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Vol. 14 No. 6 August/September 2014

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From the Editor's Desk

Dear Readers,

As you no doubt saw on our cover, this is our annual Concrete Decor Show issue, and this year the show is in Texas — Fort Worth, specifically.

This year's Show is looking like it will be our biggest ever. We will have a record number of companies setting up booths in our Exhibit Hall. The schedule looks especially strong, featuring new attractions like sessions on insulating concrete forms alongside perennial favorites like the Decorative Concrete Hall of Fame dinner. As always, you can find everything you need to know at ConcreteDecorShow.com.

You'll be able to take care of a lot of business when you spend time with us in Fort Worth. That said, I wanted to point you to three things I'm particularly sure you want to accomplish when you're here.

Improve your portfolio. Every year, the Show directs a decorative concrete makeover of a local nonprofit facility. This year, the makeover will take place at the Presbyterian Night Shelter. We've scheduled two-day workshops that will cover polishing, restoration, acid stains, vertical applications, imprinted concrete, inlaid graphics and metallics.

These workshops are hands-on. You don't stand and watch — you get in the mud with your classmates and trainers. You're working on a real-world project for a real customer. When you're done, you can add an impressive recommendation and pictures of your finished work to your portfolio.

Get ready for next year. We've moved our annual show from spring to fall, so contractors and suppliers who attend can talk about the winter work cycle and begin planning for the coming year.

Our exhibit hall will be ground zero for all the Next Big Things in the decorative concrete trades. We will be offering demos and presentations on the floor each day. What's more, our exhibitors will be showcasing the tools, equipment and materials that are explored in our workshops and traning sessions. This show is your chance to try out the cool stuff you see in the pages of every issue of our magazine.

Win money and recognition. If you want to get some national attention for your work, we have a friendly competition that will boost your profile. It's called the Brawl in the Fall. The winner of the competition will receive $10,000 in prizes, but every participant will get a chance to show off for suppliers and peers. You could launch all kinds of partnerships from this kind of platform.

See you at the end of September.

Sincerely,

John Strieder
Editor

On the cover: The Perot Museum of Nature and Science in downtown Dallas is clad in 656 textured precast concrete panels. For more, see page 96.
Photo by Jenifer McNeil Baker

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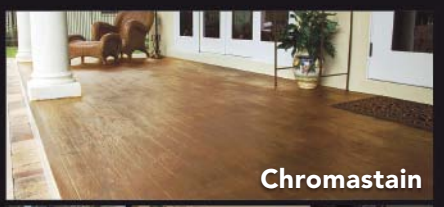
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August/September 2014

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concrete DECOR® EXPERTS

Doug Carlton *is working on his third decade in the decorative concrete industry. He's the owner of Carlton Construction, located at the base of the Big Horn Mountains in northeastern Wyoming. Doug can be reached at carltondoug@sbcglobal.net. See Doug's column, "Carlton's Corner," on page 64.*

Mark Celebuski *is a partner at Trinic LLC, a company that offers protective solutions for concrete, stone and tile. He can be reached at mark@trinic.us. See Mark's article on page 16.*

Jeremy French *founded Mandala Studio, a North Carolina artisan concrete studio that's now the research and development division of Delta Performance Products LLC. Reach Jeremy at jeremy@buddyrhodes.com and see his articles on pages 74 and 77.*

Julio Hallack *is president and CEO of Concrete by Hallack, based in Turlock, California. He can be reached at hallackj@concretebyhallack.com. See Julio's article on page 50.*

Jason Spangler *has successfully launched a variety of products to the market, including the original Rapid RH concrete moisture tests. He currently works with Wagner Meters as the Rapid RH product sales manager. Reach him at jspangler@wagnermeters.com. See Jason's article on page 80.*

David Stephenson *owns Polished Concrete Consultants, based in Dallas, Texas. As a consultant, he offers decorative concrete programs for retailers and troubleshooting for a wide range of clients. Contact him at david@polishedconsultants.com. See David's column, "The Polishing Consultant," on page 86.*

Chris Sullivan *is vice president of sales and marketing with ChemSystems Inc. He has led seminars and product demonstrations throughout North America. Reach him at questions@concretedecor.net. See Chris' column, "Concrete Questions," on page 62.*

