answers to Karen Kapsanis, editor, *JPCL*, kkapsanis@protectivecoatings.com.


Skip Vernon

Q&A with Skip Vernon, By Jodi Temyer, JPCL

With this new column, we go one-on-one with SSPC-certified professionals to learn more about the people behind the paint. We begin with L. Skip Vernon, president and owner of Coating & Lining Technologies, Inc. (Tijeras, NM).

A member of the SSPC Board, Vernon is a consultant and advisor on coatings-related technical and litigation issues, holds a law degree, and has over 25 years of coating application experience. Vernon became SSPC's first Master Coatings Inspector in 2009 and is also qualified as a Concrete Coatings Inspector, Bridge Coatings Inspector, Protective Coatings Inspector, Protective Coatings Specialist, and an SSPC instructor. And that's not even close to his entire resume—Vernon served as a New Mexico State Senator from 1984 to 2000, including as Senate Minority Leader from 1998-2000.

JPCL: How did you get into this line of work?
Skip Vernon: I've been in the painting business (in a paid capacity) since 1972. I grew up in the business—my grandfather was a painter, my father was a painter, and I worked for my dad from an early age.

JPCL: What's your favorite kind of project?
SV: I enjoy the projects that are difficult to access; involve complex, multi-component systems; do not lend themselves to simple observational explanation; and I (we) solve the problem.

JPCL: What is the most bizarre coatings-related issue you've dealt with?
SV: Bizarre would probably not be the word, but one of the more memorable [issues] was a pier in St. Croix. There were numerous round, 10' diameter, 140' long steel piles coating with coal tar epoxy in a shop in Houston. They were then transported by barge to the Caribbean. After the pier was constructed and put in use, blisters were noted at the mudline—120 feet below the surface. I was able to dive it and capture blister caps, photos, and blister fluid. It was determined that the cruise ships docking at the pier were imparting a current into the pier, and it was discharging at the mudline causing electro-endosmotic blistering. Basically, it was a form of cathodic disbondment.

JPCL: What do you think is the biggest challenge the protective and industrial coatings industry currently faces?
SV: Replacing an aging, hardworking workforce with what is a more tech-savvy, younger generation that will need to learn to combine an affinity for (and acceptance of) hard work with the intelligence and patience to apply sophisticated coating systems.

We are also going to need everyone in the process to realize that the "forgiving" coatings of the past (alkyds, epoxies, etc.) are being replaced with more complex technologies that do not perform as well when applied outside their application and curing parameters.


Vernon appreciates the maintenance efforts on the iconic Golden Gate Bridge. Photo courtesy of Skip Vernon

JPCL: Let's pretend that the U.S. DOT is making a brochure to represent infrastructure across America. You've been tasked with picking a bridge to appear on the cover. What bridge would you pick and why?
SV: The Golden Gate. Not only is it an iconic structure, but it is an excellent example of an effort to adequately maintain a bridge. The Golden Gate Bridge District has spent hundreds of millions of dollars upgrading and maintaining the bridge to keep it safe and serviceable. Most people don't realize that most of the original bridge has been replaced. Of course, they have an independent funding source (tolls). Unfortunately, that same level of attention has not been paid to our other bridges. If only…

JPCL: What do you do to relax?
SV: I like to "relax" working on our property. We have 42 wooded acres in the mountains of New Mexico, and I always have plenty to do. I also enjoy water and snow skiing with my family. Everyone in my family (wife, daughter, and two sons) is a certified diver, and we enjoy diving and spear fishing.

Cases from the F-Files

The Case of ... The Sliding Lining

The Installation Woes of a Lining in a Demineralized Water Storage Tank

Richard A. Burgess, Senior Consultant and Series Technical Editor, KTA-Tator, Inc.

This month's case from the F-Files concerns the application of a high-performance liner in a steel demineralized water storage tank, or a demin tank, at a charcoal manufacturing plant. Demineralized (purified) water can be particularly aggressive in service when even minute traces of soluble salt contamination are on a substrate beneath the lining. Therefore, it is not uncommon to see soluble salt remediation and high degrees of surface cleanliness (e.g., SSPC-SP 5, White Metal Blast Cleaning) required before lining installation. The generic type of liner is normally chosen based on superior chemical and water immersion resistance.

In this case the application of a liner to the interior of a demineralized water storage tank was halted mid-way through the process because of evidence of dramatic defects in the applied film. The general contractor arranged to have an independent evaluation to assess the suitability of the liner material for service and an explanation of why it exhibited runs, sags, fingering, and "sliding" separation during installation.

Surface preparation requirements for the interiors of most water storage tanks (e.g., above) are typically stringent; requirements for preparing demineralized water tank interiors can be even more demanding.

Background

The general contractor received bids from steel tank fabricators to supply and erect several storage tanks including the demin tank. The successful tank fabricator was also responsible for installation of the tank linings. A technical specification for preparation and lining the demin tank was issued as a contract addendum. The addendum identified an acceptable liner manufacturer and product for the demineralized water tank, but also permitted substitution of an "or equal" product for consideration. The fabricator selected an experienced industrial coating firm as the subcontractor to install the liner.

The demin tank was approximately 30 feet in diameter and 42 feet high at the top of the shell wall. The tank roof was a dome design without interior structural supporting columns. Once in service, the tank would supply demineralized feed water at temperatures of up to 130 F to a newly constructed boiler. The integrity of the liner was known to be critical to facility operations. A peeling or delamination failure of the liner could lead to blockage of water flow and create significant boiler operational difficulties. The general contractor recognized that an improperly installed liner would represent a significant liability to all of the parties involved. Therefore, at the discovery of application difficulties, an independent assessment was conducted.

Liner Material

The liner was an amine-cured 100% solids epoxy. The product data sheet (PDS) recommended a material storage temperature of 50–85 F but also recommended raising the material temperature a

Fig. 1: Heavy coating runs on the bottom shell wall of the demineralized water tank. (The steel temperature was 48 F)

Fig. 2: An example of the size and degree of coating runs present on portions of the bottom shell wall.

day or two before application, if necessary, to optimize the material for mixing and spraying at 70–85 F. The mixing instructions called for Component A (resin) to be stirred for two minutes and Component B (pigmented hardener) to be mixed separately to achieve a uniform color. Part A and Part B could then be mixed together (4:1 by volume) for application by airless spray.

An alternative application method was plural-component airless spray with fixed ratio (4:1) material pumps. The plural-component material lines would require heating to a prescribed temperature range to maintain proper volume proportioning. The product pot life was 45 to 60 minutes at 75 F. Higher temperatures would decrease the pot life. No thinner was recommended. Before application, all substrate surface defects were to be corrected; the surface was to be verified as meeting the required degree of surface cleanliness; and corners, edges, and welds were to be stripe coated by brush "scrubbing."

The specification called for the liner to be applied at 40 mils' dry film thickness (DFT) in one or two coats. The coating manufacturer's data sheet indicated the product is typically applied from 20 to 40 mils thick in a single coat, and cautioned against exceeding 60 mils.

Surface Preparation

The specification required that the prepared surface of the steel substrate meet the cleanliness of SSPC-SP 10, Near-White Blast Cleaning, which was consistent with the coating manufacturer's requirements. The coating manufacturer called for steel surface defects (gouges, weld spatter, rough welds, dirt, contaminants, etc.) to be corrected before abrasive blast cleaning, and for the abrasive blast cleaning to produce a dense, sharp, angular profile of 3 to 4 mils. The roof plates were blast cleaned and coated at the painting contractor's yard, where the steel plate edges were protected from the coating for welding, and shipped to the job site along with the shell plates, which were not prepared or coated before delivery. The roof weld seams and all of the tank interior shell walls and floor were to be abrasive blast cleaned to a Near-White condition (SSPC-SP 10) following erection.

Project Execution

Records from the coating application shop operations indicated the interior of the roof plates and interior roof I-beams were blast cleaned and coated during mid-August. The anchor profile from blast cleaning was reported to range from 3.0 to 3.6 mils in depth and the applied coating ranged from 37 to 43 mils in thickness. The next set of coating-related records were dated mid-October, indicating that the demin tank erection was complete because surface preparation and coating application on the interior had begun.

Inspection and work progress records were incomplete and provided limited information regarding the surface preparation and coating application details. However, the records indicated anchor profiles of 5.5 to 6 mils were measured with X-Coarse

Continued

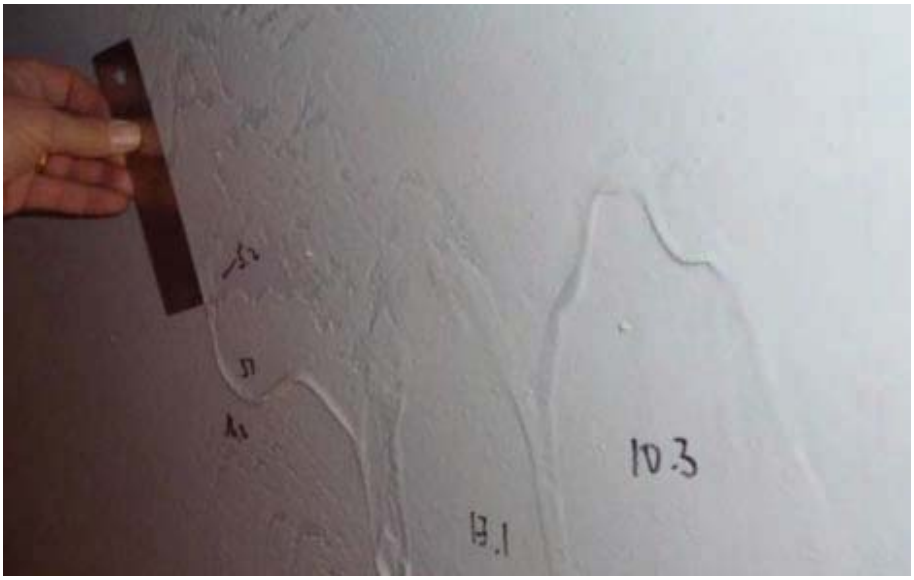


Fig. 3: Coating sags and runs with separation of the film (upper left).

replica tape. (The range for the replica tape used is 1.5 to 4.5 mils.) Thus, the measurements documented were suspect. In addition, when even only small portions of the blast-cleaned steel were found to meet the specified cleanliness requirement, they were coated to avoid "losing the blast." Such practices, coupled with a series of equipment and application problems, contributed to poor progress on the project.

It was reported that 5% thinning with methyl ethyl ketone (MEK) was performed for application purposes. The MEK was obtained from a vendor other than the coating manufacturer. The MEK was added and mixed into component B, and the thinned component B was allowed to stand to release heat (exotherm). Once the temperature stabilized, the thinned component B was mixed with component A. Only two mixed coating material temperatures were documented in the field inspection reports provided for review—a low material temperature (55 F) and a high material temperature (90 F).

The general contractor halted work in the demin tank until the on-going difficulties could be addressed and corrected. Coating manufacturer representatives worked to identify the application problems and prepared recommendations for repair or replacement of the liner. The general contractor elected to have a third party investigate the problems as well.

Table 1: Roof Plate Liner Thickness

Roof Plate	Dry Film Thickness, Mils
Plate surface	57 to >60 (77)
Weld seam	18 to 25
Spot blast	9 to 10
Circumference	10 to 13.5

Fig. 4: The coating separated as it "slid" down the shell wall, leaving a thin layer behind (e.g., 5.2 mils).

Field Investigation

A visual examination of the tank interior revealed that one of the lower shell walls and the floor were not yet prepared or coated. The floor was covered with spent abrasive, and the bottom shell ring had thick runs of coating, as much as six feet long, originating from the shell ring above. Examples are shown in Fig. 1 and Fig. 2.

In addition to having long runs, the coating above the first ring contained thick and wrinkled sags. Very thick accumulations of coating film also resulted from the bulk of the partially gelled coating film sliding down the tank wall and leaving a thin, translucent coating film behind (Figs. 3 and 4). The thin coating film did not have visible voids, discontinuities, bubbles, or pinholes at the surface. The film texture was generally smooth except when the bulk of coating stopped sliding and the material above backed up, causing heavy wrinkles. Apart from the areas of sags and runs, some areas of the applied film looked smooth and uniform; other coated areas had a heavy orange peel texture; and still other areas had numerous pimples in the coating film. The pimples could be easily removed with a scraper, but when they were removed many revealed voids or pinholes in the coating (e.g., Figs. 5 and 6, pp. 22 and 25).

DFT was measured using a Type 2 (electronic) film thickness gage. As surmised from the visual examination, the applied coating was well outside of the typical 30 -to 40-mil thickness range recommended in the manufacturer's product data sheet. The DFT of the tank roof plates that had been prepared and coated at the shop ranged from 57 to more than 60 mils. (Sixty mils is the gage manufacturer's upper limit on the Type

Continued

Table 2: Samples from the Demineralized Water Tank Liner

Sample Identification	Description and Location
Sample 1	Heavy run, bottom shell ring wall
Sample 2	Coating pimples on shell ring 1
Sample 3	Heavy run, shell ring 2 wall

2, electronic, DFT gage. Even though higher values might be displayed, they are not considered accurate.) The coating film thickness on field blast cleaned and coated roof plate spots and weld seams ranged from 9 mils to 25 mils (Table 1).

The coating on the shell wall exhibited even greater variations in coating thickness. The thin films left behind when the coating slid down the shell wall were between 2.5 and 6.8 mils thick, with an average of about 4 mils. The thick edges of curtains were over $\frac{1}{8}$ inch (125 mils). Typical thicknesses of smooth films were 20 to 31 mils.

Coating adhesion could not be assessed by ASTM D3359, "Measuring Adhesion by Tape Test," or ASTM D6677, "Standard Test Method for Evaluating Adhesion by Knife." Both methods require scribing through the coating with a sharp blade to the substrate, but the liner was too hard for complete scribing. A wood chisel and hammer were used to remove coating from the surface. Pimples and tops of coating runs could be removed from the surface of the liner by scraping and chipping. It was necessary to hammer the back of the chisel to remove the liner down to the substrate. Even then it was difficult to remove more than small chips.

The bottom shell ring, as noted above, was not yet prepared for lining application. Runs on the surface were forced off with a chisel and found to contain black mill scale on the back surface. Liner chips removed from blast-cleaned surfaces appeared free of mill scale and debris.

The painting sub-contractor blast cleaned an area of approximately 240 ft^2 to assess the effort required to remove the applied liner. The surface profile exceeded 4.5 mils. (The measured profiles were 5.5, 5.5, and 5.0 mils. However, X-Course replica tape with a range of 1.5 to 4.5 mils was reportedly used to measure the anchor profile.) The cleanliness was judged to be consistent with the requirements of SSPC-SP 10, Near-White Blast Cleaning, except for some small locations where coating remained in the profile.

Three samples were removed from the tank liner and submitted for laboratory examination. These are identified in Table 2.

Laboratory Investigation

The samples were examined by infrared spectroscopy (FTIR) to identify (confirm) resin type and compare the samples for similarity in formulation and mix ratio. The coating samples were confirmed to be epoxy, and there was no indication of mix ratio differences. Microscopic examination revealed voids in the films and the back surface of Sample 1 to have a black layer, presumably of mill scale, about 1 mil thick (Fig. 7, p. 26). Rust spots were also noted. The thickness was about 40 mils. Sample three, applied to blast cleaned steel, did not have a black layer or rust spots on the back (Fig. 8, p. 27). The sample examined was 60 to 66 mils thick.

Conclusion and Recommendations for Repair/Replacement

The runs, sags, curtains, and "sliding" of the liner in the demin tank were the direct result of improper storage, handling, and application of the product. The materials were not always stored at the recommended temperature range and were applied at material temperatures outside of the recommended mixing and application temperature ranges.

The contractor elected to apply the lining

Continued

Fig. 5: Orange peel (and runs) on the face of the water overflow trough. The texture has features that may include pinholes. The DFT was 14–16 mils.

using traditional airless spray equipment, appropriate according to the product data sheet, but the contractor had equipment difficulties. The lining was applied below the recommended application temperature. In an effort to avoid repeating this error, the contractor tried direct application of heat to the coating containers to warm the contents. However, the temperature increase was too fast and too high, causing the product to stick to the containers and quite likely resulting in application beyond the pot life of the product. The use of thinner, not recommended by the manufacturer, caused additional problems. Thinner addition is typically done to aid in spray properties and may be called for to control the release of solvents under different environmental temperatures. However, the use of thinner in this instance was a poor decision.

First, spray properties are influenced by material temperature. Thus, the coating temperature should be in the proper range before deciding if thinning is necessary. Second, in this instance, the addition of MEK to Part B resulted in an exothermic reaction sufficiently great to postpone mixing until the temperature "stabilized." There are numerous implications associated with this condition, including pot life, solvent release, and viscosity changes, perhaps due to a rapid exotherm, and gelling, which would account for the runs, sags, and sliding characteristics associated with the last application.

The records, while incomplete, documented instances of equipment failure and improper mixed material temperatures. However, failure to maintain more complete quality control records of ambient conditions, surface temperature, mix times, material temperature, product thinning, pot life, and other relevant factors made resolution of the application problem haphazard. This appeared to demonstrate that the field crew involved in the application of the liner was complacent in their work when, in reality, they lacked experience with the application of the product and with the critical nature of the material temperature and properties.

DFT values reported in the records from the application of the coating at the blast yard indicate that the roof plates received the specified thickness. Measurements in the field would support this only if the additional coat applied in the field were consid-

Fig. 6: A cluster of pimples on the surface of the coating. These may be droplets of coating that did not integrate into the film or bridged film over vapor filled voids. Several void holes are also present.

Fig. 7: The black scale rust discoloration on the back surface of Sample 1.

ered part of the measured total DFT.

One option posed by the manufacturer to salvage portions of the applied liner included changing from the original product to one of several alternative epoxy products to tie to the salvageable applied liner. The selected alternative product would be applied in multiple, thinner coats rather than a single 20- to 40-mil-thick liner on the interior steel surface yet to be coated. Although the alternative products were suitable for immersion service, there remained the issue of the surface preparation process that had already generated surface profiles in excess of the recommended depth for the proposed alternative epoxies. Furthermore, test removal of the failed liner generated deep anchor profiles. Although the manufacturer reported that such repairs had been successful on other projects, the general contractor was not interested in a hybrid system without a thorough study.

The coating manufacturer also presented a remediation option of removing severe sags, sweep blasting the remaining installed liner, and applying a fresh coat of the same

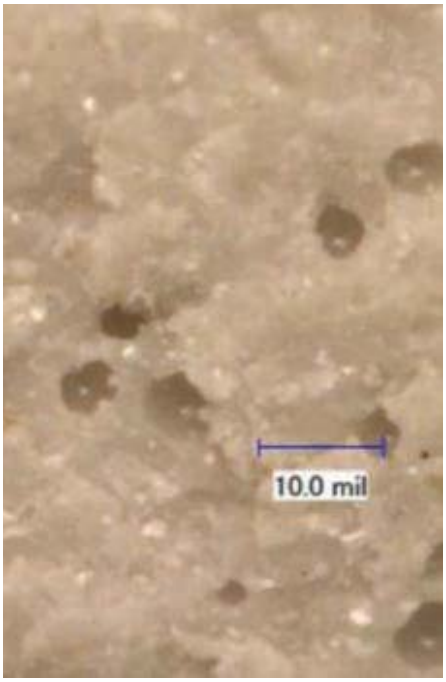


Fig. 8: The back surface of Sample 3 shows the presence of voids in the coating film. (A 10-mil scale is provided.)

liner material to achieve the specified DFT. Although the specifics of the repair procedure were not available for review, this approach appeared to be the most reasonable option for salvaging portions of the applied liner. If this approach was to be undertaken, it was recommended that narrow guidelines be established for accepting portions of the installed system. JPCL

Richard Burgess, editor of the F-Files series and a senior coatings consultant with KTA-Tator, Inc. (Pittsburgh, PA), has over 16 years of experience in coating condition assessments; failure analysis; specification preparation; expert witness; and environmental, health, and safety consulting.

He is an SSPC-Certified Protective Coatings Specialist and a NACE-Certified Coatings Inspector Level 3.

Protecting Concrete on the Beijing-Shanghai Railway Bridge

Coating Adhesion Improved on the Beijing-Shanghai High-Speed Railway Polyurea Protection Project

Concrete structures have been widely used in the construction of civil infrastructure facilities, such as high-speed railways, stadiums, tunnels, and bridges. All concrete structures are subjected to environmentally induced deterioration, which can lead to rapid degradation of the concrete.

Preparing new protective coating materials for concrete and investigating high-performance coating techniques are necessary because coatings have become the pri-

Polyurea was specified to protect concrete on the Beijing-Shanghai High-Speed Railway Bridge.

mary method of protecting concrete. Polyureas are a class of protective coatings used increasingly on concrete. Polyurea has high weathering durability and good anti-corrosion protection. Because of its properties, polyurea was specified for the protection of the below-grade concrete on the Beijing-Shanghai High-Speed Railway.