Karen Van Heukelem *wears many hats at Denver-based Colorado Hardscapes Inc., including business development, marketing, sales, estimating and project management, with an emphasis on specialty rock construction. She can be reached at karen@coloradohardscapes.com. See Karen's article on page 30.*

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Concrete Design School begins offering workshops in Tempe, Arizona

Brandon Gore, of Gore Design Co. and Hard Goods, recently launched a new training program for professionals called Concrete Design School. Based in Tempe, Arizona, the school offers stand-alone workshops that cover fabric-forming, mold-making, casting with pumps and transporting the finished product.

Gore's been involved in training since 2005, when he conducted the world's first class on creating concrete sinks and countertops using GFRC (glass-fiber reinforced concrete). In 2008 he taught the industry's first class on fabric-forming. Concrete Design School is the continuation and progression of those efforts. When Gore began working with GFRC, the techniques were still new and there was no training available. Gore's classes helped concrete reach an ever-broadening market and allowed contractors to take their skills to the highest level. Gore's classes are 1 1/2 days to 2 1/2 days in length.

(480) 209-4241

www.concretedesignschool.com

ICF manufacturers form new industry association

Four leading insulated concrete form manufacturers have created a new industry association. Logix Insulated Concrete Forms Ltd., Nudura Corp., Quad-Lock Building Systems Ltd. and Superform Products Ltd., who cumulatively represent the majority of the ICF products manufactured in North America, are the founding members of the Council of ICF Industries (CICFI). Andy Lennox, vice president, marketing, of Logix, was elected to be the chairman. Murray Snider, president and CEO of Nudura, will serve as vice chairman.

"The mission of the CICFI is to promote and enhance the social, environmental and economic value of insulating concrete forms in the North American marketplace," says Lennox. "Our industry has a great story to tell and we look forward to representing and growing the ICF industry in an energetic and professional manner. We've held a number of very productive meetings over the last few months during which we've identified our priorities and developed our initial action plans. Now that our association is officially up and going the implementation and execution begins. This association is long overdue. We are excited to get started and we look forward to additional ICF manufacturers joining us as we move forward."

(705) 928-3779

TRANSITIONS

Prosoco has recently hired two new regional sales managers, **Scott Sellers** for the Great Lakes region and **Zak Wilske** for the South. From his home base in Racine, Wisconsin, Sellers will serve customers in Wisconsin, Illinois, Indiana and eastern Missouri. With an extensive background in waterproofing, his primary focus will be the company's building envelope business unit. Contact: scott.sellers@prosoco.com

Wilske, based in Grand Prairie, Texas, will serve customers in Louisiana, the Mississippi panhandle, Dallas-Fort Worth, Houston, El Paso, northeastern Texas, southern Texas, western Texas, Oklahoma and New Mexico. Wilske brings to Prosoco more than eight years of experience as account manager. Contact: zak.wilske@prosoco.com

Bernard A. Pekor will be the American Concrete Institute's international business development director. Pekor will be responsible for business development and relationship building with industry organizations related to efforts outside the United States. Contact: bernie.pekor@concrete.org

Jacob Webb has transferred from a full-time role at NewLook International to a part-time role. Webb will no longer be responsible for business development, training, sales or technical support. To access customer support, contact the office directly at (801) 886-9495, or Peter Villagomez for sales at peter@getnewlook.com; Lindsey Gohm for technical support at lindsey@getnewlook.com or Ryan Horrocks for customer service and order fulfillment at ryan@getnewlook.com.

T.B. Penick & Sons Inc. has named **Scott Carter** as general manager of its new satellite office in the Bay Area of California. Carter is a 22-year veteran of the concrete contracting industry, and he will focus primarily on developing business for the company's Innovative Concrete Systems division, which specializes in architectural site concrete design and applications.

Rust-Oleum acquires Krud Kutter

RPM International Inc. has announced that its Rust-Oleum Group has acquired Krud Kutter Inc., a marketer of specialty cleaning products for both residential and industrial markets. Terms of the transaction were not disclosed.

Krud Kutter specializes in problem-solving cleaners and removers, which are water-based, biodegradable, nontoxic and VOC-compliant while offering superior performance characteristics. The brand is sold across the country in home centers, hardware stores, mass merchants and industrial supply outlets.

Ed Rice, former CEO of Krud Kutter and son of the founder of the business, will continue to lead this business as part of Rust-Oleum.

(877) 385-8155

www.rustoleum.com

New president for Concrete Polishing Association of America

The Concrete Polishing Association of America (CPAA) has announced a new president. Chad Gill, president of Concreate Inc., in Midlothian, Virginia, was elected by the CPAA board of directors at its annual

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board meeting in Las Vegas, Nevada, before the 2014 World of Concrete show. Gill has been a member of CPAA since 2012 and was elected to the board of directors in 2013.

In a CPAA memo released in July, Gill thanked Roy Bowman for guiding the CPAA since 2011. "Under Roy's leadership the CPAA has seen a rapid expansion in the membership, including a 15 percent increase in membership since the beginning of the year," he said.

Gill intends to use his term as president to push for greater member engagement, committee empowerment, and increased exposure at World of Concrete and the Concrete Decor Show. CPAA will have a booth at the Concrete Decor Show this fall in Fort Worth, Texas (Sept. 29-Oct. 3, 2014), and will sponsor a demonstration area where member manufacturers may show off their products. CPAA will also be launching two new educational programs, on testing polished concrete and chemical products for polished concrete. At World of Concrete 2015, CPAA will augment the annual members' meeting by commemorating its fifth anniversary.

Gill also plans to increase member engagement through a monthly newsletter that will provide updates on activities and progress. In time, the newsletter will be expanded to offer more content in the form of case study articles and FAQ responses from the technical hotline.

Gill plans to empower committees to be more flexible and efficient. He encourages members to join committees, as he plans to shift more responsibilities to them from the board.

(248) 848-3161

www.concretepolishingassociation.com

T.B. Penick expands with new office in the California Bay Area

T.B. Penick & Sons Inc., which is headquartered in San Diego, California, has announced a new satellite office in Hayward, California. This new office will allow Penick to bring their construction expertise to the Bay Area and have a local and active presence in the community.

Scott Carter has been named general manager of the new satellite office. A 22-year veteran of the concrete contracting industry, Carter will focus primarily on developing business for the company's Innovative Concrete Systems division, which specializes in architectural site concrete design and applications.

Penick is currently working on several projects in the Northern California area, including a CalTrain project in San Bruno, which involves installing architectural concrete at the platforms and stations, and a decorative concrete installation for a portion of the California Coastal Trail Project in Fort Bragg. The company recently undertook a light rail transit project in the Sacramento area installing decorative concrete platforms and station paving. Penick was also recently awarded a project at the Lake Merritt Sail Boat House in Oakland.

The new T.B. Penick office is located at 23785 Cabot Blvd., Suite 325, in Hayward, California. Penick performs work in all 50 states, in Guam and on three continents.

(800) 239-3046

www.tbpenick.com

New online application for California public works contractors

The California Department of Industrial Relations has launched an online application for public works contractors to meet the requirements of California Senate Bill 854. SB 854, which became effective June 20, establishes a new public works program to replace the Compliance Monitoring Unit and Labor Compliance Program requirements for bond-funded and other public works projects.

The new program will cover all public works in the state of California rather than just selected categories of projects. The Labor Commissioner's Office will continue to monitor and enforce prevailing wage requirements.

Contractors must register and meet requirements using the new online application before bidding on public works contracts in California. The application also provides agencies that administer public works programs with a searchable database of qualified contractors.

Contractors' requirements include that they maintain workers' compensation coverage for all employees and only hire subcontractors who are registered public works contractors. They must also hold a Contractors State License Board license, if required for their trade.

In addition, contractors must not be debarred from working on public works by the state or federal government and must have no delinquent wage or penalty assessments due to any enforcement agency or employee. Once registration becomes mandatory early next year, contractors will also be subject to penalties for bidding or working on public works without being registered with DIR.

Public works contractors can create an account online, pay the fee and complete the application securely. Application and renewal is completed entirely online with a nonrefundable fee of $300.

Agencies that administer public works projects may select from a pool of qualified contractors. They will no longer be charged fees for prevailing wage compliance monitoring and enforcement.