The polyurea project, widely known as the "Polyurea Great Wall," is considered one of the most significant feats in the history of using polyureas in China. Huang Weibo, Liu Xudong et al. studied surface priming systems for polyurea protective coatings for the concrete beams of the Beijing-Shanghai High-Speed Railway Bridge. The purpose of their research was to provide an all-weather surface preparation (priming) procedure to solve the delamination problems affecting the use of polyurea in general. Before reporting their findings, the authors give a brief history of the use of polyurea in China, identify major research on polyurea in China, describe the Beijing-Shanghai High-Speed Railway and the polyurea specification for it,

Editor's Note: This article is abstracted from a paper presented at SSPC 2011 Featuring GreenCOAT, the conference of SSPC: The Society for Protective Coatings (January 30-February 2, 2011, Las Vegas, NV). The complete paper, "Polyurea Great Wall: Beijing-Shanghai High Speed Railway Polyurea Protection Project," by Huang Weibo, Liu Xudong, Lu Ping, and Ma Xueqiang, appears in the Proceedings *of SSPC 2011 (sspc.org). The authors are with the Research Institute of Functional Materials, Qingdao Technological University, Qingdao, China.*

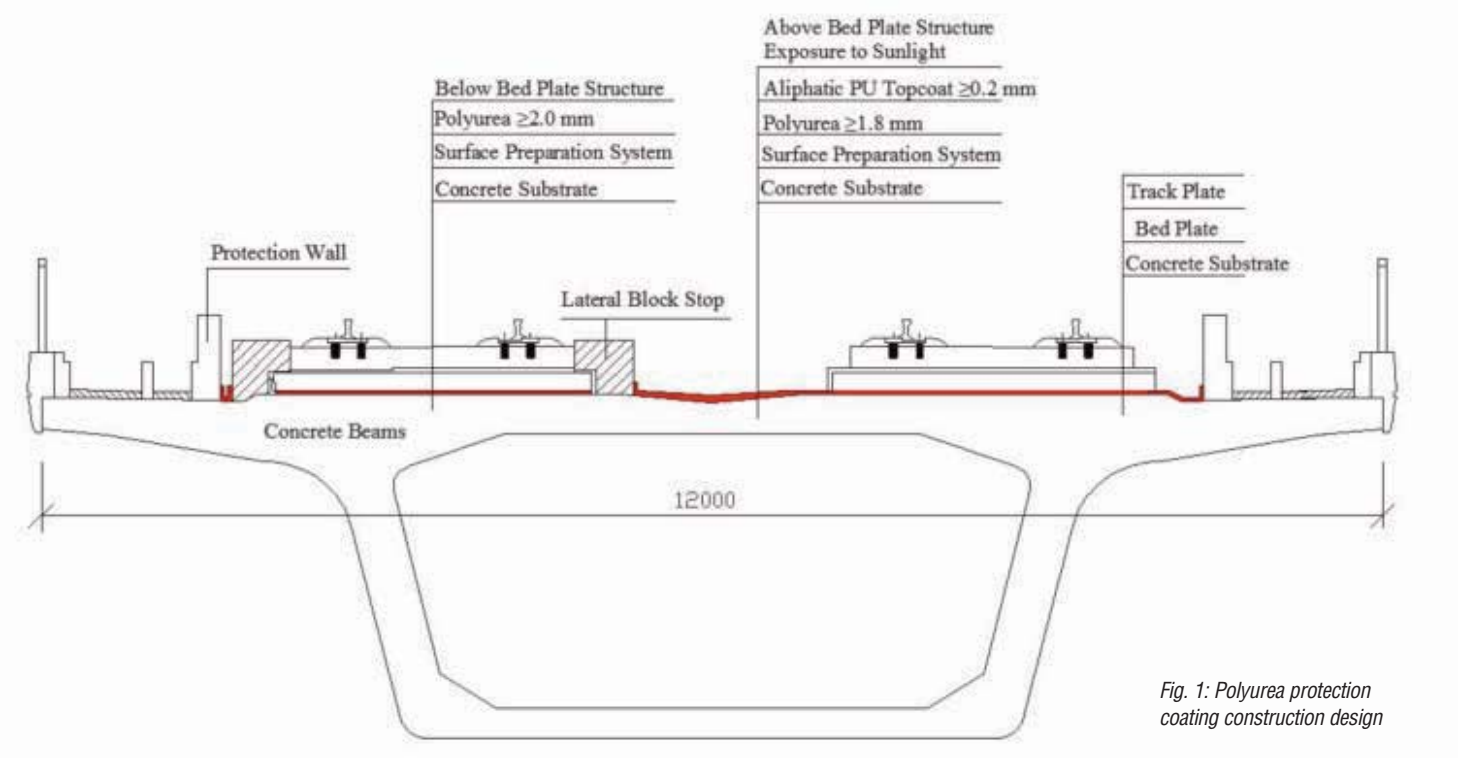


Fig. 1: Polyurea protection coating construction design

explain the project's major coating challenges, and describe the tests that led to a solution.

A Review of Using Polyurea in China

Polyurea elastomeric coating/lining technology has been used commercially in China since 1991. Over the years, the technology has attracted much attention from the academic and industrial sectors, with extensive product research and engineering development. Usage has grown from the early small scale trial at Qingdao Dolphin Aquarium of 100 m^2 to the giant project of Olympic stadium stands (300,000 m^2) Beijing-Tianjin inter-city railway, Taiwan High Speed Railway, and now the Beijing-Shanghai High-Speed Railway, where 12,000,000 m^2 of coating will be applied.

Polyurea elastomer coating technology

has made some very significant inroads since the technology was introduced in the late 1980s. New application fields, new polyurea systems, and new technologies have been developed. For more than 15 years, The Research Institute of Functional Materials (Quingdao Technical University) has dedicated much effort to study this new technology, from its chemical formulation design and material properties to its aging behavior and application techniques.

For example, earlier Huang Weibo and Lu Ping studied the effect of curing temperature on the morphology and properties of polyurea based on polyaspartic esters. Their research showed that curing temperature had great influence on the morphology and properties of the polyureas.

Profile of Beijing-Shanghai High-Speed Railway

The Beijing-Shanghai High-Speed Railway, also known as the Jinghu High-Speed Railway, 1,318-kilometer-long railway (817 miles), will connect two major economic zones in the People's Republic of China: the Bohai Sea Rim and the Yangtze River Delta. The continuous operating speed is expected to be 350 km/h (220 mph), with a maximum speed of 380 km/h (240 mph). The average commercial speed from Beijing to Shanghai will be 330 km/h (210 mph), and train travel time will be reduced from 10 hours to 4 hours. During rush hour, a train should run every five minutes. The 164-kilometer-long viaduct between Danyang and Kunshan will be the longest bridge in the world. The line also includes 22 tunnels, 16.1 km (9.4 miles) in total. The designed service life of the Beijing-Shanghai Speed Railway is 100 years.

All of the concrete beams of the high-speed railway will be subjected to long-term, train-induced dynamic load and environmentally-induced deterioration, with the concrete degrading rapidly unless properly protected. Because of the success of polyurea technology applied to the Beijing-Tianjin inter-city railway, the protection of the whole line of the Beijing-Shanghai High-Speed Railway will depend on a seamless aromatic polyurea coating to provide abrasion resistance,

Table 1: Main Performance Characteristics of Polyurea Specified

No.	Items	Specifications
1	Solid content/%	≥98
2	Gel time/s	≤45
3	Tack free time/s	≤120
4	Tensile strength/MPa	≥16.0
5	Elongation at Break/%	≥450
6	Tear strength/(N/mm)	≥50
7	Hardness/Shore A	≥90
8	Heat dilatation-magnification ratio/%	≤1.0
9	Adhesion/MPa	≥2.5
10	Peeling strength/MPa	≥6.0
11	Water absorption/%	≤5.0
12	Low temperature bend property/°C	≤-40
13	Abrasion resistance/(cm^3/1.61 km)	≤0.5
14	Impermeability	0.4MPa, 2 h impervious
15	Impact, height arm of fall,100 cm	No cracks, No spalling

impact resistance, and anti-corrosion protection for 100 years' durability of the concrete.

"Temporary Technological Guideline for Spraying Polyurea As the Waterproofing Layer on the Bridge Beams of Beijing-Shanghai High-Speed Railway" was launched by Qingdao Technological University, the China Railway Engineering Consulting Group Co., Ltd., and the China Academy of Railway Sciences. The construction design of aromatic polyurea application for Beijing-Shanghai High-Speed Railway is shown in Fig. 1. The construction of the protective layer system is divided into two stages, below bed plate and above bed plate exposed to sunlight. Below the bed plate structure, a surface preparation system is used directly on the concrete, followed by the polyurea protective coating. On the above plate structure, which is exposed to sunlight and needs protection against UV light, a surface preparation system is used directly over the concrete, followed by a polyurea intermediate coat and then an aliphatic polyurethane topcoat. Table 1 presents the main performance characteristics of the special polyurea selected for the below and above plate areas.

Challenges for the Coating

Adhesion is the most significant factor that affects the performance of any coating. Protective coatings must bond tightly to the concrete substrate for long-term protection against corrosive environments. However, the interface adhesion is significantly affected by complex conditions, including material properties, construction conditions, the application method, the quality of concrete substrate, and the way that the concrete substrate was prepared (primed) for the surface coating system.

The biggest problem that the "Polyurea Great Wall" project faced after surface preparation of the concrete beams was coating delamination and failure, especially

Fig. 2: Concrete surface defects after shot blasting

in the cold and dry season in the north and the hot and moist season in the south. Bridge concrete systems often require vapor barriers or other means of waterproofing to prevent water and corrosive species intrusion. This intrusion can ultimately lead to delamination and failure of the coating system. Shot blasting technology is considered the best method to prepare the substrate. Compared to other techniques, shot blasting gave the highest values of bond strength in shear and in tension. Surface preparation also includes repairing defects exposed by the shot blasting. All defects in the concrete needed to be routed and filled with an appropriate compatible material and surface priming system. Bug holes had to be filled the same way, and any sharp or rough surfaces had to be ground to avoid protrusions.

From October 2009 to October 2010, this project met many obstacles. Among the obstacles were the cold, dry season in the north; the hot, moist season in the south; thousands of bug holes on the surface of shot-blasted concrete beams; strong winds; and extreme cold of winter as well as the extreme heat of summer. The most difficult challenge was filling and leveling the surface of the shot-blasted concrete beams with putty and primers that would be compatible with the polyurea. However, there was no experience in filling and leveling the thousands of bug holes and defects in the shot-blasted, high-performance concrete beams (Fig. 2).

First, the concrete surface was leveled with epoxy putty and primers. However, the epoxy system was found to be incompatible with the polyurea, especially in the cold winter because of the epoxy's natural properties: difficulty curing at low temperature, high viscosity at low temperature, and brittleness after curing. These three points were the main factors leading to the failure of the overcoating polyurea system in the winter.

It was extremely cold from December 2009 to February 2010 in Hebei and Shandong Provinces, where temperatures were -10 to -20 C (+14 to -4 F) but dry. In Anhui and Jiangsu provinces temperatures were 0 to -5 C (32 to 23 F) but wet. Polyurea easily delaminated from the epoxy primers (Fig. 3, p. 36).

It was also extremely hot from June to August 2010 in Hebei and Shandong Provinces where the temperature was 40 C

Table 2: Main Composition of Paint Systems

Code	Primer	Putty	Intermediate	Topcoat	Total thickness (m)
E1	Epoxy	Epoxy based	Aromatic polyurea	Aliphatic acrylic–polyurethane	2220
E2	Epoxy	Epoxy based	Aromatic polyurea	Aliphatic acrylic–polyurethane	2210
Polyurethane based	PU	PU based	Aromatic polyurea	Aliphatic acrylic–polyurethane	2150

(104 F) and dry, but in Anhui and Jiangsu Provinces it was 40 C (104 F) with humidity. Again, polyurea delaminated easily from epoxy primers.

It was essential to study the influences of these critical factors to design a more reliable primer coating system and improve the protective performance.

Solutions

A new kind of all-weather polyurethane-based surface priming system, patented in China by Huang Weibo, Lu Ping, and Li Zhigao was launched in June 2009. The system was found to provide a comprehensive solution for subsequently applying a polyurea coat to the Beijing-Shanghai High-Speed Railway under many climatic conditions. The performance of the polyurethane-based surface priming system was compared to epoxy-based systems, as described below.

Jobsite tests were carried out simultaneously on epoxy-based and polyurethane-based surface priming systems for polyurea protective coatings for concrete. Two epoxies (coded E1 and E2) and the new polyurethane primer were selected to investigate their adhesion characteristics, tack-free time, and coverage effect under different ambient temperatures and humidity.

The coating systems studied are presented in Table 2.

Pull-off tests (according to ASTM D4541-02) were used to determine the bonding strength of coatings to concrete under different ambient temperatures (T) and humidity (H).

Adhesion Results

The test results of adhesion *in situ* under different ambient condition showed that bonding strength development, failure modes, the maximum adhesion value, and environmental adaptability were different with the test time. For the polyurethane-based surface preparation system, the bonding strength increased at first and then tended to be stable during the test. E1 and E2 had lower bonding strength than the polyurethane-based system under the same conditions. The polyurethane-based system showed better performance than the epoxies because of its dual curing mechanism: when applied in wet ambient conditions, the polyurethane-

Continued

Fig. 3: Polyurea delamination on jobsite in hot summer and cold winter

based system acted as a moisture-cured polyurethane system, and when applied under cold, dry conditions it acted as a 2K polyurethane system. The epoxy-based systems were unsatisfactory because their viscosity was very sensitive to the application temperature and humidity on site, especially during the cold winter leading to high changes of internal properties in the coating system. The changes in properties induced the first signs of delamination.

Tack-Free Time Tests

Tack-free time was an important indicator of the surface priming system, playing, a significant role in the following polyurea application. The tack-free time tests of three systems determined at the jobsite showed that the polyurethane-based surface priming system was lower than E1 and E2 surface priming systems. The required tack-free time according to the "Temporary Technological Guideline" was less than 4 hours. The tack-free times of the epoxy systems were far beyond the limit. Especially at low temperature. The epoxies' tack-free times ranged from approximately 7.3 hours to 24 hours. This wide range resulted mainly from the low temperature reactivity of epoxies. The subsequent polyurea application would be delayed because of the long tack-free time of the epoxy systems.

Coverage Effect

Also at the Beijing-Shanghai High-Speed Railway construction jobsite at Kunshan, Jiangsu Province, the coverage effect tests of the three kinds of surface priming systems were conducted under the same environmental condition (T, 2 C (~36 F); RH: 85%). The results showed that the coverage effect of both epoxy surface preparation systems was not satisfactory. There were still many bugholes, pinholes, and other defects on the concrete surface. The polyurethane-based surface preparation system showed a good coverage effect, with the coverage ratio reaching 100% and only a few defects on the prepared concrete surface (Fig. 4, p. 39).

Hence the patented "All Weather Substrates Priming System"—a polyurethane accelerated with a catalyst to cure in winter, and adjusted to slow the cure

Continued

Fig. 4: Coverage effect (a) EP base treatment system (b) Polyurethane-based base treatment system.

with special solvents in summer—solved this serious situation.

Technical Support

Due to their experience in research and development, researchers at Qingdao Technological University took part in drafting the "Temporary Technological Guideline" for this project, with the technical work team also giving support on all aspects of the Beijing to Shanghai railway line, and consisting of the following.

- Polyurea raw material preparation
- Polyurea chemical formulation
- Polyurea coating formulation design
- Polyurea testing both in lab and at jobsite
- Training courses for the jobsite
- "Temporary Technological Guideline for Spraying Polyurea As the Waterproofing Layer on the Bridge Beams of Beijing-Shanghai High Speed Railway"
- The core content of the monograph "Spray Polyurea Elastomer Technology"
- The two proprietary plural-component spray systems
- Shot blasting machine, automatic spray rig, adhesion tester, thickness gauge, temperature measurement instrument
- Polyurethane-based, all-weather substrate processing system, automatic/manual spray skill and technology
- Trouble shooting and quick solution, fast identification method of pure polyurea vs hybrid
- Consulting and technical service
- Supervision and quality control
- Originating and holding working conference to resolve application problems

Conclusions

Relatively speaking, polyurea technology may be something of a newcomer to the industry, but it has shown a good deal of versatility and application use. Compared to conventional technologies, it provides for a cost- and time-effective solution to a variety of protective coating applications. With its excellent mechanical properties, polyurea is catching the eyes of engineers in many industrial fields and has been increasingly investigated and applied in recent years. The Beijing-Shanghai High-Speed Railway polyurea project writes a new and successful chapter in the history of polyurea. However, its success is inseparable from the concerted efforts of Qingdao Technological University, especially for the development of a new kind of surface preparation (priming) system, which plays a significant role in the polyurea application of Beijing-Shanghai High-Speed Railway, and it has completely solved the polyurea application problem all the year round. JPCL

FBPE Approves SSPC 2012 Technical Program, Adds Courses

SSPC is pleased to announce that the Florida Board of Professional Engineers (FBPE) has approved SSPC's entire slate of program offerings at its upcoming 2012 show in Tampa for professional development hours. This includes both SSPC training courses and the technical education program.

Terry Sowers, Director of Member Services at SSPC, said, "We're happy to offer this opportunity for engineers holding Florida licenses to fulfill their PDH requirements. The convenience of having so much programming in one place at one time allows them to be more productive and means less time out of the office."

The latest approval expands a long relationship between SSPC and FBPE. In the past, FBPE had approved several SSPC

courses for PDHs. This year, they've increased the total number of approved SSPC courses from five to 20 and also approved the technical education program.

Approved courses now include: Abrasive Blasting (C7), Airless Spray Basics (C12), Basics of Estimating Industrial Coatings Projects, Bridge Coatings Inspector (BCI), Coating Application Specialist Certification (CAS), Concrete Coating Inspector (CCI), Evaluating Common Coating Contract Clauses, Floor Coating Basics, Fundamentals of Protective Coatings (C1), Lead Paint Removal (C3) and the Refresher (C5), Navigating Standard Item 009-32, NAVSEA Basic Paint Inspector (NBPI), Planning and Specifying Industrial Projects (C2), Project Management for the Industrial Painting Contractor, Protective Coatings Inspector (PCI), Protective Coatings Specialist (PCS), Quality Control Supervisor, and Using SSPC-PA 2 Effectively.

Engineers interested in registering for the SSPC 2012 show should visit www.sspc2012.com. Those interested in registering for any of the above training courses should visit www.sspc.org or call 877-281-7772.

PCI Students in Dubai

PCI Students in Indonesia

SSPC Holds PCI Training

SSPC held its Protective Coating Inspector (PCI) course in Dubai, UAE, and Batam, Indonesia.

PCI was held in Dubai on Sept. 23–30. The course was given by SSPC Training Licensee, The Insignia Company. Nine students attended, and the instructor was Ravi Shankar. The course was held in Batam on

Oct. 31 to Nov. 4 with 20 students in attendance. The instructors were Bani Quim and M. Dewadas.

Majority of Top 20 Painting Contractors are QP 1-Certified

In its annual list of the top 600 Specialty Contractors in the U.S., *Engineering News Record* lists 15 SSPC-QP 1-certified contractors among the top 20 painting firms. This includes the top five companies and nine of the top 10.

The QP 1-certified companies in the top 20 are: The Brock Group, Techno Coatings Inc., K2 Industrial Services Inc., Avalotis Corp., North American Coatings LLC, FD Thomas Inc., Thomas Industrial Coatings Inc., Dunkin & Bush Inc., Hartman Walsh Painting Co., Long Painting Co., Mobley Industrial Services Inc., Specialty Finishes Inc., Jerry Thompson & Sons Painting Inc., Vulcan Painters Inc., and Coatings Unlimited Inc.

SSPC Receives DoD Contract for 2011-2014 Training

SSPC recently announced that it has been awarded a contract by the U.S. Department of Defense (DoD) to provide protective coatings training for DoD and military personnel.

The funding is being provided under the DoD Corrosion Prevention and Control Program and can be used by personnel from the DoD as well as the Army, Navy, Air Force, Marine Corps, Coast Guard, and NASA. Under this contract, potential students can choose from 34 different SSPC coatings courses related to various components of protective coatings projects.

Funding is available on a first come, first serve basis, and covers the complete cost of each course; however, travel and incidental expenses are not covered.

The new contract went into effect on Oct. 1, 2011, and runs through Oct. 30, 2014. Students interested in applying for funding should contact Jennifer Merck at merck@sspc.org or 412-281-2332, ext. 2221. For a complete list of courses that qualify for funding, visit www.sspc.org/DoD_Training.

SSPC Board Continues College Scholarship Program

SSPC announced that the Board of Governors has increased the number of college scholarships available for the 2012-2013 school year. Beginning in January 2012, college students will be able to apply for one of four $2,500 scholarships.

Any student who is beginning or continu-

ing their education in an institution of higher learning can apply for a scholarship. All educational institutions in the U.S. or Canada are now acceptable for students to receive scholarships. Last year, the student had to be enrolled in a coatings-related field at selected institutions.