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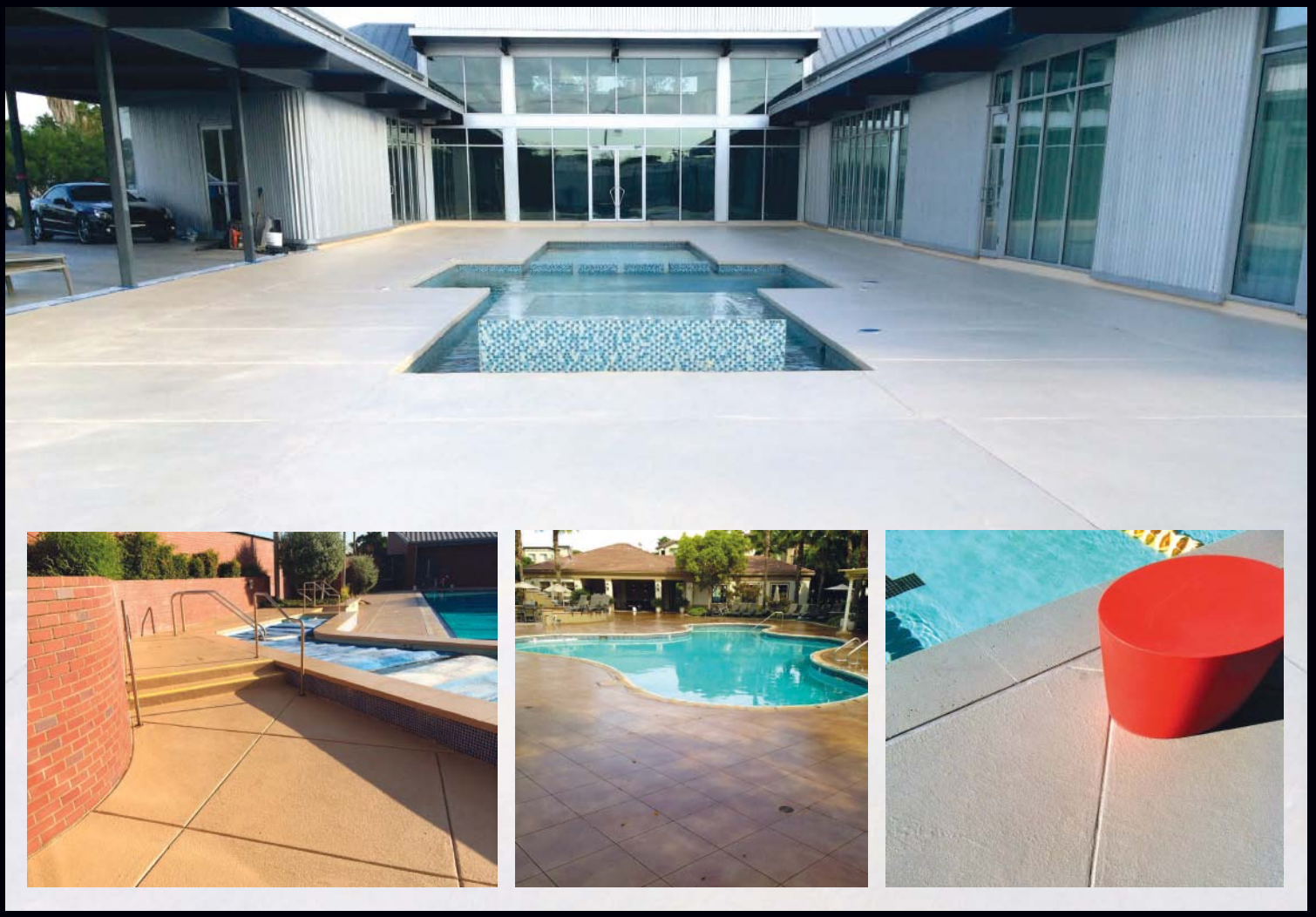

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Additional information on SB 854 and the new public works program is available on DIR's website.