Bob McMurdy

Scholarship funds will be applied to the direct costs of the student's courses. SSPC will work with the institutions to ensure proper use of the funds.

To be considered for the scholarship, candidates must be a high school senior planning to enroll full-time or a student already enrolled full-time at an accredited institution of higher learning that has a three or four-year curriculum. They also must be a member of SSPC in good standing, or a child or grandchild of an SSPC member in good standing. To apply for the scholarship, candidates must submit a completed application form (available in the future at www.sspc.org), two letters of recommendation, high school or college transcripts, and a personal letter expressing why they deserve the scholarship and what they plan to do in their field of study.

Bob Ziegler

A panel consisting of three SSPC members designated by the Board will choose the scholarship recipient.

Bob McMurdy, SSPC President, stated, "The scholarship committee reexamined how the program was handled and made some fundamental changes. Most importantly was making all institutions of higher learning and all fields of study acceptable for the students who want to apply."

Bob Ziegler, Chairman of the SSPC Board Scholarship Task Group, added, "There are many bright young people whose parents are members of SSPC. We want to give something back to the members and help students meet their long term aspirations and goals." **JPCL**

For details about the SSPC 2012 conference in Tampa, check out the full Advance Program beginning on p. 56 in this issue!!

38th World of Concrete Show Slotted for Vegas

The Las Vegas Convention Center in Las Vegas, NV, will host the World of Concrete 2012 (WOC) trade show and exhibition from January 24 to January 27. Marking its 38th anniversary in 2012, WOC is an annual international event dedicated to the commercial concrete and masonry construction industries.

According to show organizers, the intended audience for WOC includes commercial, general, repair, masonry, and residential contractors; specialty and decorative concrete contractors; concrete pumpers; construction managers; dealers and distributors; architects, engineers, designers, and specifiers; brick, pipe, block, and ready mix producers; rental equipment centers; precast/prestressed concrete producers; and others in the commercial concrete and masonry construction industries.

The accompanying exhibition that will run from January 24 to January 27 will feature innovative products, technologies, tools, and equipment from more than 1,150 exhibitors. An outdoor exhibit area will showcase demonstrations and challenges.

The education program, to be held January 23–27, will feature 90-minute and 3-hour sessions, as well as more than 100 skill-building seminars led by industry experts. Opportunities for networking, training, and testing for industry certifications will be available.

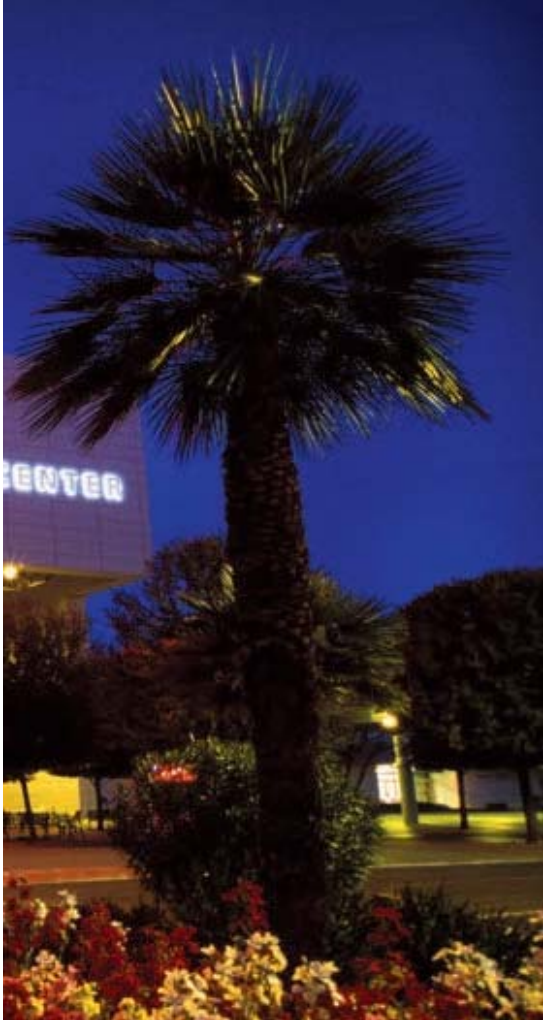
The following preview includes a list of seminars relevant to coating professionals as well as a list of exhibitors involved in the surface preparation and coating of concrete. All information is current as of press time.

Seminars

The following is a brief list of relevant seminars listed by date, title, and time. Visit www.worldofconcrete.com for complete details as well as pricing and registration information.

Monday, January 23

- MO12, Concrete Repair I: Evaluation and Repair Strategies, 8:00–11:00 a.m.



- MO27, Concrete Floors Done Right—From Beginning to End, 8:00–11:00 a.m.
- MO32, Troubleshooting Masonry Part I: Cracks and Movement, 8:00–11:00 a.m.
- MO38, Waterproofing Product Types and Systems, 8:00–11:00 a.m.
- MO137, Introduction to Concrete Part I: Concrete Materials and Technology, 8:30–10:00 a.m.
- MO138, Introduction to Concrete Part II: Placing, Finishing, and Curing, 10:30 a.m.–Noon
- MO13, Concrete Repair II: Surface Preparation, Reinforcement, Repair, Material Selection, and Placement Techniques, 1:00–4:00 p.m.
- MO28, Polishing Retail and Industrial Slabs—Design and Construction, 1:00–4:00 p.m.
- MO33, Troubleshooting Masonry Part II: Leaky Walls, 1:00–4:00 p.m.

Tuesday, January 24

- TU03, Concrete Basics Part I: Concrete Mixtures, Materials and Fresh Properties, 8:00–11:00 a.m.
- TU14, Concrete Repair III: Protection and Waterproofing Systems, 8:00–11:00 a.m.
- TU29, How to Avoid and Fix Moisture Problems in Concrete Floors and Flooring, 8:00–11:00 a.m.
- TU142, How To Produce Consistent and Finishable Concrete, 1:30–3:30 p.m.

Wednesday, January 25

- WE15, Concrete Repair IV: Structural Repairs and Strengthening Techniques, 8:00–11:00 a.m.
- WE30, Toppings and Overlays–Getting Them Right the First Time, 8:00–11:00 a.m.
- WECRT, ICRI Slab Moisture Testing Written Examination, 12:30–1:30 p.m.

Thursday, January 26

- TH06, Concrete Basics Part III: Curing, Effects of Weather and Sustainability, 8:00–11:00 a.m.
- TH16, Troubleshooting Concrete Cracks, 8:00–11:00 a.m.

Friday, January 27

- FR17, Repairing Concrete Cracks, 8:00–11:00 a.m.

Exhibitors

The following is a list of exhibitors of interest to the protective coatings industry. Company names and booth numbers are current as of press time.

- Adhesive Packaging Specialties, Inc. S12411

- AGC of America.....S11019
- Aquafin Inc. S10507
- ARAMSCO S10949
- Arizona Polymer Flooring Inc. S12307
- Aurand Manufacturing & Equipment Co. S11853
- BASF Corp. S10139
- Bayer MaterialScience LLC S11847
- BlastPro Manufacturing, Inc. ..S11527
- Blastrac Diamatic S10123
- C.I.M. Industries Inc. S12023
- CDC Larue Industries, Inc. S10349
- CETCO S12239
- ChemCo Systems Inc. S10153
- ChemMasters Inc. S10138
- Convergent Concrete Technologies LLC S10415
- Cortec Corp. S10354
- Crown Polymers S10907
- Dayton Superior Corp. .....CES 01
- DeFelsko Corp. S11651
- Denso S11650
- Doosan C5594
- Dow Building Solutions N1348
- Dur-A-Flex, Inc. S12419
- Dustless Technologies S12700
- Eagle Industries S11820
- EcoQuip Inc. O31668
- EDCO & Contrx Systems S10115
- Euclid Chemical Co., The S10839
- Five Star Products Inc. S12029
- Flowcrete S12627
- Franmar Chemical, Inc. S13131
- Goff S10455
- Graco Inc. S10754
- Hammelmann Corp. S13014
- HP Spartacote S11121
- HTC Professional Floor Systems S11227
- Husqvarna Construction Products C4313
- Innovatech Products & Equipment S11939
- International Chem-Crete S13119
- ITW/Performance Polymers & Fluids S12329
- Jetstream of Houston LLP S10913
- Key Resin Company S11654
- L & M Construction Chemicals, Inc. S10348
- Lignomat USA C4157
- Munters Corp. S12146
- Nelson Industrial Services, Inc. S11507
- NLB Corp. S11207
- Novatek Corporation S10549
- Palfinger North America C5113
- Poly-America S12746
- Polycoat Products S10555
- Polyguard Products, Inc. S10946

- Polymax/Milamar Coatings LLC S10451
- Putzmeister America, Inc. C5636
- Quest Climate Control N2153
- Roadware Inc. S11447
- Rust-Oleum Corp. S12214
- SASE Company Inc. S10515
- Scanclimber Oy O30552
- Sherwin-Williams S11029
- Sky Climber LLC N1837
- SMITH Manufacturing S12346
- SPE - USA S11750
- Specialty Products Inc. S12944
- SSPC: The Society for Protective Coatings N122
- Tramex, Ltd. S12110
- Vector Corrosion Technologies S10956
- W.R. Meadows, Inc. S10407
- Wagner Meters S12021
- Wooster Products, Inc. N952

Hempel Taps Oil & Gas Marketing Chief

The Hempel Group, a global provider of protective coatings, has announced the addition of Kunal Nadkarni as group oil and gas segment manager to the company's marketing team. Nadkarni has experience in the oil and gas industry and new business development.

Kunal Nadkami

Based in Houston, TX, Nadkarni will work closely with oil and gas sales, marketing, and R&D teams. According to the company, he will further develop the Oil and Gas segment in both mature markets (offshore, refineries, LNG, petrochemicals, storage tank terminals, transmission pipelines) and emerging ones (deepwater exploration, unconventional gas, oil sands).

Before joining Hempel, Nadkarni was global product marketing leader at GE Oil and Gas, where he focused on the offshore above-sea segment, especially on the FPSO market.

Read the full article at paintsquare.com.

Elcometer Expands to Japan

Coatings inspection instrument maker Elcometer has announced the opening of its first office in Japan.

Elcometer KK, based in Minato-Ku, Tokyo, was established to provide distributors and customers with highly trained sales, service, and support. According to the company, this seventh expansion, outside its UK headquarters, not only strengthens its commitment to the Japanese marketplace, but also expands its presence in the rapidly expanding region.

Established in 1947, Elcometer provides inspection equipment, with specialized divisions dedicated to coatings inspection, ultrasonic NDT inspection, concrete inspection, and metal detection. The company also has offices in Belgium, the Netherlands, France, the U.S., Germany, and Singapore.

For more information, contact sales@elcometer.com.

BSR Unites Units to Become Axson

The BSR Group, a global provider of high-performance coating, sealing, damping, and bonding products for industrial applications, has become Axson, uniting the company's business units under the name of its newest acquisition.

The new Axson Group brings together Axson Technologies (including Michigan-based Axson North America, a global formulator and producer of epoxy resins, polyurethane systems, composites and adhesives for the marine, defense, industrial, and other sectors); BS Coatings, which makes protective and industrial coatings for the energy, transportation, water, and construction markets; and Revocoat, a former Dow Chemical business that supplies sealants, dampers, and anticorrosion products for the automotive industry.

Based in La Défense, France, Axson employs more than 800 people worldwide and has a well-established, parallel retail network.

Spider Adds LA, NC District Sales Reps

Global access equipment provider Spider, a division of SafeWorks, has hired new district sales representatives for its operations centers in North Carolina and Louisiana.

Jason Buchanan will head the New Orleans, LA, operation, where he will solve suspended access and safety challenges of contractors and facility owners throughout Louisiana and Mississippi.


Jason Buchanan

Previously a sales and account manager with Brand Energy Solutions, Buchanan was responsible for sales strategies for the power industry throughout the Gulf Coast. He also has experience in scaffolding and safety.

Scott Quinters will helm the Charlotte, NC, office, where he will be working on suspended access and safety solutions for contractors and facility owners in the Carolinas, the company reports.


Scott Quinters

Quinters has more than 25 years of experience in the powered access equipment rental and labor service industry, having held sales and management positions at Safway Services, United Rentals Inc., Anderson Industrial Services, and Ahern Equipment Rental.

Quinters has completed the Scaffold & Access Industry Association's Competent Person course and is an authorized Scaffold SAIA Course trainer.

Established in 1947, Spider, a division of SafeWorks, is a North American manufacturer and distributor of access and safety equipment and services.

Sponge-Jet Relocates, Expands Training

New Hampshire-based Sponge-Jet Inc., a global manufacturer of reusable surface

preparation sponge media and equipment, has moved its corporate headquarters and Training and Technology Center, tripling its facility size and capacity in the process. Effective Nov. 1, the new address is Sponge-Jet Inc., 14 Patterson Lane, Newington, NH 03801; phone: 603-610-7950; fax: 603-431-6043.

In addition to broadening current/new customer education, the company reports that it will host NACE training courses and other industry training programs at the new facility, which boasts classrooms, blast and paint rooms, and a large equipment demonstration area.

Sponge-Jet provides dry, low-dust, low-ricochet, reusable sponge media as well as equipment for the marine, oil and gas, chemical processing, and other industries.
For more information: spongejet.com.

Akzo Powder Coatings Get SMaRT Certification

AkzoNobel reports that it has become the first coatings company to achieve special certification for the life-cycle sustainability of its Interpon line of powder coatings. The coatings have achieved Sustainable Platinum—the highest level—under Sustainable Materials Rating Technology (SMaRT) certification.

Interpon and Resicoat brands are manufactured without toxic heavy metals and organic solvents, and overspray can be reclaimed and recycled or reprocessed, AkzoNobel reports. Interpon is used in a variety of applications, including agricultural machinery and architectural metal finishes. Resicoat is designed to provide high-performance anti-corrosion protection for pipelines, rebar, electrical insulation, and valves and fittings.

SMaRT certification was developed by the Institute for Market Transformation to Sustainability (MTS), an organization of major global manufacturers, environmental groups, and government officials. The group's goal is to "transform manufacturing and retail practices worldwide" to bring sustainable products to 90 percent of the global marketplace by 2015.

To achieve certification, AkzoNobel says that its powder coating line was subjected to internal and external audits, numerous third-party standards, a Life Cycle Assessment, and an Environmental Product Declaration. Points were awarded for each section, and AkzoNobel's total put the product in the highest of four SMaRT certification levels, the company says.

Associations

ASTM Updates Coating Test Standard

ASTM International has reissued its standard guide for testing industrial protective coatings, with editorial changes. D6577 - Standard Guide for Testing Industrial Protective Coatings, developed by Committee D01.46 on Industrial Protective Coatings, is available as D6577-06(2011)e1.

This guide covers the selection and use of methods and procedures for testing industrial protective coatings in order to evaluate the general performance level to be expected of a coating or coating system on a given substrate exposed to a given type of environment. The guide also covers the testing of liquid coatings as applied by means appropriate to the coating and circumstance.

In the D6577 revision, editorial changes involved the removal of several withdrawn standards, which cover traffic, marine, and industrial protective coatings, as well as masonry treatments and architectural finishes and paint products.

For more: astm.org

Products

Hempel Unveils BPA-Free Railcar Lining

Protective coatings maker Hempel has introduced Hempadur BPA Free 37301, a

Bisphenol A-free lining for the internal surfaces of rail cars, storage tanks, silos, and other transportation and storage assets. The company reports that the lining complies with the Federal Food, Drug and Cosmetic Act, as well as all applicable food additive regulations.

Bisphenol A, commonly referred to as BPA, is an industrial chemical that is commonly found in polycarbonate plastics and epoxy resins. The chemical has raised worldwide safety concerns, especially in applications that bring it into contact with food or beverages. Hempel says that its new, spray-applied lining is suitable for bulk products, dry or liquid foods, and plastic pellets for the manufacture of food-contact materials.

The amine-cured, solvent-free, white epoxy coating has no BPA resin and cures to "a strong, smooth lining that is also flexible," with a slickness that eases unloading of cargo, according to Hempel.

The Hempel Group is a global supplier of protective coatings within the protective, marine, container, decorative, and yacht market segments.

For more information, visit hempel.com.

Glass Fiber Rebar Debuts

German building materials developer Schoeck Bauteile GmbH has unveiled ComBAR, a glass fiber rebar designed to prevent the structural corrosion that normall affects steel rebar in highly corrosive environments.

According to Schoeck, ComBAR is a ribbed reinforcing bar made of corrosion-resistant glass fibers that are bound by a vinyl ester resin, making the material much stronger and stiffer than commonly known glass fiber-reinforced polymer (GFRP) bars. Schoeck also says that ComBAR resists corrosion better and is stronger, lighter, and more durable than steel.

Applications include use in electrical facilities near or below machines operating under high currents, such as transformers and reactors; in tunneling projects, and in railways and other infrastructure projects.

Schoeck ComBAR was rolled out last year in the Middle East, where it is certified, and it has been used in Europe, the U.S. and Canada, according to European and North American codes and guidelines, Schoeck says.

Founded in 1962, Schoeck Bauteile GmbH is a family-owned international supplier of reinforcing and other products to the bridge and building industries.
Read more at schoeck.com.

Shot-blasting Cabinet Has Dual Stations

Guyson Corp. has introduced a wide-body industrial pressure-blast cabinet with two workstations, each with a viewing window and independently adjustable blast nozzle.

The dual-station Model 7 shot-blasting system allows either two operators to blast simultaneously or one to change positions and reach all aspects of a five-foot-long component.

The shot-blast chamber is 36 inches high, 60 inches wide, and 36 inches deep overall. A full-width, side-hinged door allows frontal access, with a slam-shut 19-by-19-inch door on the cabinet's right side. Two sets of padded armholes have shoulder-length attached gloves.

Visit guyson.com for more information.

Software Upgrades Pipeline Monitoring

American Innovations (AI, Austin, TX), a provider of cathodic protection, integrity management, and remote monitoring, has released a software upgrade that adds more than 20 enhancements to its pipeline data collection service.

Version 4.3.2 software for the Allegro Field Data PC combines instrumentation and pipeline-specific software into one integrated tool, the company says.

Additional data processing and analysis functions have been integrated into the unit, allowing users to manipulate data while still in the field. The system can perform multiple tasks such as corrosion data collection and analysis, form data entry, data processing, as well as GPS coordinate line mapping.

AI provides products and professional services for the oil and gas pipeline industry. Visit www.aiworldwide.com/allegro for the full list of changes and upgrades. JPCL

Texas Bridge to Coat Judge Seeber Bridge

The Louisiana Department of Transportation and Development awarded a $4,809,850 contract to Texas Bridge Inc. (Humble, TX) to coat the Judge William Seeber Bridge, a 54-year-old, 2,417-foot-long x 54-foot-wide vertical lift bridge over the Industrial Canal in New Orleans, LA. The contract, which requires SSPC-QP 1 and QP 2 certifications, includes abrasive blast-cleaning steel surfaces to SSPC-SP 10 (Near-White) and recoating the steel with an organic zinc-rich primer, an epoxy intermediate, and a polyurethane finish. The project also includes ultra-high-pressure water-jetting (SP 12) and coating the lift span floor beam, stringer, and top flange surfaces with the same organic zinc-epoxy-urethane system, as well as hand tool-cleaning (SP 3), spot-priming, and overcoating machinery with an organic zinc-polyurethane system. The contract includes applying a Class 2A special surface finish to 6,350 square feet of concrete surfaces. Containment according to SSPC-Guide 6 is required to capture lead that is present in the existing coatings.

Photo courtesy of Louisiana DOTD.

Photo courtesy of US Army Corps of Engineers.

Extreme Coatings Wins Dam Job

Extreme Coatings, Inc. (Pasco, WA) and the U.S. Army Corps of Engineers, Walla Walla District, agreed on a $186,754 contract to shop-coat two existing 49-foot, 10-inch-long x 7-foot-wide top spillway weirs at the McNary Dam. The dam, constructed in 1952, impounds the Columbia River between Umatilla County, OR, and Benton County, WA. The contract, which requires SSPC-QP 1 certification and was set aside for small businesses, includes abrasive blast cleaning the steel weirs to SSPC-SP 5 (White Metal) and shop-coating the weirs with a zinc-rich vinyl primer and a three coats of vinyl finish.

Spensieri Wins Dam Coating Contract

Photo courtesy of US Army Corps of Engineers.

Spensieri Diversified, LLC (Haines City, FL) won a contract valued at $296,500 from the U.S. Army Corps of Engineers, Philadelphia District, to coat existing service and spillway bridge surfaces at the 59-year-old Beltzville Dam in Lehighton, PA. The contract, which was set aside for small businesses and requires SSPC-QP 1 certification, includes recoating the exterior girder faces and bottom flanges and the interior girder faces and interior cross frames of the service bridge, as well as exterior and interior girder faces, interior cross frames, and bottom flanges on the spillway bridge. The steel will be pressure-washed (SSPC-SP 12, Condition WJ-4) at 2,000-5,000 psi; spot power-tool cleaned (SSPC-SP 3); and coated with an aluminum epoxy mastic spot-primer and full intermediate, and an aliphatic acrylic polyurethane finish. Lead is present in the existing coatings and will require Class 3P and 4W containment (SSPC-Guide 6).