(866) 924-9757

www.dir.ca.gov/DLSE/dlse.html

Ardex system addresses concrete finishing and moisture control

Ardex has introduced a revolutionary system to control moisture in new or existing concrete slabs, address tolerance and surface finish issues and eliminate the disparity between Divisions Three and Nine, while expediting construction schedules. Called Ardex Concrete Management System, or ACMS, the system addresses these challenges through a novel specifiable process of finishing concrete with an integrated system of moisture control and self-leveling underlayment products.

In new construction applications, the Ardex Concrete Management System saves time and labor by eliminating the traditional steel trowel step in the finishing process. The contractor will only place, consolidate, strike off and bullfloat or restraighten the surface, then allow the bleed water to dissipate. Following a wet-cover or liquid membrane cure (three- to seven-day minimum) and surface brush blast, a layer of Ardex self-leveling underlayment is installed either immediately after deflection or during interior buildout.

In some cases, ACMS can be installed with an early option, using both an Ardex Moisture Control epoxy followed by a self-leveling underlayment. This step allows almost immediate installation of finished flooring and mitigates risks due to moisture emissions from the slab. The resulting finish delivers a concrete substrate capable of meeting the most demanding flatness and levelness tolerances for both the flooring and other interior trades, while eliminating unplanned leveling and delays.

(888) 512-7339

www.ardexacms.com

www.ardexamericas.com

Ardex Americas Mansfield manufacturing site to double

When the Ardex Americas manufacturing plant in Mansfield, Texas, was built in 2009, it was approximately 35,000 square feet. The warehouse expansion that broke ground last month will accommodate growing business by adding 45,000 square feet.

The Ardex Plant in Mansfield employs 14 people on two shifts and will produce about 19,000 metric tons, or nearly 42 million pounds of product, in 2014. The location is also home to one of eight Ardex Academy Training Centers in North America.

(724) 203-5000

www.ardexamericas.com

EVENT CALENDAR

American Society of Concrete Contractors Annual Conference

Sept. 18-21, Denver, Colorado

www.ascconline.org

Tilt-Up Concrete Association (TCA) 2014 Convention

Sept. 29 – Oct. 1, San Jose, California

www.tilt-up.org/convention

Concrete Decor Show

Workshops:
Sept. 29-Oct. 3
Exhibits &
Education: Oct. 1-3
Fort Worth, Texas

www.concretedecorshow.com

American Concrete Institute Fall Convention

Oct. 26-30, Washington, D.C.

www.concrete.org

Polishing and Staining Conference regroups

The International Concrete Polishing and Staining Conference (ICPSC) recently announced changes to its conference schedule. The organization will postpone its next conference until fall 2015. During this time ICPSC will be forming an advisory board of manufacturers, contractors and industry leaders to best reflect the growth and evolution of the industry. Consideration will be given to conference locations, content and presentations.

In the meantime, the ICPSC has introduced Concrete Polishing University Online (CPU). Concrete Polishing University has produced an educational curriculum over the past several years of seminars, unmatched in scope and detail. All are topic-specific and presented by industry professionals and experts.

CPU online offers many of the benefits of the annual conference at a fraction of the cost. CPU is in essence a "virtual conference" that can be viewed in the comfort of a home or office.

Concrete Polishing University Online will offer the world's largest concrete polishing video library. This will allow conference followers, participants and others worldwide the ability to view many of the seminars developed over the years along with new material updates on a regular basis. You will also find an Industry Directory for concrete polishing along with individual "company channels" provided by leading manufacturers, industry experts and professionals.

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www.icpsc365.com

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ACI Foundation student fellowship and scholarship programs open

Applications are now being accepted by the American Concrete Institute for fellowship and scholarship programs for the 2015-2016 academic year. Currently the program offers 10 fellowships and nine scholarships. There are many ACI Foundation fellowship and scholarship opportunities for ACI student members and e-members. The deadline to apply is October 15, 2014.

www.scholarshipcouncil.org

Sika and McTech announce exclusive supply agreement

McTech Group Inc., specializing in innovative products for the concrete industry, and Sika Corp., a leading specialty chemicals company, have signed an exclusive supply agreement. Under the agreement McTech Group will be Sika's exclusive supplier of the UltraCure curing blanket products and the EZ Cover flooring protection products that will be sold by Sika under its Sika Greenstreak brand name. The UltraCure and EZ Cover product lines have historically been utilized by Fortune 500 companies and prestigious engineering and construction firms worldwide on concrete construction projects.