K.V.K. Contracting to Coat Bridge at Perdido Pass

The Alabama Department of Transportation awarded K.V.K. Contracting, Inc. (Tarpon Springs, FL) a contract of $1,298,992 to clean and recoat approximately 194,000 sq feet of structural steel surfaces on an existing bridge over Perdido Pass in Orange Beach, AL. The steel will be abrasive blast-cleaned to SSPC-SP 10 (Near-White) and coated with an inorganic zinc-epoxy-urethane system. Containment is required to capture the lead that is present in the existing coatings.

Photo courtesy of US Army Corps of Engineers.

Corcon Awarded Reedy Point Bridge Project

The U.S. Army Corps of Engineers, Philadelphia District, awarded a contract worth $3,886,625 to Corcon, Inc. (Lowellville, OH) to repair and recoat the Reedy Point Bridge, an 8,432-foot-long cantilever truss bridge over a canal and salt

marshes in Delaware City, DE. The bridge was completed in 1968 and features a 600-foot-long main span. The contract requires SSPC-QP 1 and QP 2 certifications and includes abrasive blast cleaning to SSPC-SP 10 (Near-White), testing for soluble salt with as-needed chloride remediation, and recoating steel on the main truss span with an inorganic zinc-rich primer, an epoxy intermediate, and a polyurethane finish. The contract requires the use of Class 1A containment structures according to SSPC-Guide 6 to control emissions of existing lead-bearing coatings.

Photo courtesy of US Army Corps of Engineers.

Pioneer to Restore Heceta Head Lighthouse

Pioneer Waterproofing Co. won a $1,357,366 contract from the Oregon Department of Transportation to perform an extensive historic restoration of the Heceta Head Lighthouse, a 118-year-old, 56-foot-high lighthouse near Yachats, OR. The project includes repairing steel with epoxy, performing surface preparation and coating application, and applying new cement plaster on the exterior surfaces of the tower.

Photo courtesy of LighthouseFriends.com.

Tacoma Awards Cushman Dam Contract

The City of Tacoma (WA) granted a contract worth $41,500 to Northwest Sandblast & Paint, LLC (Spokane, WA) to recoat the upstream faces of two existing 40-foot-wide x 20-foot-high radial spillway gates at Cushman Dam No. 1, an 85-year-old dam on the Skokomish River. The gates will be abrasive blast-cleaned to SSPC-SP 10 (Near-White) and coated with a moisture-cured urethane system. The existing coatings are presumed non-hazardous, but the contractor must test to verify; if lead is identified a change order will be executed for the use of a lead-stabilizer. JPCL

SSPC President's Welcome

Dear Members,

It is my distinct privilege to invite you to join me, as well as hundreds of your colleagues, at SSPC 2012 featuring GreenCOAT this winter in Tampa, Florida.

SSPC 2012 is the only show in North America that is 100% focused on protective, marine, and industrial coatings. From coatings formulation to application, from spec writing to inspection, and from abrasive blasting to waste disposal, the SSPC conference covers every aspect of the coatings project–from start to finish. No other event provides the depth and quality of content relevant to the process and practice of the coatings professional.

With a renewed energy and sense of purpose, SSPC members are bringing new ideas, new products and new technology to the forefront–and they are choosing SSPC's annual gathering to showcase their progress. Over four days in early 2012, coatings professionals will meet to learn from their peers, network with suppliers, and uncover business opportunities.

Whether you are a contractor, consultant, inspector, engineer, supplier, or end-user, you are sure to return from the event having gained new knowledge that you can put to work right away.

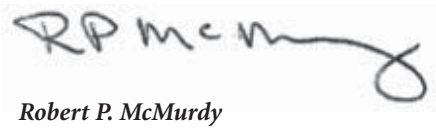
So join us in the warm sunshine at the Tampa Convention Center from Monday, January 30, to Thursday, February 2, and take advantage of technical education,

training courses, committee meetings, and a packed exhibit hall.

Support your industry and support SSPC as we grow and move the industry forward.

We look forward to seeing you there!

Sincerely,



Robert P. McMurdy
SSPC President

Special Events Planned for Attendees and Guests


Tampa's Lowry Park Zoo Wallabies

In addition to all of the educational opportunities planned for SSPC 2012, there will be a variety of special events throughout the conference, starting with the Annual Business Meeting & Awards Luncheon.

The following is a list of special events scheduled for SSPC 2012, as of press time. Check www.sspc2012.com for updates.

Annual Business Meeting & Awards Luncheon

Join SSPC President Bob McMurdy, SSPC Executive Director Bill Shoup, and the Board of Governors to hear SSPC's Annual Report and to honor the 2011 award recipients (pp. 62–64). The event takes place on Monday, Jan. 30 at 11:00 a.m.

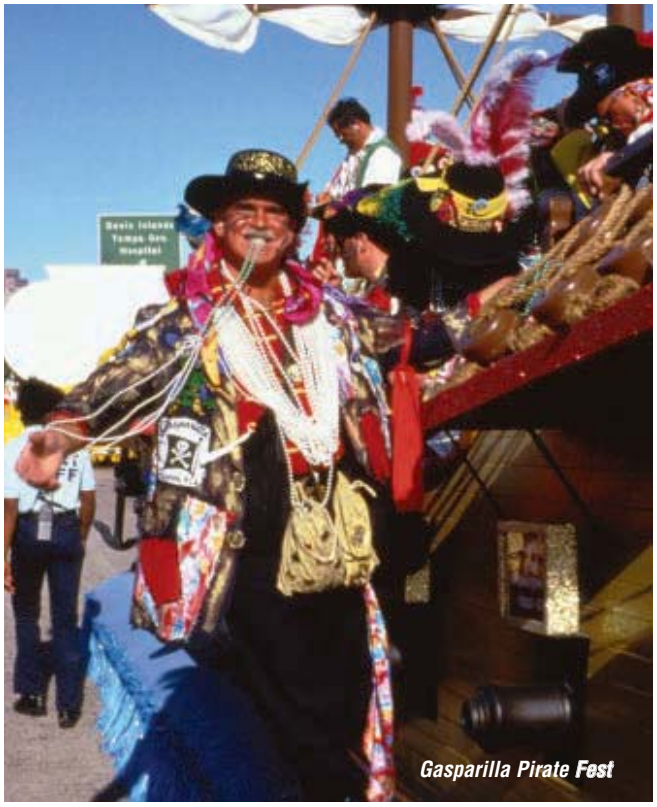
Welcome Reception

Kick off the conference at the Welcome Reception, sponsored by Carboline. Enjoy hors d'oeuvres, a buffet, and a beverage or two. Join members of the SSPC Board, the staff, and your friends, colleagues, and business acquaintances for the reception on Monday, Jan. 30 from 5:30 to 7:30 p.m. SSPC and Carboline are giving away an iPad at the reception. You must be present to win.


Canoe Escape

General Session & Keynote Address

Marlin Fitzwater will be this year's keynote speaker on Tuesday, Jan. 31 from 8:30 to


Gasparilla Pirate Fest

Indian River Lagoon system, the Banana River contains over 5,000 species of plants and animals, many of which are endangered. The tour begins with an easy nature walk, followed by a cruise on the inland waters on a shallow-draft, 55-passenger pontoon boat. This is a guided and narrated tour, and the price is $85 per person.

SSPC, *JPCL* to Present Awards

SSPC and *JPCL* will present this year's awards at the Annual Business Meeting & Awards Luncheon on Monday, Jan. 30 at 11:00 a.m. Awards to be presented include the 6th Annual Structure Awards, SSPC Honorary Life Member Award, Outstanding Publication Award, *JPCL* Editors' Awards, Coatings Education Award, Outstanding Chapter Awards, John D. Keane Award of Merit, President's Lecture Series Award, Scholarship Awards and the Technical Achievement Award.

Annual Structure Awards

Now in its sixth year, the SSPC Structure Awards honors teams of contractors, designers, end users, and other personnel for the excellence and expertise demonstrated on industrial and commer-

continued on page 64

continued from page 62

cial coatings projects. Awards to be presented are:

- The William Johnson Award for outstanding achievement in aesthetic merit
- The E. Crone Knoy Award for coatings work that demonstrates innovation, durability, or utility
- The Charles G. Munger Award for a coatings project that demonstrates the long service life of the original coating
- The George Campbell Award for the completion of a difficult or complex coatings project

JPCL features the winners in a photo essay every spring.

SSPC Honorary Life Member

Honorary Life Member is a title the Board of Governors awards to an individual for extraordinary long-term activity on behalf of SSPC.

Allan DeLange

The award will go to Joseph Brandon, Principal, QualityFirst Consultants LLC.

John D. Keane Award of Merit

Named for SSPC's Executive Director from 1957-1984, the John D. Keane Award of Merit acknowledges outstanding leadership and significant contribution to the development of the protective coatings industry and to SSPC. This year, the award will go to Allan DeLange, President, North American Coatings, CL Division.

More Awards to be Announced

Winners will still be announced for:

- Coatings Education Awards for significant developments in the dissemination of educational and technical information relating to protective coatings and their application
- Technical Achievement Awards for outstanding service, leadership, and contributions to the SSPC technical committees and other special technical functions
- President's Lecture Series Award for a technical presentation that reflects the essence of the paint and coatings industry
- Outstanding Chapter Awards
- Outstanding Publication Award
- *JPCL* Editors' Awards

SSPC To Offer Full Course Line Up in Tampa

All classes will be held at the Tampa Convention Center or at the Tampa Marriott Waterside Hotel & Marina. Registration for the SSPC Training Courses at the show must be done separately from the SSPC 2012 registration to attend the show. Classes run from 8:00 a.m. to 5:00 p.m., except for PCI, which runs from 7:30 a.m. to 6:00 p.m., and PA 2 and Estimating, which run from 8:00 a.m. to 2:00 p.m. Several courses require prerequisites, which can be found under the "Training & Certification" section of the show web site, www.sspc 2012.com.

Dining

To register, email or fax a completed training registration form to Dee Boyle at boyle@sspc.org or 412-281-9993. The deadline to register is Jan. 2, 2012. Under the DoD program, approved military personnel can register for SSPC coatings training courses and have the cost of the course covered by funding. Contact Jennifer Merck at merck@sspc.org for more information.

Navigating Standard Item 009-32

Planned for Jan. 27, the course describes the naval ship cleaning and painting requirements found in Standard Item 009-32. It covers the cleanliness, surface preparation, coating application requirements, and system application instructions for various Navy vessels. Requirements of referenced standards are also reviewed. This course will help attendees better navigate NAVSEA Standard Item 009-32 and use the criteria it presents to accomplish the painting requirements outlined for U.S. Navy surface ships, submarines, and aircraft carriers.

Coating Application Specialist (CAS) Certification

There are three program options available for the CAS Certification program, which will be held on Jan. 27-28. The program is designed to certify individual craft workers who have experience and training in all aspects of hands-on surface preparation and coating application of complex industrial and marine structures. The certification program meets the requirements of ISO 17024.

CAS Basic Level 1 is intended for entry level/trainee application specialists. Level 1 application specialists customarily work with and under supervision of Level 2 and Level 3 application specialists. Level 1 requires successful completion of a skills assessment program. The exam consists of basic knowledge of industrial coatings and linings.

CAS Level 2 (Interim Status) allows those in the current workforce the opportunity to realistically achieve certification over the next several years. It focuses directly on the needs of the application specialist and provides criteria for the education, training, experience, knowledge, and motor skills required to prepare and apply protective coatings to steel and concrete surfaces of complex industrial or marine structures. This level requires passing a closed-book, written exam and a hands-on portion testing proficiency in abrasive blasting and coating application using conventional or airless spray.

CAS Level 2 (Full Status) requires approved related work experience, in addition to passing a closed-book, written exam and a hands-on portion.

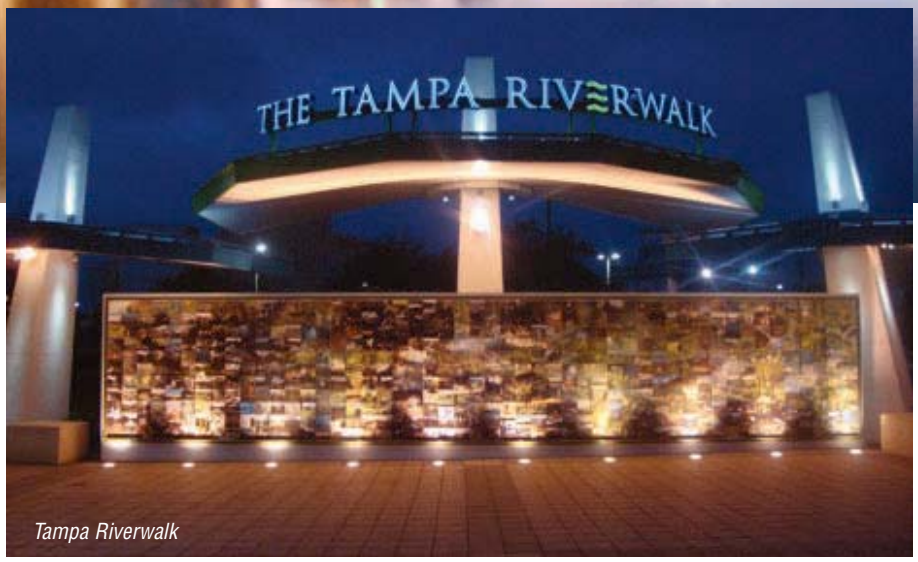
Channelside Bay Plaza. All photos courtesy of Tampa Bay & Company

Protective Coatings Inspector Program (PCI)

PCI Level 1 will be held on Jan. 27-31; Level 2 will be Jan. 27-Feb. 1; and Level 3 will be held Jan. 27-Feb. 2. C1 is strongly recommended as a prerequisite for the PCI program.

PCI Level 1 has no prerequisites, but it is not an entry-level course. The

Tampa Skyline at dusk



Tampa Riverwalk

objective is to thoroughly train individuals in the proper methods of inspecting surface preparation and installation of industrial and marine protective coatings and lining systems on an array of industrial structures and facilities. Candidates should be prepared for an intense and fast-paced training schedule with evening homework and study in order to cover an extensive amount of information.

Students who pass the Level 1 exam and meet the prerequisites for Level 2 can take the written and hands-on Level 2 certification exams on day 6. A passing grade on both exams is required to become an SSPC Level 2 Certified Coating Inspector.

PCI Level 3 identifies and awards recognition to individuals who have in-depth knowledge in the inspection of industrial coatings. Those who pass the Level 2 exam and meet the prerequisites for Level 3 can take the PCI Level 3 exams on day 7.

Concrete Coating Inspector Program (CCI)

Concrete Coating Basics (CCB) will take place Jan. 27-28; the CCI Tech Level is on Jan. 27-31; and the CCI Cert Level is Jan. 27-Feb. 1. The CCI Program provides several different paths to certification depending on the attendee's current level of experience and training; these can be found on the SSPC web site. The CCB course provides basic training to contractors and is a prerequisite for individuals seeking CCI certification. The objective of CCI is to thoroughly train individuals in the inspection of surface preparation and the installation of industrial protective coatings on industrial concrete structures and facilities.

Bridge Coatings Inspector Program (BCI)

BCI Level 1 will be held on Jan. 27-31, and Level 2 will be held on Jan. 27-Feb. 1. The BCI course covers the fundamentals of how to inspect surface preparation and application of protective coatings on bridge steel. The course covers situations that affect inspection in the field and the skills required to inspect new bridge steel painted in the shop, in the field, or maintenance systems applied in the field.

The first four days are devoted to classroom lecture about bridge coatings. On the fifth day, the Level 1 course exam is given. Students who pass the exam can take the Level 2 exam on day 6 if all of the prerequisites are met.

Fundamentals of Protective Coatings (C1)

The C1 course, to be held on Jan. 28-Feb. 1, provides a practical and comprehensive overview for those who are new to the protective coatings industry. It is also an ideal refresher for reviewing the fundamentals of corrosion and the use of coatings as a protective mechanism. To receive certification and CEUs, attendees must pass an exam, in addition to attending all 40 hours of the course.

Planning and Specifying Industrial Projects (C2)

C2 is scheduled from Jan. 28-Feb. 1. This course is designed to provide those who understand coating fundamentals with an overview of

the principles of planning, awarding, and monitoring the quality of new construction or maintenance painting projects. Students will become familiar with tools to develop effective coating projects and play a more active role in managing painting projects to successful completion.

Topics in this course assume knowledge of the fundamentals. There is a written exam.

NAVSEA Basic Paint Inspector (NBPI)

To take place on Jan. 28-Feb. 1, NBPI is an inspection course that was developed by Naval Sea Systems Command (NAVSEA) to train coatings inspectors to inspect critical coated areas as defined by U.S. Navy policy documents. The first four days are devoted to classroom lecture and hands-on training. On the fifth day, the exams are given, which consist of a multiple-choice portion, a practical exam using inspection instruments, and a 009-32 exam.

Basics of Estimating Industrial Coatings Projects

This course will take place on Jan. 28 and covers the fundamentals of estimating industrial painting job costs including surface area calculations, labor and production rates, and equipment and material requirements. The class includes a lecture overview of estimating essentials combined with workshops. An exam is given at the end of the course.

International Plaza & Bay Street

Lead Paint Removal (C3)

C3, to be held Jan. 29-Feb. 1, includes background information on the hazards of lead and other toxic metals as well as the current legal and regulatory environment. The course contains specific discussions on protecting workers; compliance with environmental regulations; proper management of waste streams and operations with potential exposures to lead; and associated control technology. The course also addresses reading specifications and developing programs to effectively control risk to workers, the public, and the environment. There will be a discussion of insurance and bonding issues and an introduction to other safety and health issues. Attendees can expect a daily homework assignment to help prepare for the final examination.

Evaluating Common Coating Contract Clauses

On Jan. 29, this course will provide a basic overview of clauses most common to coatings contracts. It follows the outline of a standard construction contract, while also teaching students to identify the key provisions that may be missing from contracts they receive. The course concludes with a written exam.

Using SSPC PA 2 Effectively

This half-day workshop takes place on Jan. 29. It summarizes and explains the key highlights of SSPC PA 2: Measurement of Dry Coating Thickness with Magnetic Gages. Students will learn to verify the accuracy of a DFT magnetic gage; measure the DFT of a coating with Type 1 or Type 2 gage; and describe and implement the procedure to determine if the film thickness conforms to the levels specified. An exam concludes the class. *continued on page 70*

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Airless Spray Basics (C12)

The C12 course will be held on Jan. 29-30 and is designed to train and certify marine/industrial applicators to operate airless spray equipment, incorporating the use of a paint simulator for hands-on training. The course will cover proper mixing and spray techniques, as well as an overview of airless spray equipment operational systems. It meets the NAVSEA 009-32 requirements.

Introduction to Polyurea and Other Elastomeric Coatings

The Polyurea Development Association (PDA) designed this course specifically with the applicator and contractor in mind. It will expand on topics like the physical properties of polyurea, testing procedures, surface preparations, applications procedures and techniques, and advances in and types of equipment. To register for this class, scheduled for Jan. 30, email DeAnna Martin at deanna@robstan.com.

Lead Paint Removal Refresher (C5)

C5 is scheduled for Jan. 31. This course provides refresher training for supervisors/competent persons who are responsible for industrial deleading operations. It starts with a review of basic information about lead and its associated health hazards. There is a review and update of relevant EPA regulations and processes through discussions of 29 CFR 1926.62 and changes in the Respiratory Protection Standard (29 CFR 1910.134). The course includes discussions about control over emissions, as presented in SSPC Guide 6.

State supplements for several states are available. This course meets the requirements of state programs that require refresher training to maintain supervisor certification and meets QP 2 requirements for competent person refresher training certification.

Protective Coatings Specialist Program (PCS)

The PCS certification program, to be held on Feb. 2, awards recognition to individuals who have in-depth knowledge of industrial coatings technology.

PCS certification demonstrates mastery in assessment of coatings systems, development of coatings specifications, surface preparation and coatings applications, economics of coatings, contract planning and management, coating failure analysis, and inspection.

Applicator Train-the-Trainer Program (ATT)

This course, scheduled for Feb. 2-3, is designed to train owners, supervisors, and

other representatives of industrial painting contracting companies on the delivery of two levels of the SSPC Applicator Training Program for surface preparation and coating application. It also provides a standardized curriculum for applicator training to present at the shop or job site.

Abrasive Blasting Program (C7)

The C7 course will take place on Feb. 3-4 and is designed for contractor personnel who wish to obtain certification or for others who wish to learn about dry abrasive blast cleaning of steel. It covers principles of surface preparation, cleanliness, and profile; dust and debris control; and abrasives.

Students who do not want to receive the C7 certification can receive a certificate of attendance by attending the lecture and observing the blaster demonstration. Those seeking certification must pass written and hands-on exams.

Quality Control Supervisor (QCS)

QCS will take place on Feb. 3-4. The course provides training in quality management for SSPC-certified contractor personnel, Technical Quality Managers (TQM), and inspectors employed by SSPC-QP 5 inspection firms. It gives an overview of the quality management aspects of surface preparation, paint, coatings, and inspection operations that a QCS needs to know. It is highly recommended that persons attending the QCS course have recent inspection training or equivalent formal training and some quality control experience.

Project Management for the Industrial Painting Contractor

This course will take place on Feb. 3-4 and offers an introduction to project management concepts used on industrial painting projects. Attendees will learn more about generating new business, reviewing contracts, navigating employee relations, and building safety into the job.

The second day involves an exam in which participants resolve real-world project management scenarios.

Floor Coating Basics

Held on Feb. 3-4, Floor Coating Basics is designed to meet the practical training requirements of SSPC-QP 8, Section 4.4, which requires that each job crew chief and QC manager complete a minimum two-day overview of concrete components, coating and surfacing types, and surface preparation and substrate repair techniques based on SSPC consensus douments TU-10, "Procedures for Applying Thick Film Coatings and Surfacings Over Concrete Floors."

SSPC Workshops Cover Diverse Topics

Tampa's Sunshine Skyway Bridge. All photos courtesy of Tampa Bay & Company.

Over the course of SSPC 2012, eight diverse workshops will be held as part of the technical program. These workshops are previewed here. Questions about the technical program can be directed to Christine Estvanik, estvanik@sspc.org or 877-281-7772, ext. 2215.

MONDAY, JANUARY 30

From 1:30 to 4:30 p.m., Gordon Kuljian will present "Weathering of Coating." The workshop will cover the chemistry behind weathering of coatings; usefulness of various accelerated test methods; how to relate accelerated methods to real life weathering of coatings; corrosion testing of coatings; and salt spray, cyclic corrosion testing, prohesion, and impedance testing.

Also on Monday, Dwight Weldon, Weldon Laboratories, Inc., and Gary Tinklenberg, Corrosion Control Consultants & Labs, will present "Failure Analysis of Paints and Coatings," from 1:30 to 4:30 p.m. The instructors will present the methodology involved in solving coating failures, including what to look for at the jobsite, sample taking, and laboratory techniques. Emphasis will be placed on recognizing patterns in failure, and case histories will be presented that cover failures of several different generic coating types.

TUESDAY, JANUARY 31

Chris Farschon, PCS; Kirk Shields; Lloyd Smith, PCS; and Tony Serdenes, from Greenman-Pedersen, Inc., will instruct "Protective Coatings: An Overview," from 1:30 to 4:30 p.m. The workshop will provide an overview of an industrial protective coatings project. Participants will gain an understanding of how protective coatings are specified and applied to meet the goals of a project. Students will handle typical quality control instruments used on a protective coatings project.

The second workshop on Tuesday is "Practical Application of Climate Control on Industrial Coating Projects." From 1:30 to 4:30 p.m., Brian Battle, Ken Armstrong, and Kurt Boeding, Dehumidification Technologies, LP, will discuss the growth in the technology and popularity of temporary climate control. This presentation addresses the pros and cons of each type of equipment and instructs the audience in an easy-to-use guide that will help them quickly choose the right equipment and minimize cost.

WEDNESDAY, FEBRUARY 1

The workshop, "Women's Café Roundtable," will be led by Joyce Wright, Northrop Grumman Newport News Shipbuilding, from 10:00 a.m. to noon. The roundtable will consist of four questions with a moderator at each table. Participants will discuss each question for 20 minutes, rotating through the tables. The group will discuss the outcome of each question. Topics to be discussed include how to overcome the mentality of the good old boys club; how to make women more visible in our industry; would women benefit from having a mentor in the industry; and how can women in the industry avoid coming across as overly aggressive or weak.

Also on Wednesday, Michael Weeks, Ph.D., from the University of Tampa, will present, "Leading the Next Generation," from 3:00 to 5:00 p.m. This seminar will discuss challenges in leading the next generation of workers in today's business environment and how to cross the generational barrier to motivate young, energetic workers.

THURSDAY, FEBRUARY 2

Leo Procopio and Thomas Tepe, of The Dow Chemical Company, will present, "Waterborne Technologies for Protective Coatings," from 10:00 a.m. to noon. This workshop will introduce some of the major types of waterborne technologies (i.e., waterborne acrylics, epoxies, and polyurethanes) available for protecting steel and concrete. The workshop will focus on the structure and chemistry of these coatings, how waterborne coatings form films, performance features, and causes of and solutions for coating defects and failures. Suitable environments, end-use applications, surface preparations, application methods and conditions, and equipment considerations will also be described.

Also on Thursday, Eric Kline, Fred Goodwin, Hugh Roper, Steven Reinstadtler, and J. Peter Ault, PE, PCS, will present, "*JPCL* Problem Solving Forum," from 10:00 a.m. to noon. This workshop includes a panel of coatings industry experts who will discuss a series of questions based on *JPCL*'s Problem Solving Forum column. *JPCL* staff will moderate the panel discussion. The panel will pose several "rapid fire" questions within the first hour of the session for attendees to analyze and debate. Some examples include:

- How should a conflict between requirements (e.g., film thickness) on a product data sheet and the specification be resolved?
- What percentage of deterioration is acceptable at a one-year warranty inspection of water tank linings before a contractor must repair the coatings job?
- A specification requires Manufacturer X's system "or equivalent." What does "or equivalent" mean, and who decides what's "equivalent"?

The second half of the workshop will focus on more open-ended questions, such as:

- How do we train the workforce entering into the industry? What do we do about the aging workforce and the loss of experience and knowledge base?
- Is mentoring something that should be used more within the industry?
- How are the more stringent environmental regulations going to affect the industry?

SSPC Puts Together Impressive Technical Program

The technical program at SSPC 2012 featuring GreenCoat runs for four days, with 19 different tracks covering a wide range of topics in the industrial, marine, and commercial coatings industries. Over 75 papers were scheduled as of press time. The following pages provide the dates, times, titles, presenters, and company affiliations as well as a brief abstract of each paper. All information is current as of press time; visit www.sspc2012.com for updates and more information.

MONDAY, JANUARY 30

Track: Improve a Business with Strategic Planning

• 1:30-2:30 p.m., "Industrial Marketing & Sales in a Digital Age," by Nicole Eisenhauer, Eisenhauer Creative Group

The presenter will discuss easily employed digital marketing tools and the role of social networking tools for marketing in an industrial forum. The integration of print, digital, and three-dimensional marketing tools will also be covered, as well as the definition of "permission-based" marketing.

• 2:30-3:00 p.m., "Succession Planning," by Robert Ziegler, BBZ Contracting

The presentation will cover succession plans including selling the company, customer relations, and competitive reactions.

• 3:00-3:30 p.m., "Everyone Wins: Driving Value and Profitability for the Painting Contractor and the Owner," by Dee McNeill, The Sherwin-Williams Company

This paper will show how improving shop throughput and field painting operations can save time and money and increase the profitability of the painting contractor while also saving taxpayers money.

• 3:30-4:00 p.m., "Writing a Good Process Control Procedure," by Rick Smith, PCS, Wheelblast, Inc.

The presentation will cover key items to use when preparing a process control procedure (PCP), including material handling, environmental conditions, surface preparation, mixing oversight, and coating application.

Track: Nanotech—Enhanced Performance of Coatings

• 1:30-2:30 p.m., "Nano-Structured Particles to Enhance Primer Performance Properties," by Maria Nargiello, Evonik Degussa Corporation

This paper will address how modified nano-structured particles based on SiO_2 are differentiated and modified to create specially tailored solutions to enhance the performance of both solvent-borne and waterborne primers.

• 2:30-3:00 p.m., "Corrosion Resistant Nanocomposite Pretreatment Coating for Marine Structures," by Robert Iezzi, Ph.D., NEI Corporation

The presenter will discuss the laboratory test results of the pretreatment, scale-up of the pretreatment with a major shipbuilder, and outdoor test results in a severe marine environment.

• 3:00-3:30 p.m., "Nanotechnology for Enhanced Coating Performance," by Mark Morrison, The Sherwin-Williams Company

The presentation will provide insight into the advancing role of nanomaterials and nanotechnology for coatings. Discussion will include the simultaneous global technology developments, the limitations of these developments, and a view of the future growth of nanotechnology in coating materials.

• 3:30-4:00 p.m., "Multi-Walled Carbon Nanotubes for Polymeric Coatings and Composites," by Serkan Unal, Bayer MaterialScience

The paper will review the industrial scale production and applications of multi-walled carbon nanotubes, including those containing waterborne and UV-curable anti-static coatings, in light of current concerns of the EPA for safe use and handling of nanomaterials.

TUESDAY, JANUARY 31

Track: Women in the Industry

• 10:00-10:30 a.m., "Women in Coatings: The Present State and a Glimpse of Our Future," Cynthia O'Malley, PCS, KTA-Tator

During the inaugural "Women in Coatings" session held at SSPC 2011, a survey was developed and distributed to conference participants to determine the present state of the role of women in the coatings industry. This presentation summarizes the data obtained from the survey responses, which attendees will then use to define the present state of women in the industry.

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• 10:30-11:00 a.m., "Success Factors for Women's Career Advancement in Chemical Industry," by Sharon Feng, Bayer MaterialScience

This presentation is based on a three-year study of more than 1,700 women scientists working in the chemical industry. The study will be used to provide insight into what women can do to achieve success and level the playing field in historically male-dominated industries.

• 11:00-11:30 a.m., "How Do You Balance Work and Family?" by Sarah Olthof, Corrosion Control Consultants & Labs, Inc.

• 11:30 a.m.-Noon, "The Gender Gap: Impact on Innovation," by Elizabeth Haslbeck, NAVSEA

Ybor City Tour

Track: Coatings in Marine Environments

• 10:00-10:30 a.m., "NSRP Surface Preparation and Coatings Panel, Update," by Steve Cogswell, BAE Systems Southeast Shipyards

• 10:30-11:00 a.m., "Epoxy/Silicone: Ecological Evolution in High Performance Marine Coatings," by Duane Palmateer; Ian Germain; and John Kilger, Ph.D., Greenfield Manufacturing, Inc.

The presenters will discuss a novel epoxy/silicone chemistry that polymerizes an organic epoxy polymer with a silicone polymerization to form a network containing hard epoxy domains and low surface energy silicone domains, resulting in a coating that presents a low energy surface on the exterior and an aggressive bonding surface toward the coated substrates. Emphasis will be placed on the chemical and physical performance properties of the coating. Data will be presented that correlates the physical properties of the coating with performance data collected in field application testing.

• 11:00-11:30 a.m., "Zinc Rich Primers for Corrosion Protection," by J. Peter Ault, PE, PCS, Elzly Technology Corp.

The lecture will review the various types of zinc-rich coatings available for corrosion protection. The challenges associated with the proper specification and application of zinc-rich coatings will be discussed, as well as data from various studies that quantifies the corrosion protection benefits of various types of zinc-rich coatings.

• 11:30 a.m.-Noon, "Ship Hull Performance in the Post TBT Era," by Boud van Rompay, Hydrex Underwater Technology

This presentation will discuss specially formulated glassflake vinyl ester surface treated composite (STC) as today's best available technology for protecting a ship's underwater hull. The speaker will cover the problems that exist with conventional coatings and show why glassflake vinyl ester STC is the future of ship hull protection as more restrictions are placed on conventional systems.

Track: Advancing Green Technology

• 10:00-10:30 a.m., "New Solvent-Free Waterborne Epoxy Resin Dispersion for Low VOC 2-Pack Protective Coatings," by Ming Tsang, Cytec

The presenter will discuss the development of solvent-free, waterborne epoxy resin dispersion and how it can meet the needs of the protective coatings market. The resin will be compared to existing solventborne coatings and waterborne epoxy dispersions with significant amounts of solvents.

• 10:30-11:00 a.m., "Green Blasting Technology with Focus on HSE and Quality," by Kjetil Roksvag, Pinovo AS

The presenter will explain a technology that his company developed for vacuum blasting pipes to an SA 3 surface with zero emissions. The technology also focuses on operator safety and health as well as reducing the overall carbon footprint compared to alternative methods.

• 11:00-11:30 a.m., "Green—Just Another Color in Mechanical Surface Preparation?" by Kumar Balan, Wheelabrator Group

In this discussion, attendees will learn the definition of green manufacturing in relation to surface preparation in addition to its practicality and benefits. Part of the presentation will revolve around how green manufacturing is more than just a social cause for the mechanical surface preparation technique.

• 11:30 a.m.-Noon, "Cartridge Technology for Spray Applied Coatings—Low Cost, Reliable, Portable, and Green," by Peter Kuzyk, Plas-Pak Industries

This presentation will focus on HSS (high solids spray) system as a new, low cost, portable, disposable meter-mix-dispense and spray system for use with a wide variety of fast-cure formulations, including coatings, liners, foams, and sprayable adhesives and sealants.

• Noon-12:30 p.m., "Access Solutions for Wind Turbines," by Clint Ramberg, Spider

The discussion will focus on new suspended platform configurations and methods that have been designed for the wind tower and blade access market to improve the safety, quality, productivity, and profitability for the maintenance coordinator.

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Track: *Durability + Design* Commercial Coating and Flooring Symposium

• 10:00-10:30 a.m., "An Architect's Call for Paint Standards," by Walter Scarborough, HKS Architects

The presentation will describe the frustrations and problems architects experience because of insufficient or non-existent standards governing architectural coating materials and practices. Real-world examples will be given, and areas where standards need to be written or upgraded will be discussed.

• 10:30-11:00 a.m., "Extending the Life Cycle of Coatings Applied to Commercial Buildings," by Barry Law, Master Painters Institute

Historic Ybor City cigar shop

The presenter will provide methods for extending the life of coating systems through the development of sound cleaning and painting specifications, contractor quality control, and owner quality assurance oversight.

• 11:00-11:30 a.m., "Fundamentals of Making Good Decisions in Coating Selection," by Allen Zielnik, Atlas Material Testing Technology

This presentation will focus on interpreting accelerated weathering test standards, warranty claims, and marketing jargon to understand what really matters—choosing the right product for the right climate.

• 11:30 a.m.-Noon, "New Architectural Wall Coatings Technology Targeted at Stricter Hospital Infection Protocols," by Steven Reinstadtler, Bayer MaterialScience

New developments in architectural coating technologies for targeted hospital environments that require a higher frequency of cleaning with harsher disinfectants offer improved durability and resistance without sacrificing appearance. This discussion will cover some of the requirements, chemicals involved, testing, and case history related to this topic.

• 1:30-2:00 p.m., "Moisture Vapor Emission Rates of Concrete Floors—Can Moisture Meters be Used Instead of Anhydrous Calcium Chloride?" by George Holz, American Institute of Architects, and Kevin Brown, KTA-Tator

This paper presents data obtained from field studies that compared anhydrous calcium chloride test results with three different types of moisture meters.

• 2:30-3:00 p.m., "The Impact on the Painting Industry by New Building Codes and Standards for Air/Vapor Barriers," by Kevin Knight, Architectural Testing Canada Inc.

The presenter will address the challenges that are facing the painting industry with the changes to building codes and standards. Current state-of-the-art commercial buildings will be reviewed together with common ongoing failures. Examples will be used to address different issues with paint/coating failures, lack of functional thermal barriers, and poor water management. Infield and laboratory test programs and possible solutions will be examined.

• 3:00-3:30 p.m., "Air Barrier Testing of Concrete Masonry Assemblies and the Effect of Surface Coatings on Air Performance," by Jason Thompson and Nicholas Lang, National Concrete Masonry Association

The presenters will discuss specific procedures that were developed to better test concrete masonry assemblies for compliance with new energy efficiency requirements. These procedures are used to evaluate the effectiveness of integral water repellents, surface water repellents, and various other surface coatings on the air permeance of concrete masonry assemblies.

• 3:30-4:00 p.m., "Use of Atlas Test Cells to Assess the Performance of Coatings Over CMU with Varied Permeance," by Chuck Duffin, Sto Corporation; Cynthia O'Malley, PCS, KTA-Tator; and Steve Revnew, The Sherwin-Williams Company

This paper describes the results of a study to determine if the Atlas Cell Test (NACE TM0174) can be modified to evaluate the performance of individual coating systems based on permeance. The goal of the test program is to establish a protocol that can eventually be used to determine the number of times that a given system can be repainted before the reduction in permeance causes concerns with blistering or peeling.

Track: Real World Coatings in Action

• 1:30-2:30 p.m., "Experiences with Coating Systems Selection for the World Trade Center Transportation Hub," by John Bullard, PCS, The Port Authority of NY & NJ

The presenter will discuss the history, background, and selection of several coating systems and combinations of systems used for the structural steel and architectural elements of the WTC Transportation Hub.

• 2:30-3:00 p.m., "Cross-Linking Performance to Mechanism," by Andrew Recker, International Paint LLC

The main focus of this paper is the mechanism of cure of the different polymer binds. Data will be presented that shows the rate of differences of post-cure of the peroxide radi-

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Tarpon Springs

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cal/vinyl esters when compared to the epoxy systems.

• 3:00-3:30 p.m., "Colored Pigments for Coatings—Chemistry & Performance," by Romesh Kumar, Clariant Corporation

This discussion will focus on the basic chemistry, the physical and chemical properties, and a comprehensive guide to the selection of organic pigments.

• 3:30-4:00 p.m., "Ultraviolet Curable Coatings from Highly Functional Acrylated Biobased Resins," by Adlina Paramarta, Dean Webster, and Xiao Pan, North Dakota State University

The presenters will discuss their research in decreasing dependency toward petroleum-based products in the polymer field. In their research, the unsaturation of sucrose soyate was modified into acrylate functionality by means of epoxidation and acrylation processes.

• 4:00-4:30 p.m., "Portable Plural Component Equipment Utilizing Synergistic Chemistry," by Chas Weatherford, Specialty Products, Inc.

Track: Protecting the Military

• 1:30-2:30 p.m., "Leadership in Corrosion Prevention and Mitigation," by Daniel Dunmire, DoD Corrosion Policy and Oversight, Office of Under Secretary of Defense

The presenter will outline the Department of Defense Corrosion Prevention and Control (CPC) Program vision, policies, and strategies, and discuss results of the CPC program leadership in areas of education, training, communication, outreach, and overall cultural change in the broad corrosion prevention and control community.

• 2:30-3:00 p.m., "The Importance of Coatings to the Department of the Navy," by Stephen Spadafora, U.S. Navy

This presentation will cover the impact of corrosion on Navy assets, the role of protective coatings in combating corrosion, changes impacting the effectiveness of coatings, and the future of coatings in the Navy.

• 3:00-3:30 p.m., "Coatings Technical Warrant Holder Update," by Mark Ingle, NAVSEA

• 3:30-4:30 p.m., "With Great Power Comes Great Responsibility," by Roger Hamerlinck, U.S. Army

The presenter will discuss where the authority for the corrosion executive comes from, who is responsible for the outcomes of the program, the five pillars upon which the Army's program is built, what actions they have taken to fully implement the statute, and what challenges and successes the program has experienced.

• 4:30-5:00 p.m., "United States Marine Corps Corrosion Prevention and Control Office (CPAC) Program Overview," by Andrew Sheetz, Naval Surface Warfare Center—Carderock Division

The CPAC program was established to specifically address the corrosion issues within the Marine Corps land weapon systems. The program has improved the readiness of Marine Corps equipment, significantly reduced the cost of corrosion, and is recognized as a model DoD corrosion program.

WEDNESDAY, FEBRUARY 1

Track: Extending the Life of a Bridge

• 10:00-10:30 a.m., "Next Generation Polyaspartate Topcoat: Matching Throughput with Performance," by Jim McCarthy, PPG Protective and Marine Coatings

This paper will cover the features and benefits of next-generation polyaspartate topcoats that have been developed to overcome limitations of first generation finishes, such as diminished recoatability and shortened pot life. The presenter will compare properties of the two products as well as traditional polyurethanes.

• 10:30-11:30 a.m., "A KYTC Study of the Effects of Chlorides on Bridge Coatings Performance," by Bobby Meade, Kentucky Transportation Cabinet

The presenter will discuss a study conducted by the Kentucky Transportation Center to assess the impact of chloride on the coating performance of KYTC bridges. The study had field and laboratory components.

• 11:30 a.m.-Noon, "QC for the VTB: Overcoating the East Tower," by William Hansel, PCS, California Department of Transportation

This paper presents the difference between QC and QA, QC for new construction, QC for overcoating, and QC's role in pre-job planning. The painting of the Vincent Thomas Bridge's east tower will be used to highlight QC issues encountered during a spot prime, full overcoat paint project.

Track: Coatings for Concrete

• 10:00-10:30 a.m., "Waiting for the Concrete to Dry at Johnstown Memorial Medical Building in Arlington, VA," by

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David Simkins, Polygon

Attendees will learn about determining the environmental conditions that can affect a project at a given time of year, evaluate loads on a structure or containment, and design a system to meet those loads. The presenter will discuss the challenges of designing and holding low moisture levels in containments in the middle of August.