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Construction lending steadily climbs, says Wall Street Journal

On May 28, 2014, *The Wall Street Journal*'s "Real Time Economics" blog posted an article stating that construction loan volume is rebounding after a steep decline. According to the article, U.S. construction lending is seeing a slow, steady recovery much like what the rest of the nation's economy is experiencing.

The volume of outstanding loans increased 2.1 percent in the first quarter from the fourth quarter to $214.3 billion, according to Federal Deposit Insurance Corp. data. The increase was the fourth consecutive quarterly gain for construction loans since the measure bottomed out early last year. The FDIC data cover loans for both commercial and residential development.

All told, construction lending has rebounded by 6.3 percent from its nadir in the first quarter of 2013, but it remains 66.1 percent below its boom-era peak of $631.8 billion in outstanding loans in early 2008, the FDIC data shows.

Even so, builders regard the nascent turnaround as a sign that the economic recovery, and specifically the housing rebound, will continue, albeit at a measured pace. In terms of home construction, outstanding loans totaled nearly $45.7 billion in the first quarter, up 4.5 percent from the fourth quarter. That marks the fourth consecutive quarterly gain for construction lending to home builders, though the total remains nearly 78 percent below its peak of $203.8 billion in early 2008.

Builders in recent years have pointed to scarcity of financing as a primary factor restraining home construction. Home starts so far this year are at a pace of roughly 60 percent of their annual average since 2000. Though starts increased by 7 percent in the first four months of this year from the same period a year earlier, most of that gain came from construction of multifamily projects rather than single-family homes.

"The fact that the (total of outstanding loans) has stopped declining suggests that we've probably worked our way through some of the more troubled lending from the past," said Robert Dietz, an economist with the National Association of Home Builders. "It's a positive trend, and it suggests good things going forward."

But the 4.5 percent sequential gain in home-construction loans doesn't include loans to developers for the acquisition and development of residential land. Lenders consider those loans far more risky than lending for construction of homes, and therefore those loans remain difficult for many builders to obtain.

www.blogs.wsj.com/economics

READERS TALK BACK

Another Look at Polymer in GFRC

The April 2014 issue of Concrete Decor *contained an article by Jeffrey Girard, of The Concrete Countertop Institute, called "The Importance of Polymer Content in Trustworthy GFRC Mixes." In it, he discussed problems with using glass-fiber reinforced concrete that contains too little polymer and glass fiber. Mark Celebuski, partner at Trinic LLC, responds.*

By Mark Celebuski

If an engineer were to apply data collected from spray-up techniques to premix techniques, catastrophic failure could occur.

Spray-up GFRC is where the cementitious mix is run through a pump to a spray nozzle as a roving chopping gun cuts the fiber and mixes it into the mortar stream on the way to the form. Spray-up techniques typically use a 5 percent fiber load and longer fiber than premix techniques.

The vast majority of GFRC countertop fabricators and growing numbers of large-panel fabricators use premix techniques. In premix GFRC, the precut fiber is premixed with the mortar and either sprayed through a peristaltic pump, hand-laid into place, or cast as self-consolidating GFRC. Fiber load is typically 3 percent.

The author states, "the effective minimum dose of polymer solids in GFRC is 6 percent by weight." This extremely broad statement assumes that all polymers and GFRC additives are equal. The author is talking about specific liquid polymer that requires a 6 percent solids content to perform as shown in the data, which represents GFRC cast with a spray-up technique with a 5 percent fiber load.

Advances in technology have led to Trinic's development of a blended powdered GFRC admixture that has an acrylic micropolymer as one of the ingredients. This admixture (at a 3.5 percent solids dosage) performs equal to and in some cases better than liquid polymers (which require a 6 percent solids dosage) in independent laboratory testing. We worked with Gulfstream Manufacturing Group Inc. on the tests.

One of the tests required of a GFRC polymer/additive is the ability to eliminate the seven-day wet cure. Samples are made and tested in accordance with ASTM standards — some without polymer that are wet-cured the entire time, and some with polymer that are air-cured after initial overnight cure under plastic. The air-cured samples made with a polymer must be equal to or exceed the wet-cured samples that do not contain polymer in order for the GFRC additive to make the claim of eliminating the need for a seven-day wet cure. The powdered GFRC admix at a 3.5 percent dosage passes this test by a wide, trustworthy margin.

I would suggest end users contact the manufacturer of the GFRC admix they are using to learn the recommended dosages and review test data on that particular admixture, rather than lumping polymers together, which creates a very inaccurate picture.

Mark Celebuski is a partner in Trinic LLC, a company that provides protective solutions for concrete, stone and tile. He can be reached at mark@trinic.us.

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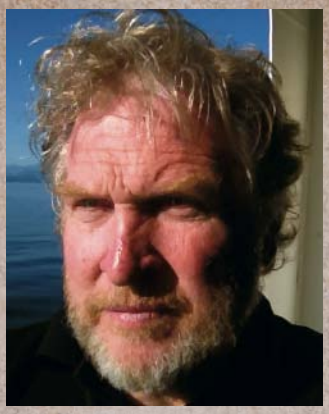
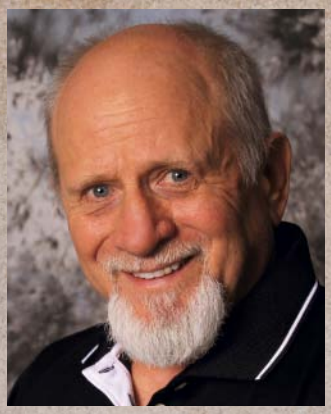
Decorative Concrete Hall of Fame

The 2014 Inductees



Gary Jones



Frank Lewis

Jon Nasvik

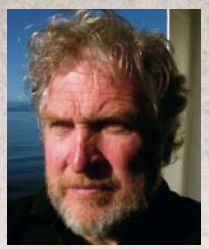
The Decorative Concrete Hall of Fame is pleased to honor its inductees for 2014: Gary Jones, Frank Lewis and Jon Nasvik. The Hall of Fame will announce the group at the 2014 Concrete Decor Show.

The Decorative Concrete Hall of Fame was established to recognize individuals and companies whose contributions have impacted the future of decorative concrete as an industry and an art form. The new inductees were chosen by Hall of Fame members and *Concrete Decor* parent company Professional Trade Publications Inc., which manages the Hall of Fame.

Inductees will be recognized at the Hall of Fame Dinner on Tuesday, Sept. 30, 2014, at the Concrete Decor Show. For more information., go to ConcreteDecorShow.com.

These three exceptional individuals have gone above and beyond in their careers, helping the decorative concrete industry thrive through their achievements and commitment to excellence and innovation.

Gary Jones



Gary Jones started Colormaker Floors in 1992. The company provided stamped concrete for three years, then branched out and began developing cementitious toppings for commercial applications. The motivation for this was partly weather-related. Jones lived in Canada in a place where it rained frequently. "It's very difficult to run a full-time concrete business there with 200 days of rain," he says.

Jones spent six years researching toppings as part of Colormaker's move. "We developed a line of toppings for Colormaker and did installations for large clients," Jones recalls. "One client we did 60 stores for."

Jones was an early innovator of high-performance overlays that didn't crack or delaminate. At the time, Jones' overlay formulas were similar to the thin-set formulas used to set slate, a material he began working with before shifting to concrete.

In 2000 the company name was changed to Smart Surface Technology Inc. At that point, Colormaker became a brand name. SST is the manufacturer and also privately blends for a handful of customers that Jones consults for. Jones is skilled with a trowel and will often install their products himself, and he provides training and support for their products.

SST was a fully fledged manufacturing company until 2010, at which point it began focusing on consulting and supplying materials for high-end clients such as Martha Stewart, Pottery Barn and Whole Foods. Jones is busy in New York City, installing concrete for Marc Jacobs fashion shows and showrooms for Italian furniture maker Minotti.