• 10:30-11:00 a.m., "With Novel 2K Water Based Polyurethane Systems, You Can Walk Where Traditional Systems Cannot Tread," by Leo Meilus, NAVCOR, Inc.

The author will discuss case histories where waterborne polyurethanes have been successfully used.

• 11:00-11:30 a.m., "Case History: Primary Care Physician's Office Refurbished with Sustainable Self Leveling Coating and a UV Curable Topcoat," by Bob Seman, Seman Flooring, Inc.

TECO Line Streetcar System

This presentation will cover the challenges faced in the preparation of a slab-on-grade subfloor, removal of a defunct gypsum layer, and the successful application of a decorative and green flooring option.

• 11:30 a.m.-Noon, "The History of Sealers and Coatings in Decorative Concrete," by Chris Sullivan, ChemSystems Inc.

The presenter will discuss the history of coatings and sealers within the decorative concrete market place. Topics include the progression of solvent and waterborne coatings, how they have changed to meet the increasing durability and environmental demands, and the next generation of green coatings currently being introduced in the market.

Track: Waterborne Performance

• 10:00-10:30 a.m., "Performance Comparison of Waterborne and Solventborne Epoxy Primers," by Tim Miller and Yong Zhang, Dow Chemical Co.

Performance of commercial and experimental waterborne 2K primers will be compared with commercial solventborne 2K primers. The effects on primer performance of curing agents, PVC, and amine-epoxy ratio will also be discussed.

• 10:30-11:00 a.m., "Factors Influencing the Stay-Clean Properties and Service Life of New Fluoropolymer Coatings," by Kurt Wood, Arkema, Inc.

This presentation will review the factors contributing to stay-clean properties and exterior durability of fluoropolymer coatings. The presenter will also examine their role in affecting the properties of coatings based on the new waterborne fluoropolymer-acrylic hybrid technology.

• 11:00-11:30 a.m., "Enova™ Aerogel Additives for Next Generation Waterborne Insulative Coatings," by Dhaval Doshi

The presentation will cover current technologies used to create different classes of insulative coatings and how silica aerogel products can be used to create the next generation of these coatings. Attendees will gain an understanding of the formulation principles and test methods, as well as the benefits of insulative coatings in various scenarios.

• 11:30 a.m.-Noon, "Waterborne Acrylic Latex Coatings for Marine Topside Applications," by Leo Procopio

This paper describes an evaluation of several waterborne acrylic coatings as possible replacements for the traditional silicone alkyd marine topcoats.

Track: Keeping it Clean—Coatings for Wastewater

• 3:30-4:00 p.m., "Manhole Rehabilitation—The Role Played by Linings," by Kevin Morris, The Sherwin-Williams Company

The author will discuss the various generic lining products available in the marketplace today, required application methods, and potential issues associated with each. Additional discussion will take place around ancillary work required to achieve successful long-term installation.

• 4:00-4:30 p.m., "Design Considerations for Lining Concrete Sludge Mixing and Storage Tanks in Wastewater Treatment Plants: Issues That Do Not Meet the Eye," by R.A. Nixon, Corrosion Probe, Inc.

This paper will present a number of important design considerations based on lessons learned that can avert lining performance problems and appropriate lining material selection. Specific examples from a number of sludge tank lining projects will be used to illustrate these design considerations.

• 4:30-5:00 p.m., "A Practical Approach to the Rehabilitation of a Wastewater Treatment Facility: Utilizing Case Histories to Demonstrate Real-Life Applications," by Lake Barrett Jr., Pete Jansen, and Tony Oswald, Sauereisen

The presenters provide an overview of the steps necessary to restore and protect dilapidated concrete structures from the effects of

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biogenic corrosion and years of neglect within the wastewater treatment system.

Track: Environmental Health & Safety

• 3:00-3:30 p.m., "Regulatory Update: Current and Emerging Trends in Occupational and Environmental Health," by Alison Kaelin, KTA-Tator

This annual paper summarizes and tracks environmental, health, and safety issues that may impact painting contractors and facility owners. The paper summarizes regulatory and enforcement developments in the current year and reviews expected rulemaking for the upcoming year.

• 3:30-4:00 p.m., "A Review of the Elements of the EPA's Chemical Action Plan," by Barbara Cummings, Bayer MaterialScience

• 4:00-5:00 p.m., "Identifying Potential Inhalation and Other Hazards Associated with Abrasive Blasting Operations," by Thomas Enger, MS, CSP, CHMM, Clemco Industries Corp.

The presenter will cover inhalation hazards common to the abrasive blasting employee; OSHA enforcement of inhalation hazards, including carbon monoxide from compressed air lines; NIOSH's requirements for approved respirators; and calculating noise reduction rating using a supplied air respirator as secondary hearing protection.

Track: Big Bridges, Big Solutions

• 3:00-3:30 p.m., "Overcoating—Texas DOT Perspective," by Johnnie Miller, Texas DOT

The presenter will discuss the four Texas DOT coating systems, maintenance painting practices, reasons to overcoat, performance of system to date, cost/limitations, the future of overcoating, and more.

• 3:30-4:00 p.m., "Suspended Scaffold for Bridge Access," by Clint Ramberg, Spider

This paper will review case studies from several bridge access projects where suspended scaffolding was used to provide safe, economical access for crews performing inspection, structural repair, demolition, blasting, and coating work. Special attention will be paid to advanced project planning, worker safety requirements, unique platform configurations, and productivity-improving tips.

• 4:00-5:00 p.m., "Two-Component Polyurethane Topcoats—Formulating Variables Affecting Performance in the Heavy Duty Corrosion Protections Market," by Edward Squiller and Kurt Best, Bayer MaterialScience

This is the final paper in a series that discusses weathering performance of two-component polyurethane topcoats used in corrosion protection applications with emphasis on the key formulating variables affecting performance. Commercial topcoats, along with some laboratory formulas, are used to illustrate the raw material choices and how weathering performance plays out in both QUV-A and natural Florida exposure scenarios.

THURSDAY, FEBRUARY 2

Track: Field & Laboratory Testing

• 10:00-10:30 a.m., "Slip Coefficient and Tension Creep Testing of Coatings Used in Slip-Critical Bolted Connections," by William Corbett, PCS, KTA-Tator

The presenter will list the variables affecting slip-coefficient values, describe the process associated with test panel preparation and coating, identify the testing procedures for slip coefficient and tension creep, and describe the importance of verifying conformance to testing variables during shop/field application. Data from various generic coating types previously tested will be presented.

• 10:30-11:00 a.m., "Easy Inspection Form Creation for Dry Film Thickness and Related Test Measurement Requirements," by Paul Lomax, Fischer Technology, Inc.

This presentation will cover solutions that will help assist coatings professionals with taking readings specified in standards as well as provide solutions on how to simplify recording and documenting results.

• 11:00 a.m.-Noon, "When Undercover Agents Can't Stand the Heat: The CIA and the Netherworld of Corrosion Under Insulation (CUI)," by Dr. Mike O'Donoghue, International Paint LLC

This paper describes a suite of accelerated laboratory tests undertaken to evaluate some of the claims made for engineered coatings touted to possess simultaneous anti-corrosive and high-temperature resistance to CUI.

Track: Sink or Swim—Protecting Marine Structures

• 10:00-10:30 a.m., "Coatings for Zebra/Quagga Mussel Control, 3rd Year Evaluation," by Allen Skaja, PCS, and Dr. David Tordonato, U.S. Bureau of Reclamation

In this update, results from the third year of research are presented. The current study includes long-term test data from silicone-based coatings, as well as new foul-release coatings technologies. Force measurements were also conducted to determine the force to remove mussels from various coated surfaces. Laboratory tests were conducted to predict real-world, foul-release performance.

• 10:30-11:00 a.m., "Durability Assessment of Foul Release Coatings," by Allen Skaja, PCS, and Dr. David Tordonato, U.S. Bureau of Reclamation

The Bureau of Reclamation has developed testing protocols to evaluate the durability of foul-release coatings with respect to abrasion and erosion resistance. This paper details each testing methodology and presents results.

• 11:00-11:30 a.m., "Non-Toxic Novel Silicone Foul Release Marine Coatings," by Rob Thomaier, Nusil Technology

The presenter will discuss a study that

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evaluated modified silicone materials as foul-release coatings. Coatings were evaluated with in-situ samples placed in test racks in Morro Bay, CA. Concrete samples were coated with foul-releasing coatings and submerged off the dock so that marine growth could be monitored at monthly intervals.

- 11:30 a.m.-Noon, "Copper Antifouling Coatings—Greener than the Headlines—The Latest Regulatory Happenings and How They Can Affect You," by Neal Blossom, American Chemet Corporation

The presenter will discuss the continuing use of copper-based antifouling coatings, along with the latest scientific findings and regulatory happenings in the U.S. and worldwide. Attendees will learn how to manage the use of antifouling products, including their relationship to state storm and process water permits.

Track: Maintenance Painting—Fountain of Youth

- 3:00-3:30 p.m., "Rehabilitation of National Water Storage Landmark," by Gregory Stein, PE, Tank Industry Consultants, Inc.

This presentation will take the audience through the unique repainting project of the Washington Suburban Sanitary Commission's Earthoid. Attendees will learn the perspective of the original design engineer and the engineers responsible for the periodic coating evaluations during the service life of the existing coatings and the design of the new coating system.

- 3:30-4:00 p.m., "Concrete Maintenance," by Fred Goodwin and Frank Apicella, BASF Building Systems
- 4:00-4:30 p.m., "Galvanize It," by Kevin Irving, AZZ Galvanizing

The purpose of this presentation is to inform and educate attendees about hot-dip galvanized steel and how it can address the growing corrosion problem throughout North America.

- 4:30-5:00 p.m., "Maintenance Painting of Galvanized Mast Arms: A Project Performed Despite Budget Constraints," by Gregory Richards and Richard Burgess, PCS, KTA-Tator

The presenters will discuss the development of a maintenance painting process developed to accommodate budget constraints and produce a satisfactory outcome.

Track: Corrosion Protection & Protective Coatings

- 3:00-3:30 p.m., "Life Expectancy of a Paint System," by Al Beitelman, PCS, U.S. Army Construction Engineering

This presentation will cover factors that impact coating performance for various coating systems on navigation structures.

- 3:30-4:00 p.m., "An Organometallic Ester Corrosion Inhibitor for Use in Direct-to-Metal Paints," by John Hughes, Croda Inc.

Traditionally, the light industrial/general maintenance paint systems involved a primer along with multiple coats of acrylic finish paint. New DTM acrylic paints are formulated to eliminate the primer; however, when used on mild steel substrates, these DTM paints show poor corrosion resistance and flash rust. A new organometallic ester (OME) corrosion inhibitor was developed to improve the corrosion resistance of the DTM acrylic paints when used over mild steel substrates.

- 4:00-4:30 p.m., "Coatings Used in Conjunction with Cathodic Protection," by Richard Norsworthy, Polyguard Products

This paper will discuss the differences between CP shielding coatings and non-shielding coatings and how CP works with these coatings.

- 4:30-5:00 p.m., "Chemical Oxidative Polymerization of Polypyrrole on the Inorganic Flake Surface for Corrosion Inhibition of Aluminum 2024-T3," by Victoria Gelling, North Dakota State University

This project incorporated different dophants

on the backbone of the PPy chain in varying concentrations. The synthesized PPy-flake composite pigment was incorporated in the coating at varying pigment volume concentrations and was coated on aluminum 2024-T3. These coatings were subjected to prohesion tests and were monitored to see if the PPy helped prevent corrosion.

Track: Polyurea and Thick-Film Coatings

• 3:00-3:30 p.m., "Drinking Down Under: Great Idea, Second Thoughts, The Right Path," by Dudley Primeaux, PCS, Primeaux Associates LLC

The paper will discuss a recent major concrete potable water storage tank lining application in Australia, including the challenges faced and the solution that led to success.

• 3:30-4:00 p.m., "Polyurea Great Wall: Beijing-Shanghai High Speed Railway Polyurea Protection Project," by Weibo Huang, Qingdao Technological University

This presentation covers the protective coatings project that used polyurea on 12,000,000 square meters of concrete, and it discusses the difficulties encountered.

• 4:00-4:30 p.m., "Polyurea Applied Over 30 Gage Galvanized Flashing," by Ernst Toussaint, EIT, PCS, Sherwin-Williams Protective & Marine Coatings

Several coating systems and designs were chosen to protect a concrete chamber with sidewalls coated with a polyvinylidene fluoride (PVDF) material. This paper will discuss which coatings systems exhibited the best adhesion value per ASTM D4541.

• 4:30-5:00 p.m., "New Developments in Aliphatic Polyurea Coatings," by Paul Wiggins, Albemarle Corporation

The presenter will discuss key markets for polyurea thick-film coatings, fundamentals of curatives for polyurea thick-film coatings, a new aliphatic diamine, and formulations and performance of the new aliphatic diamine in polyurea thick-film coatings.

SSPC Committees to Meet In Tampa

The Dali Museum. All photos courtesy of Tampa Bay & Company

The following is a list of the SSPC Committees scheduled to meet at SSPC 2012. Dates and times are provided. Check www.sspc2012.com for updates to the schedule, including room assignments and times. For more information about committees, contact Aimée Beggs at beggs@sspc.org.

MONDAY, JAN. 30

- Standards Review Committee, 8:00–11:00 a.m.
- C.2.0, Surface Preparation Steering Committee, 1:30–3:30 p.m.
- C.1.0, Coatings Steering Committee, 3:30–5:00 p.m.

TUESDAY, JAN. 31

- Committee Workspace Training, 10:00 a.m.–Noon
- SSPC Nuclear Coating Initiatives Committee, 10:00–11:30 a.m.
- C.2.1, AB 1 Revision Committee, 1:30–3:00 p.m.
- C.1.3.D, Polyurethane Coatings Committee, 1:30–3:00 p.m.
- NBPI Instructors Meeting, 2:00–4:00 p.m.
- C.2.15, Guide 15 Revision Committee, 3:30–5:00 p.m.
- C.1.14, CS 23.00 Revision Committee, 3:30–5:00 p.m.

WEDNESDAY, FEB. 1

- C.2.14, Effect of Soluble Salts on Coatings Committee, 8:30–10:00 a.m.
- C.1.8, Fluoropolymer Coatings Committee, 8:30–10:00 a.m.
- TG 323, Wet Abrasive Blast Cleaning Report, 8:30–10:00 a.m.
- PCCP Advisory Committee (Open Meeting), 10:00 a.m.–Noon
- C.2.11, Compliance with Steel Profile Requirements, 10:30 a.m.–Noon
- C.3.7, QP 5 Revision Committee, 10:30 a.m.–Noon
- C.8, CCC Commercial Coatings Committee (Main), 11:00 a.m.–Noon
- PCCP Advisory Committee (Business Meeting), 1:30–3:30 p.m.
- Commercial Coating Materials Committee, 1:30–3:00 p.m.
- Commercial Flooring Committee, 1:30–3:00 p.m.
- C.1.1.2, Painting Galvanized Steel Committee, 1:30–3:00 p.m.
- C.2.16, AB 2 Revision Committee, 1:30–3:00 p.m.
- C.2.12, Location of Salt Measurements Committee, 3:00–4:30 p.m.
- C.1.1, Paint 29 Revision Committee, 3:00–4:30 p.m.
- Commercial Cleaning and Painting Committee, 3:00–4:30 p.m.
- Commercial Air Barrier Coatings Committee, 3:00–4:30 p.m.
- Commercial Contractor Certification Committee, 4:30–5:30 p.m.

THURSDAY, FEB. 2

- C.1.13, Wastewater, 10:00 a.m.–Noon
- C.5.3.A, Containment (Guide 6 Revision), 10:00 a.m.–Noon
- Informational Meeting AISC-SSPC Shop Qualification Program, 10:30–11:30 a.m.
- SSPC Instructors Meeting (Open), 12:30–2:30 p.m.
- C.1.4.C, Waterborne Acrylic (Paint 23 Revision), 1:30–3:00 p.m.
- Education Committee, 3:30–5:00 p.m.
- SSPC Instructors Committee (Invitation Only), 3:30–5:00 p.m.
- SRC Wrap-Up, 4:30–5:30 p.m.

SSPC 2012 Exhibitors Ready to Show Off the Best in the Industry

Over 100 exhibitors have already claimed space at SSPC 2012 featuring GreenCOAT. Familiar faces and first-timers round out the exhibition hall list to make sure attendees leave with all of the information they came for.

Don't let the exhibit hall overwhelm you—start planning today with this list of exhibitor descriptions, when available, plus booth numbers and contact information. Turn to p. 110 for a quick reference of just the company names and corresponding booth numbers. All information is current as of press time and known updates will be provided in the Jan. 2012 *JPCL*.

For further details, contact Kate Jurik at SSPC at jurik@sspc.org.

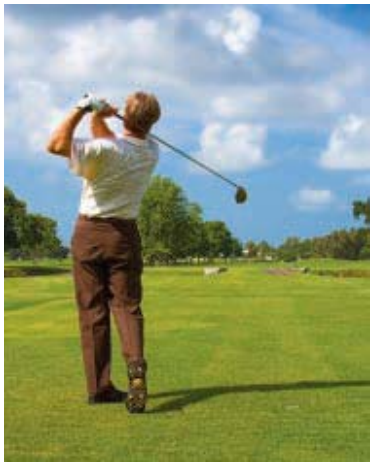
- **Abrasives, Inc.** manufactures Black Magic® coal slag and Dakota Gold™ silica sand. Rail access allows the company to deliver abrasives in the U.S. and Canada. Glen Ullin, ND; phone: 701-348-3610; abrasivesinc.com. Booth 741. ***See our ad, p. 81.***
- **Advanced Recycling Systems, Inc.** sells, rents, supplies, and services abrasive blasting, vacuuming, and dust collection equipment. Lowellville, OH; phone: 830-536-8210; arsrecycling.com. Booth 542. ***See our ad, p. 112.***
- **Aggreko LLC** is a leader in rental power, temperature control, and 100% oil-free compressed air systems, providing 24/7 service support from over 50 locations nationwide. Houston, TX; phone: 800-244-7356; aggreko.com/northamerica. Booth 316.
- **Air Systems International** has manufactured confined space ventilation kits, breathing air panels, portable filtration systems, and environmental products for the past 25 years. Chesapeake, VA; phone: 757-424-3967; airsystems.com. Booth 813. ***See our ad, p. 92.***
- **Arid Dry by CDIMS** manufactures mobile desiccant dehumidifiers for temporary humidity control and constructive drying. Features include special filtration, cooling, and heating; units are available in 600-25,000 CFM supply volumes. Brighton, MI; phone: 810-229-7900; cdims.com. Booth 412. ***See our ad, p. 84.***
- **ArmaKleen Co.** manufactures Armex from Arm & Hammer, a baking soda-based abrasive used for cleaning and preparing a variety of surfaces from steel to aluminum, masonry, wood, and glass. Princeton, NJ; phone: 609-497-7220; armex.com. Booth 417. ***See our ad, p. 101.***

EXHIBIT HOURS

TUESDAY, JAN. 31
5:00 p.m.: Exhibit Hall Reception
5:00–8:00 p.m.: Exhibit Hall Open

WEDNESDAY, FEB. 1
11:00 a.m.–4:00 p.m.: Exhibit Hall Open
11:30 a.m.–1:00 p.m.: Lunch with the Exhibitors

THURSDAY, FEB. 2
10:00 a.m.–3:00 p.m.: Exhibit Hall Open
11:30 a.m.–1:00 p.m.: Lunch with the Exhibitors
1:30–3:00 p.m.: Exhibit Reception



Left: Outdoor sports
Facing page: Channelside Bay Plaza
Below: Tampa Convention Center
All photos courtesy of Tampa Bay & Company

Tampa Marriot Waterside Hotel & Marina

• **Atlantic Design Inc.** is an engineering and manufacturing firm that rents and sells new and used equipment and supplies for abrasive blasting. It also upgrades, retrofits, and troubleshoots existing equipment. Abingdon, MD; phone: 410-631-1870; calladi.com. Booth 942. ***See our ad, p. 110.***

• **AXXiom Manufacturing Inc.™** provides Schmidt® abrasive blast equipment and other engineered air blast systems. Fresno, TX; phone: 800-231-2085; axxiommfg.com. Booth 416.***See our ad, p. 35.***

• **Batta Environmental Associates, Inc.** provides the full package of environmental and health/safety compliance services during the abatement of lead-based paint and coatings from bridges and other infrastructure. Newark, DE; phone: 302-737-3376; battaenv.com. Booth 841.

• **BlastPro Manufacturing** manufactures a complete line of shotblasting, scraping, and cutting surface preparation equipment compatible with Blastrac® equipment, and breakdown equipment for cleaning steel storage tank floors. Oklahoma City, OK; phone: 405-491-6464; blastpromfg.com. Booth 827. ***See our ad, p. 34.***

• **Carboline Co.** offers a comprehensive line of high performance coatings, linings, and fireproofing that are both applicator-friendly and owner-preferred for steel and concrete protection. St. Louis, MO; phone: 314-644-1000; carboline.com. Booth 604. ***See our ads, inside front cover and p. 109.***

• **CESCO/Aqua Miser** is a major supplier of abrasive blasting equipment, paint spray equipment, and safety equipment and manufactures the Ultra High Pressure Water Blaster "Aqua Miser." North Charleston, SC; phone: 843-760-3000; blastandpaint.com. Booth 704.

• **CHLOR*RID International Inc.** is a world leader in soluble salt information, CHLOR*TEST field test kits, soluble salt removal products, the HOLD*BLAST surface passivator, and education for surface prepara-

tion. Chandler, AZ; phone: 480-821-0039; chlor-rid.com. Booth 714. ***See our ad, p. 99.***

• **Cleaner Blast Solutions** Wakefield, MA; phone: 978-857-0473; cleanerblast.com. Booth 304.

• **Clemco Industries Corp.** manufactures abrasive blast equipment and related products, including portable blast machines, specialty blast products, operator safety equipment, blast cabinets, recovery systems, and blast rooms. Washington, MO; phone: 636-239-0300; clemcoindustries.com. Booth 1120. ***See our ad, p. 111.***

• **Clothes Cleaning Systems** offers the CCB II Dust Removal/Decontamination system, which removes 95% of visible dust from clothing in less than 18 seconds and is accepted for use by NIOSH. Wilson, NC; phone: 252-243-2383; clothescleaningsystems.com. Booth 1027.

• ***CoatingsPro* Magazine** offers an in-depth look at coatings based on case studies, successful business operation, new products, industry news, and the safe use of coatings and equipment. San Diego, CA; phone: 858-768-0828; nace.org. Booth 911.

• **The Comex Group** is a leading manufacturer and distributor of quality paints and coatings and the fourth largest architectural paint manufacturer in North America. Greenwood Village, CO; phone: 720-236-7808; thecomexgroup.com. Booth 1026.

• **Croda** will launch a new line of Crodacor corrosion inhibitors for aqueous coatings at SSPC 2012. It offers high-performance and environmentally friendly solutions. New Castle, DE; phone: 302-429-5371; crodacoatingsandpolymers.com. Booth 516.

• **CSI Services, Inc.** is an SSPC-QP 5-certified coating inspection firm that provides third party services throughout the coatings industry, including water and wastewater, petrochemical, power, and military. Santa Clarita, CA; phone: 415-305-4018; csiservices.biz. Booth 910.

• **Cytec Industries** develops, manufactures, and sells products to serve a diverse range of end markets including aerospace composites, structural adhesives, automotive and industrial coatings, inks, plastics, and more. Marietta, GA; phone: 973-357-3100; cytec.com. Booth 836. ***See our ad, p. 105.***

• **Dampney Co. Inc.** manufactures coating systems including Dymacryl Protective Masonry Treatments, Elastoid Elastomeric Rubber Coatings, Endcor Corrosion-Resistant Coatings, Epodur Concrete Coatings, Thurmalox Heat-Resistant Coatings, and Apexior for immersion. Everett, MA; phone: 617-389-2805; dampney.com. Booth 1036.

• **DeFelsko Corp.** manufactures PosiTector 6000, PosiTest, and PosiPen coating thickness gages and inspection instruments including surface profile gages, adhesion testers,

dew point meters, and wall thickness gages. Ogdensburg, NY; phone: 315-393-4450; defelsko.com. Booth 605.
See our ads, pgs. 13, 39, 55, and 85.

• **Dehumidification Technologies, Inc.** (DH Tech) provides temporary, mobile climate control equipment for dehumidification, heating, and cooling in the U.S. and Australia with a focus on desiccant dehumidification. Houston, TX; phone: 713-939-1166; rentdh.com. Booth 921. ***See our ad, p. 113.***

• **DESCO Manufacturing Co., Inc.** manufactures dust-free surface preparation tools designed to remove and contain lead, asbestos, silica, and beta hot spot decontamination with minimal secondary engineering controls. Rancho Santa Margarita, CA; phone: 949-858-7400; descomfg.com. Booth 1005.

• **Detroit Tarp Inc.** is a leading manufacturer of tarps, covers, and custom enclosures for 48 years. It will display materials used nationwide for containing lead from abatement and construction projects. Romulus, MI; phone: 734-955-8200; detroittarp.com. Booth 718. ***See our ad p. 97.***

• **Doosan Portable Power** has over 100 years of manufacturing expertise and application experience. Construction equipment includes mobile generators, air compressors, lighting systems, light construction equipment, and truck-mounted equipment. Statesville, NC; phone: 800-633-5206; doosanportablepower.com. Booth 1004. ***See our ad, p. 106.***

• **DRYCO, LLC** provides industrial climate control for the blasting and coating industry. It offers desiccant and mechanical dehumidification, cooling, heating, temporary power, and the DTAC remote monitoring system. Downers Grove, IL; phone: 630-541-7000; drycogroup.com. Booth 619. ***See our ad, p. 83.***

• **DUSTNET by EMI International** is a liquid dust suppressant that safely and effectively removes dust when used with all abrasives and other industrial minerals in applications including blasting, cement, and agriculture. Pensacola, FL; phone: 850-380-6214; dustnet.com. Booth 616. ***See our ad, p. 88.***


Tampa Bay History Center

• **Endura Manufacturing Company Ltd.** makes high-performance polyurethane and epoxy coatings. Product lines include industrial paint systems, easy clean coatings, and environmentally friendly primers and topcoats. Edmonton, AB; phone: 780-451-4242; endura.ca. Booth 436.

• **E.D. Bullard Co.** is a leading manufacturer of personal protective equipment marketed worldwide. Products include thermal imagers, hard hats, supplied air and powered air respirators, and air quality equipment. Cynthiana, KY; phone: 859-234-6611; bullard.com. Booth 1012. ***See our ad, p. 107.***

• **Eagle Industries** provides containment and supplies for the industrial painting industry including tarps, shrink wrap, scaffold sheeting, mesh screens, ventilation equipment, surface prep tools, dust collectors, and industrial vacuums. New Orleans, LA; phone: 504-733-3510; eagleind.com. Booth 521. ***See our ad, p. 19.***

• **EcoQuip® Inc.** is a manufacturing company that designs and builds eco-friendly, wet abrasive blasting equipment that suppresses 95% of dust, eliminates water runoff, and minimizes media consumption. Virginia Beach, VA; phone: 757-469-2005; ecoquip.com. Booth 310.
See our ad, p. 104.

• **Elcometer Instruments Ltd.** will showcase and demonstrate its entire line of inspection equipment for paint and protective coatings, such as adhesion testers, surface profilers, and holiday/pinhole detectors. Rochester Hills, MI; phone: 248-650-0500; elcometer.com. Booth 504. ***See our ad, p. 3.***

• **EnTech Industries, LLC** has been manufacturing high-performance and quality dust collectors for 15 years. It has machines ranging from 2,000-60,000 cfm. East Grand Forks, MN; phone: 218-773-6602; entechindustries.com. Booth 1142. ***See our ad, p. 79.***

• **Ervin Industries** is a leading producer of carbon steel and stainless steel metal abrasive sold under the brand names Amasteel and Amacast. It offers application assistance and on-site training. Ann Arbor, MI; phone: 734-769-4600; ervinindustries.com. Booth 831. ***See our ad, p. 77.***

• **Evonik Degussa Corp.** develops specialty chemicals. It will present ways to formulate eco-friendly coatings with Acematt® Matting Agents, Aerosil® Fumed Silica, Aeroxide® Fumed Metal Oxides, and Aerodisp® Fumed Silica Dispersions. Parsippany, NJ; phone: 973-541-8000; evonik.com. Booth 406.

• **Farrow System** offers a patented coatings removal method that uses heat to speed the cleaning process. The Farrow System® is an eco-friendly blasting solution. West Chester, PA; phone: 610-431-1672; farrowsystem.com. Booth 904. ***See our ad, p. 101.***

• **Fischer Technology Inc.** offers hand-held coating thickness gages for precise measurement of various coatings on ferrous or non-ferrous substrates. Specific settings meet the requirements of SSPC-PA 2, IMO PSPC, and others. Windsor, CT; phone: 860-683-0781; fischer-technology.com. Booth 905. ***See our ad, p. 27.***

• **Forecast Sales Inc./Pirate Brand** is the home of Pirate Brand parts and equipment and is an industry-leading manufacturer and wholesaler of quality aftermarket sand blasting parts and equipment. Indianapolis, IN; phone: 317-829-0147; forecastsalesinc.com. Booth 643.

• **FS Solutions** has nearly 100 years of collective experience in industrial vacuum loading, sewer and catch basin cleaning, vacuum excavation, and industrial high-pressure waterblasting. Toledo, OH; phone: 888-415-4368; fssolutionsgroup.com. Booth 430.

• **Paul N. Gardner Co. (Gardco)** manufactures physical testing, quality control, and measurement instruments for the lab and field including film thickness, gloss, surface profile, pinholes, adhesion, color, viscosity, dust, chloride, dewpoint, and temperature. Pompano Beach, FL; phone: 954-623-5806; gardco.com. Booth 917. ***See our ad, p. 32.***

• **Geoblaster Equipment** manufactures and distributes wet blast equipment. Dunnville, ON; phone: 905-774-1410; gogeoblast.com. Booth 337.

• **Glidden Professional** offers decorative coatings dedicated exclusively to serving the needs of the professional marketplace, specifically commercial painting contractors, architects and specifiers, building owners, and facility managers. Strongsville, OH; phone: 440-297-8234; gliddenprofessional.com. Booth 1136.

• **GMA Garnet (USA) Corp.** is a leading supplier of garnets for the surface preparation industry. Material is available through its global distribution network and warehouses. Houston, TX; phone: 832-243-9300; garnetsales.com. Booth 424. ***See our ad, p. 69.***

• **Graco Inc.** manufactures dependable and accurate protective coatings equipment for spraying coatings and foam on the toughest materials, including plural-component proportioners, spray guns, transfer pumps, and accessories. Minneapolis, MN; phone: 612-623-6000; graco.com. Booth 522. ***See our ad, p. 5.***

The Florida Aquarium BaySpirit II

• **Granite Mountain Quarries** produces quality "silica free" nepheline syenite blasting abrasives. Three grades are available in both bulk and bags to meet your blasting needs. Sweet Home, AR; phone: 501-490-1535; mcgeorgecontracting.com. Booth 929.

• **Green Diamond Sand Products** offers environmentally safe, moisture-free abrasives with no free silica. Durability and sharp edges provide faster cutting. Custom blends can be used in numerous applications. Riddle, OR; phone: 541-874-3111; greendiamondsand.com. Booth 1034.

• **Greenman-Pedersen, Inc.**, an engineering and construction services firm, specializes in the development, design, and construction of infrastructure and building systems. Affiliate companies include GPI Southeast, Instrument Sales, Underwater Engineering Services, and CCC&L. Tampa, FL; phone: 813-632-7676; gpinet.com. Booth 729.

• **Hanes Supply Inc.** manufactures chain, nylon, slingmax, and wire rope slings, as well as provides quality industrial, rigging, and safety products. Buffalo, NY; phone: 716-826-2636; hanessupply.com Booth 727.

• **Harsco Minerals** is a green company that specializes in the beneficial reuse of industrial by-products. It produces the Original Black Beauty® abrasives. Mechanicsburg, PA; phone: 888-733-3646; harscominerals.com. Booth 912. ***See our ad, Back Cover.***

• **HippWrap Containment, Inc.** manufactures HippWrap containment systems for shrink-wrap containment, enclosures, and protective coatings. The company offers creative solutions to containment problems. San Diego, CA; phone: 858-541-2960; hippwrap.com. Booth 514. ***See our ad, p. 93.***

• **Hi-Temp® Coatings Technology, Inc.** offers industrial heat- and chemical-resistant

coatings for insulated and non-insulated stainless and carbon steels for high-temperature and cryogenic service. Products include primers, topcoats, and more. Acton, MA; phone: 978-635-1110; hitempcoatings.com. Booth 1020. ***See our ad, p. 7.***

• **HoldTight Solutions Inc.** manufactures HoldTight®102 Salt Remover/Flash Rust Inhibitor. It is non-hazmat and biodegradable and can be dissolved in water to pressure wash any surface, prevent rust, and degrease. Houston, TX; phone: 713-266-9339; holdtight.com. Booth 404. ***See our ad, p. 89.***

• **Hydrex Underwater Technology** offers Ecospeed, an environmentally safe, easy to apply underwater hull coating system that improves a ship's performance and provides long-term protection with a 10-year guarantee. Clearwater, FL; phone: 727-443-3900; hydrex.us. Booth 639.

• **Indian Valley Industries** manufactures containment tarps for lead blast media, debris, dust, overspray, and pollution control on waterways, bridges, and tanks for industrial coatings and sandblasting operations. Johnson City, NY; phone: 607-729-5111; iviindustries.com. Booth 923. ***See our ad, p. 95.***

• **Industrial Info Resources** Sugar Land, TX; phone: 713-783-5147; industrialinfo.com. Booth 1011.

• **Industrial Vacuum Equipment Corp.** manufactures the Hurricane line of industrial vacuum loaders. It sells and rents vacuums and dust collectors from locations throughout North America, including Canada. Ixonia, WI; phone: 920-261-1136; industrialvacuum.com. Booth 743. ***See our ad, p. 81.***

• **International Paint LLC** is a global coatings supplier committed to providing the highest level of corrosion protection with trusted brands like Devoe Coatings, Enviroline, and Ceilcote. Houston, TX; phone: 713-682-1711; international-pc.com. Booth 1130.

• **ITW Industrial Finishing (Binks DeVilbiss)** offers fluid handling and spray finishing equipment solutions for protective

coatings applications, spray guns, pumps, 2k, accessories, hoses, clean air coalescers, filters, and pressure tanks. Glendale Heights, IL; phone: 630-237-5169; binks.com. Booth 722. ***See our ad, p. 98.***

• **JAD Equipment Co. Inc.** will be showcasing painting, sandblasting, safety, lighting, and other inventory used in the blasting and painting industry. The company will also have a few new products. Youngstown, OH; phone: 330-746-6100; jadcousa.com. Booth 723. ***See our ad, p. 77.***

A La Carte Event Pavillion

• **Kennametal Inc.** manufactures high-production abrasive blast nozzles. It offers a wide selection of conventional and specialty blast nozzle designs in a variety of wear-resistant materials. Traverse City, MI; phone: 231-946-2100; kennametal.com. Booth 1104.

• **KTA-Tator, Inc. (KTA)** is a consulting engineering firm founded in 1949. KTA provides coating consulting, construction and steel fabrication inspection services, laboratory testing, and coating failure analysis and distributes inspection and monitoring equipment. Pittsburgh, PA; phone: 412-788-1300; kta.com. Booth 610. ***See our ad, p. 38.***

• **Longhai Duoling Saw Blade Co. Ltd.** is a manufacturer integrating R&D, design, manufacturing, and marketing. Products include alloy angular steel grit, steel shot, saw blade, and container corner castings and end door-frame inner columns. Xiamen, Fujian; phone: 86 592 8268536; duoleng.com. Booth 935.

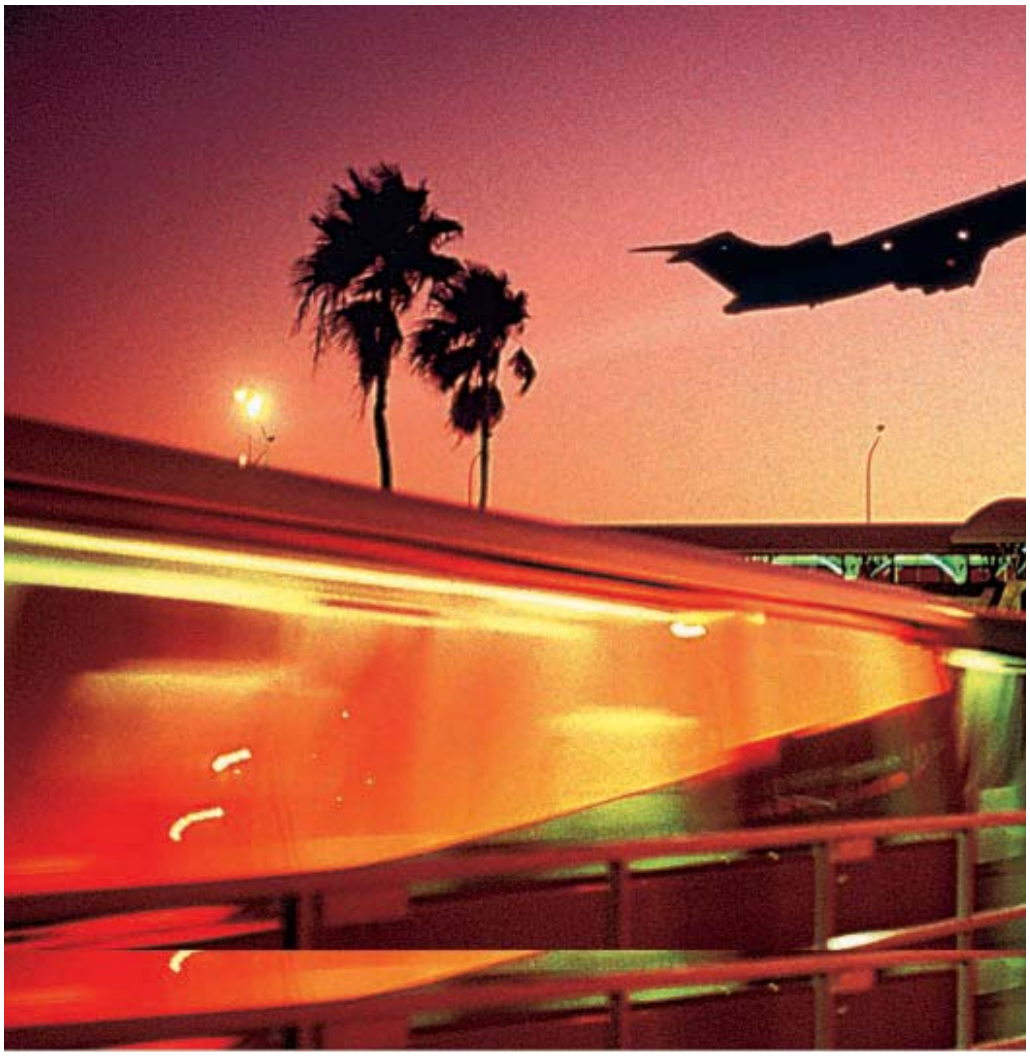
The Florida Aquarium

• **Marco** is a single-source solution for surface preparation products and services including abrasives, engineered systems, blasting, painting, rental and safety equipment, and service and repair. Davenport, IA; phone: 563-324-2519; marco.us. Booth 810.

• **Mascoat** offers a thermal insulating coating that prevents CUI and saves energy. It's applicable on substrates up to 400 F, is spray-applied, and allows for constant inspectability.

Houston, TX; phone: 713-465-0304; mascoat.com. Booth 828.

- **Midwest Rake Co. LLC** is a longstanding toolmaker and supplier of tools to the domestic and international protective and marine coatings and decorative concrete markets. Warsaw, IN; phone: 800-815-7235; midwestrake.com. Booth 822. ***See our ad, p. 45.***
- **Mohawk Garnet, Inc.** produces garnet abrasives for all surface preparation and waterjet cutting needs. Wahnapitae, ON; phone: 705-694-5783; mohawkgarnet.com. Booth 620.
- **Monarflex by Siplast** offers Super T-Plus and Super T-Plus Flamesafe scaffold sheeting systems in several roll lengths that are easy to install, durable, and have a patented grommet system. Irving, TX; phone: 469-995-2227; monarflexusa.com. Booth 811.
- **Montipower, Inc.** will showcase the MBX Bristle Blaster, a power tool that removes corrosion, scale, and coatings and imparts a 3-mil profile. Manassas, VA; phone: 703-396-8777; mbxit.com. Booth 615. ***See our ad, p. 62.***
- **NACE International, The Corrosion Society,** focuses on corrosion control and provides standards, training, conferences, and publications that address corrosion issues. Houston, TX; phone: 281-492-0535; nace.org. Booth 913. ***See our ad, p. 21.***
- **National Equipment Corp.** will display its Neco Blast Couplings and complete product line. Brenham; TX; phone: 979-830-8030; hosecoupling.com. Booth 826.
- **Navcor Inc.** Clearwater, FL; phone: 727-299-9090; navcor.us. Booth 835.
- **NexTec, Inc./PreTox Systems** markets PreTox 2000, a system for rendering lead waste non-hazardous during abatement. The system works with all standard removal methods, including abrasive and mechanical. Dubuque; IA; phone: 563-589-1178; pretox.com. Booth 930. ***See our ad, p. 102.***
- **Nielson, Wojtowicz, Neu & Associates** St. Petersburg, FL; phone: 727-209-1803; nielsonbonds.com. Booth 739.



Tampa International Airport

Curtis Hixon Waterfront Park

• **Novatek Corp.** supplies and manufactures needle scalers, long-reach scalers, and special tool and vacuum systems (TVS) for removing and recovering hazardous materials such as lead-based paint. Exton, PA; phone: 610-363-7800; novatekco.com. Booth 305.

• **Novetas Solutions/New Age Blast Media** offers 100% post-consumer recycled crushed glass media that contains no heavy metals or toxins. Philadelphia, PA; phone: 215-551-3070; newageblastmedia.com. Booth 415. ***See our ad, p. 64.***

- **Olimag Sand** is the largest producer in eastern Canada of non-toxic abrasive for sand blasting. Its synthetic olivine JETMAG is produced in a rotary kiln at 2,300 F. Thetford Mines, QC; phone: 418-338-3562; olimag.com. Booth 419.
- **OPTA Minerals, Inc.** has been successful for 130 years and attributes its success to consistency—both in the exceptional quality of its products and the extraordinary level of service. Waterdown, ON; phone: 905-689-7361; optaminerals.com. Booth 534. ***See our ad, p. 108.***
- **Painters and Allied Trades LMCI** focuses on industry programs that enhance the market share and work opportunities of industry partners, the IUPAT, and its signatory employers. It specializes in productive labor manage-

ment relations. Hanover, MD; phone: 410-564-5860; lmcionline.org. Booth 528.

• **Pinnacle Central Co., Inc.** rents, sells, and services surface preparation equipment and abrasive for small or large blasting projects. Two locations serve industrial painting contractors in Florida, Georgia, and Alabama. Jacksonville, FL; phone: 904-354-5746; pinnaclecentral.com. Booth 1007.

Carnival Legend Cruise, Tampa Port

• **Pinovo AS** developed vacuum blast technology for surface preparation. It offers the onshore and offshore energy industries motorized tools for blasting pipes from 2–8 in. Bergen, Norway; phone: 47-56181200; pinovo.com. Booth 1022.

• **Polygon** provides dehumidification, heating, and cooling services and equipment for coating applications. A controlled climate can eliminate condensation, tank surface corrosion, and coating failures. Amesbury, MA; phone: 978-241-1317; polygongroup.us. Booth 805. ***See our ad, p. 96.***

• **Polyguard Products, Inc.** Ennis, Tx; phone: 214-515-5000; polyguardproducts.com. Booth 614.

• **PPG Protective & Marine Coatings** develops, manufactures, and supplies coatings that anticipate the demanding challenges of the global protective and marine coatings industries. Pittsburgh, PA; phone: 412-434-3275; ppg.com. Booth 804. ***See our ad, p. 59.***

• **Ring Power Systems** supplies new and used air compressors, air tools, and air compressor parts and services throughout Florida. It supplies Sullair, Atlas Copco, Hurricane, and Belaire brands. Riverview, FL; phone: 813-671-3700; ringpower.com. Booth 342. ***See our ad, p. 100.***

• **SAFE Systems** provides manufacturing, engineering, sales, parts, and service for its full line of portable and fixed blast facilities; and equipment for blasting, recovery, classification, and dust collection. Kent, WA; phone: 425-251-8662; safesys.com. Booth 915. ***See our ad, p. 68.***

• **Safety Lamp of Houston** is the North American distributor of Wolf Safety Lamp Co., specializing in pneumatic, LED, and fluorescent lighting solutions for all hazardous areas. Humble, TX; phone: 281-964-1019; safetylampofhouston.com. Booth 435. ***See our ad, p. 85.***

• **SAFWAY Services, LLC** is a manufacturer of engineered suspended access systems for use with bridges, buildings, and special structures. It sells and rents to contractors. Scotia, NY; phone: 518-381-6000; safway.com. Booth

832. ***See our ad, p. 114.***

- **Sanstorm** has manufactured abrasive blast equipment for over 70 years, including equipment with the no-clog pot. Houston; TX; phone: 713-869-2227; sanstormblasters.com. Booth 737. ***See our ad, p. 86.***
- **Sauereisen, Inc.** manufactures specialty cements and corrosion-resistant materials of construction including sealants, corrosion barriers, and substrate repair materials for the protection and restoration of wastewater infrastructure. Pittsburgh, PA; phone: 412-963-0303; sauereisen.com. Booth 617.
- **The Sherwin-Williams Co.** is a global protective and marine coatings company delivering asset protection, service, and specification support to customers from 3,900 locations worldwide. Cleveland, OH; phone: 216-516-2344; sherwin-williams.com/protective. Booth 916. ***See our ad, p. 63.***
- **Spider**, founded in 1947, manufactures, sells, rents, and services suspended access and safety equipment in 25 locations. It provides turnkey access solutions and Competent Person Training. Seattle, WA; phone: 206-577-0147; spiderstaging.com. Booth 818. ***See our ad, p. 83.***
- **Sponge-Jet, Inc.** bonds conventional abrasives with sponge to create a low-dust, low-rebound, dry recyclable abrasive for surface preparation. The abrasives extend the life of industrial coatings. Portsmouth, NH; phone: 603-610-7950; spongejet.com. Booth 511.
- **SSPC: The Society for Protective Coatings** is the only non-profit association that focuses solely on the protection and preservation of steel, concrete, and other industrial and marine structures through the use of high-performance coatings. It doesn't dilute its focus by involvement with other corrosion control technologies. Coatings and linings are all it does. They are everything it does. That's why SSPC is THE coatings society. Pittsburgh, PA; phone: 412-281-2331; sspc.org. Booth 726.
- **Sulzer Mixpac USA, Inc.** manufactures innovative packaging, dispensing, mixing/spray systems for 2K adhesives, sealants, and coatings, including industry-recognized Mixpac™, Quadro™, and Statomix™ cartidges, mixers, dispense guns, and spray tips. Salem, NH; phone: 603-681-2714; sulzer.com. Booth 934.
- **Surface Prep Supply** distributes abrasive blasting media and abrasive blasting equipment throughout Florida, Georgia, the Caribbean, and Central and South America. Haines City, FL; phone: 863-419-9673; prepsupply.com. Booth 517.
- **Tarps Manufacturing, Inc.** manufactures custom ground tarps, containment,

Tampa beaches

USF Contemporary Art Museum

building wraps, and strong nylon and poly mesh. It also specializes in treated fabrics, multi-layered tarps for sound reduction, and special printing. Meredosia, IL; phone: 217-584-1900; tarpsmfg.com. Booth 1114. ***See our ad, p. 73.***

• **Technology Publishing** will feature the *Journal of Protective Coatings & Linings* (*JPCL*); the e-newsletter PaintSquare News; Paint BidTracker, the only project lead service dedicated to coatings work; and *Durability + Design*, the recently launched print journal and daily e-newsletter read by architects, specifiers, contractors, and owners.

Pittsburgh, PA; phone: 412-431-8300; paintsquare.com. Booth 640.

• **Tesla Nanocoatings Ltd.** patented technology utilizes carbon in the form of fullerene carbon nanotubes to produce the toughest barrier coating with less corrosive cathodic potential. Massillion, OH; phone: 330-880-5229. Booth 907.

• **TFT-Pneumatic, LLC** offers revolutionary cutting and grinding tools for on and offshore locations that will not generate sparks or heat and can be used in explosive environments. Houston, TX; phone: 713-

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686-9400; tft-pneu.com. Booth 839. ***See our ad, p. 25.***

• **Thomas Industrial Coatings** offers various industrial coatings services including concrete coatings, fireproofing, industrial coating applications and lead abatement. Pevely, MO; phone: 636-475-3500; thomasindcoatings.com. Booth 1016.

• **Tnemec Co., Inc.** makes high-performance coatings for industrial and architectural applications on steel, concrete, masonry, and other substrates. Kansas City, MO; phone: 816-483-3400; tnemec.com. Booth 518. ***See our ad, p. 32.***

continued on page 108

continued from page 106

• **Tractel® Inc. Griphoist® Division** offers a complete line of man-riding equipment products, including Tirak® traction hoist, Skysafe® modular platforms, and Skybeam suspension systems. Norwood, MA; phone: 800-421-0246; tractel.com. Booth 738. ***See our ad, p. 132.***

• **Trimaco, LLC** offers products for jobsite protection and cleaning, including drop cloths, protective rolls, masking products, rags, towels and wipes, protective wear, paint strainers, and other paint sundries. Morrisville, NC; phone: 314-534-5005; trimaco.com. Booth 927.

• **TWRS–The Warehouse Rentals & Supplies** is the best source for quality abrasive blasting equipment, painting equipment, and related replacement parts. Greensburg, PA; phone: 800-621-2777; twrs.com. Booth 1042. ***See our ad, p. 23.***

• **Van Air Systems** is a designer and manufacturer of equipment that dries and purifies compressed air used for applying and removing coating systems. Lake City, PA; phone: 814-774-2631; vanairsystems.com. Booth 909. ***See our ad, p. 37.***

• **VRSim, Inc.**, makers of SimSpray™, creates virtual training systems designed to enhance skills for educational groups, trades, and government organizations. VRSim produces user-friendly, fully-immersive systems that provide a realistic learning environment. East Hartford, CT; phone: 860-893-0080; vrsim.net. Booth 1015.

• **W Abrasives** Bedford, VA; phone: 540-586-0856; wabrasives.com. Booth 322.

• **Wasser Corp.** is a manufacturer and supplier of a range of high-quality anticorrosion and protective coatings. Products include a variety of moisture cure urethanes and polyurea membranes. Auburn, WA; phone: 800-627-2968; wassercoatings.com. Booth 938.

• **Western Technology Lights** manufactures explosion-proof and low-voltage lighting, including the MightyLight LED product line and a complete line of deadman controls. Bremerton, WA; phone: 360-917-0080; westerntechnologylights.com. Booth 922.

• **WIWA LP** manufactures airless paint spraying equipment, including standard airless pumps, plural-component equipment, and other industrial systems. Alger, OH; phone: 419-549-5180; wiwalp.com. Booth 311. ***See our ad, p. 103.***

• **The Wooster Brush Co.** produces over 2,300 coating application and prep tools for numerous industrial applications. Product innovation and quality sets Wooster apart. Wooster, OH; phone: 330-264-4440; woosterbrush.com. Booth 515.

Exhibitors at a Glance

The following is a list of all companies exhibiting at SSPC 2012 and their booth numbers known to *JPCL* at press time. For more information on the exhibitors, check out the descriptions starting on p. 90 of this issue.

- Abrasives Inc. ...741
- Advanced Recycling Systems, Inc. ...542
- Aggreko LLC...316
- Air Systems International...813
- Arid Dry by CDIMS...412
- ArmaKleen Co. ...417
- Atlantic Design...942
- Axxiom Manufacturing Inc./Schmidt...416
- Batta Environmental Associates...841
- BlastPro Mfg...827
- Carboline Co. ...604
- CESCO/Aqua Miser...704
- Chlor*Rid International Inc. ...714
- Cleaner Blast Solutions...304
- Clemco Industries Corp. ...1120
- Clothes Cleaning Systems...1027
- *CoatingsPro* Magazine...911
- Comex Group...1026
- Croda...516
- CSI Services, Inc. ...910
- Cytec Industries...836
- Dampney Co. Inc. ...1036
- DeFelsko Corp. ...605
- Dehumidification Technologies, Inc. ...921
- DESCO Manufacturing Co., Inc. ...1005
- Detroit Tarp Inc. ...718
- Doosan Portable Power...1004
- DRYCO, LLC...619
- DUSTNET by EMI...616
- E.D. Bullard Co....1012
- Eagle Industries...521
- EcoQuip Inc. ...310
- Elcometer Instruments Ltd. ...504
- Endura Manufacturing Company Ltd. ...436
- EnTech Industries, LLC...1142
- Ervin Industries...831
- Evonik Degussa Corp. ...406
- Farrow Systems...904
- Fischer Technology Inc. ...905
- Forecast Sales Inc./Pirate Brand...643
- FS Solutions...430
- Paul N. Gardner Co. ...917
- Geoblaster Equipment...337
- Glidden Professional...1136
- GMA Garnet (USA) Corp. ...424
- Graco Inc. ...522
- Granite Mountain Quarries...929
- Green Diamond Sand Products...1034
- Greenman-Pedersen, Inc. ...729
- Hanes Supply Inc. ...727
- Harsco Minerals...912

- HippWrap Containment...514
- Hi-Temp Coatings Technology...1020
- HoldTight Solutions Inc. ...404
- Hydrex Underwater Technology...639
- Indian Valley Industries...923
- Industrial Info Resources...1011
- Industrial Vacuum Equipment Corp. ...743
- International Paint LLC...1130
- ITW Industrial Finishing...722
- JAD Equipment Co. ...723
- Kennametal Inc. ...1104
- KTA-Tator, Inc. ...610
- Longhai Duoling Saw Blade Co., Ltd...935
- Marco...810
- Mascoat...828
- Midwest Rake Co. LLC...822
- Mohawk Garnet, Inc. ...620
- Monarflex by Siplast...811
- Montipower, Inc. ...615
- NACE...913
- National Equipment Corp. ...826
- Navcor Inc. ...835
- NexTec, Inc./PreTox...930
- Nielson, Wojtowicz, Neu & Assoc. ...739
- Novatek Corp. ...305
- Novetas Solutions...415
- Olimag Sand...419
- OPTA Minerals, Inc. ...534
- Painters & Allied Trades LMCI...528
- Pinnacle Central Co., Inc. ...1007
- Pinovo AS...1022
- Polygon...805
- Polyguard Products, Inc. ...614
- PPG Protective & Marine Coatings...804
- Ring Power Systems...342
- SAFE Systems...915
- Safety Lamp of Houston...435
- SAFWAY Services, LLC...832
- Sanstorm...737
- Sauereisen...617
- The Sherwin-Williams Co....916
- Spider...818
- Sponge-Jet Inc. ...511
- SSPC: The Society for Protective Coatings...726
- Sulzer Mixpac USA, Inc. ...934
- Surface Prep Supply...517
- Tarps Manufacturing, Inc. ...1114
- Technology Publishing/PaintSquare...640
- Tesla Nanocoatings Ltd. ...907
- TFT-Pneumatic, LLC...839
- Thomas Industrial Coatings...1016
- Tnemec Co....518
- Tractel Inc. Griphoist Division...738
- Trimaco, LLC...927
- TWRS The Warehouse Rentals & Supplies...1042
- Van Air Systems...909
- VRSim, Inc. ...1015
- W Abrasives...322
- Wasser Corp. ...938
- Western Technology...922
- WIWA LP...311
- Wooster Brush...515

Crossword

by Andy Folmer, PaintSquare

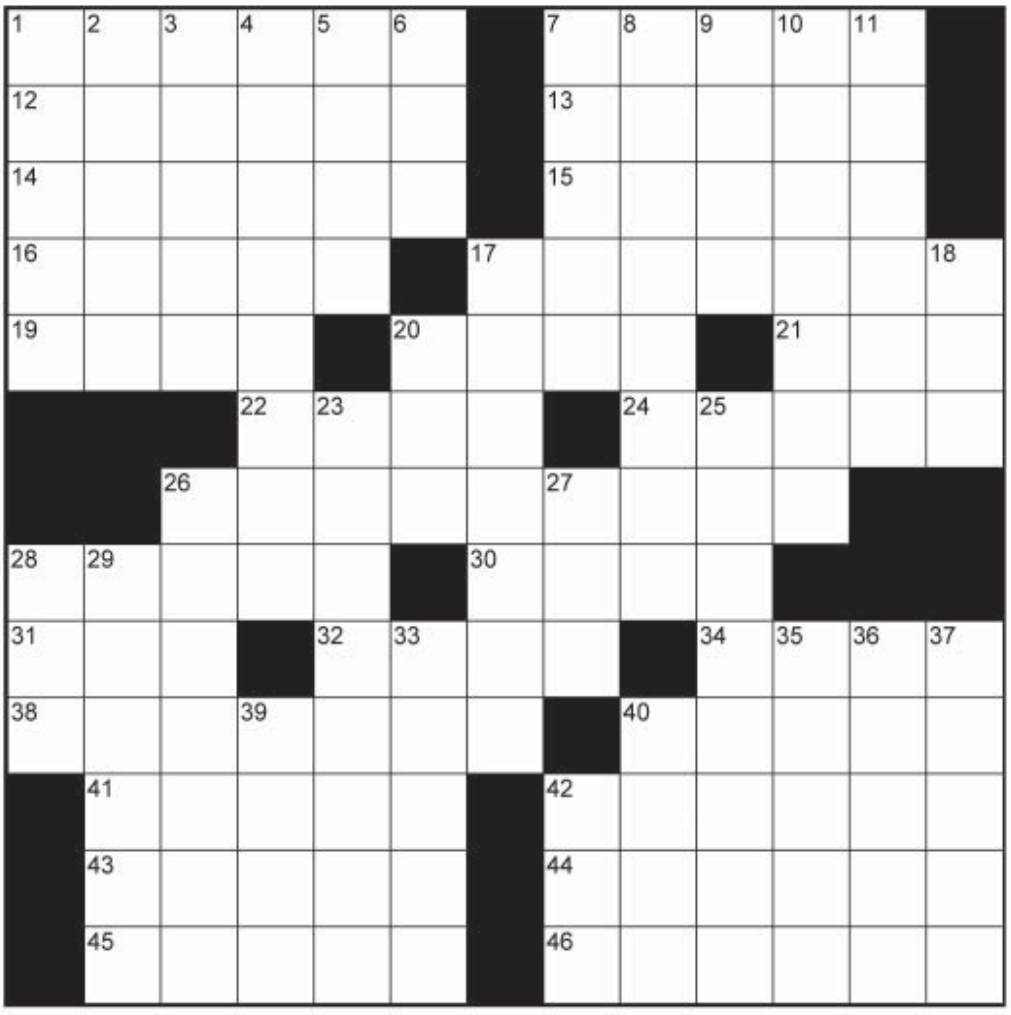
Coatings Barnyard

ACROSS

1 Sounded like a cat
7 Young pigeon
12 Get there
13 Prize
14 End without the point
15 "Let there be ___"
16 Election participant
17 Device used to inspect oil lines
19 Birthplace of Zeno
20 Subjects of a pied piper's charms
21 Pindar poem
22 Food networks featuring local, organic produce
24 Small crowd
26 Coating defects with small, geometric cracks
28 Woods or Mickelson
30 Gossamer
31 Pelt
32 "Leaving Las Vegas" star
34 Low-ranking soldiers: Abbr.
38 Small, crater-like coating defect
40 Capital of Egypt
41 Tractor inventor
42 He who hesitates
43 Rarin' to go
44 On fire
45 Those seen on a walk of fame
46 Stops

DOWN

1 Quinlan of "South of Nowhere"
2 Swashbuckler Flynn
3 Speak formally
4 Smart aleck
5 "If ___ I Would Leave You": Lerner and Loewe song
6 Berlin article
7 Dessert featuring a banana
8 One making witty remarks
9 Psych up
10 Tennessee town on the Mississippi River
11 Happen to
17 Bit of Scripture
18 ___ whiz!
20 Common way to serve oysters
23 "Dungeons & Dragons" character class
25 Paul and Paula's 1963 hit
26 Baby-shower gift
27 Exclamation of distate
28 Sound made by leaking balloon
29 Leads
33 ___ Rock (Australian sandstone formation)
35 They may be needed for entry
36 HBO series set in New Orleans
37 Pains or aches
39 Air filter type designed as a defense to chemical warfare
40 Word with sidewalk or internet
42 Atl. relative



(Answer next month)

The Takeaway

Stray Thoughts

By Karen Kapsanis
JPCL

In my musings these past few months on our redesign, I wondered what you would think of it. My thoughts strayed in every direction, and I found myself playing with the title of this new column. I think there are a few takeaways from this issue.

Here's one: Read the whole Advance Program for SSPC 2012 featuring GreenCOAT (pp. 56–116) to start planning your getaway to Tampa and your takeaway from SSPC 2012.

Here's another: *JPCL* is not taking away anything from you, our valued readers. Instead, we are offering you more, not less.

We have indeed updated our look, and we have added four new columns. But we have done all of this with no plans whatsoever of taking away anything from the kinds of *JPCL* features and regular columns that we have published since 1984—articles that emphasize good painting practice, advances in the technology of corrosion protection through coatings, developments in consensus standards, and the importance of maintenance painting to preserve our public and private infrastructure.

In fact, *JPCL* is offering so much in 2012 that we couldn't fit it all into our usual 12 issues. We will add an issue in 2012 to feature 24 of the industry's and *JPCL*'s strongest contributors, the recipients of the award, *JPCL*'s Top Thinkers: The Clive Hare Honors. The 13th issue will be in your mailbox next August. Moreover, our regular 12 issues will include articles from the recipients as they continue to share their insights to advance the industry. You'll read more about the awards in the coming months.

And here's a third takeaway: I wish you all a healthy, fulfilling, and prosperous new year.

BTW: As for my cat, Ivy, yes, she was a stray, and yes, she looks a little cranky up there because I interrupted her thoughts.