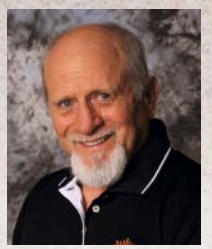
Jones has perfected a sprayable concrete called Arapido that allows for specialized applications. Arapido can be sprayed to 1/6 inch thick. Color can be broadcast into it, and it can be polished with diamond polishing tools the next day. "It allows us to take an old floor and make it look new," says Jones. SST markets both stains and dyes that can be used to color an existing concrete floor, as well as color-enhanced resurfacing treatments for an artisan touch on any job.

Photo courtesy of Gary Jones

Gary Jones applied his Arapido topcoat to this floor of a loft in a 100-year-old Vancouver, British Columbia, building.

Decorative Concrete Hall of Fame

Frank Lewis



Frank Lewis has been involved in the decorative concrete industry for more than 40 years, helping to build the pioneer decorative concrete coating business known today as Sundek.

Lewis and his partners began with the idea that contractors could bond a cement coating on top of existing concrete pool decks and enhance ordinary, plain gray concrete with beautiful and creative textures, patterns and color. The idea of a thin cement coating doesn't seem unusual now, but at that time it was unheard of. "I suppose what motivated us more than anything was that people told us we couldn't do it, it will never work. Those were exciting times," Lewis says.

Founded in 1970, Sundek developed a novel coating process that could be applied over existing concrete surfaces. Later, the company introduced Masonry Effects, a finish coat that would create a clean line at grout joints. Today, Sundek is an industry leader in decorative concrete resurfacing, including manufacturing their own products, completing projects, and maintaining a robust dealer network.

There was a lot of interest in their coatings from the company's earliest days. "We were the concrete problem solvers for pool builders in Southern California," recalls Lewis. "When they had trouble with their pool decks they would call us." That led to an early partnership with Anthony Pools, which quickly grew the Sundek dealer network from coast to coast. In the 1980s, Sundek set up a dealer program that provided exclusive access to geographic areas.

Aside from his success in business, Lewis has been a tireless promoter of decorative concrete through proper training of contractors, both in the field and in running their businesses. He credits many of his opportunities to being an active member of the American Society of Concrete Contractors and the Decorative Concrete Council, also serving as a past council director. "That experience has allowed me to work with many different committees and some of the top contractors across the United States that were involved with decorative concrete," he says. "I've done all phases of decorative concrete, from the installation to sales, marketing and management. This industry has been my life's passion for over 40 years and the friendships that have been forged have been the ultimate reward."

Photo courtesy of Sundek of Washington

An acrylic spray-texture overlay installed by the corporate Sundek dealership in Washington, D.C .

Jon Nasvik

Jon Nasvik grew up with a trowel in his hand. His father was a contractor and would take his son along with him to job sites. "I've been messing with concrete basically my whole life," Nasvik says.

At 17 he worked for a Bomanite-licensed concrete contractor doing stamped concrete. In 1971, his brother Pete started a company doing stamped concrete, and by 1975 Jon began installing artificial rock formations for zoos and other places.

Nasvik was an art major in college, and used what he learned to investigate ways to make better products. "I knew there were better ways to do this kind of thing," he says, "I just had to find them."

He discovered urethanes and began designing the industry's first plastic stamps.

"It hit me one day to try creating a shallow imprint tool that incorporated texture with the pattern at the same time rather than the open, cookie-cutter imprinting tool of those days," he recalls. So that's what he started doing, and he became the first person to develop usable stamps for installing both pattern and texture in decorative concrete. Until Nasvik's innovation, stamps were cast aluminum — very heavy with frequent breakage.

His first pattern was a stacked bond pattern designed using Chicago common brick, which he took to a meeting with Disney officials in Burbank, California, who were seeking a look for the EPCOT Center back when it was still in design phase. "We couldn't tell the real brick from the fake brick," he says. Around that same time, Jon began installing concrete rock formation projects for zoos and hotels around the country.

One of the issues with stamped concrete has been how difficult it is to achieve an aesthetically pleasing look with a random pattern stamp. Nasvik worked for the past five years to develop a method to add a pattern to a texture stamp, and he recently secured the patent. He says his new method works very well on both large and small jobs.

Since relocating to Sun Valley, Idaho, from his native Minnesota, he has kept busy installing decorative concrete countertops, sinks, tubs, showers, fireplaces, outdoor furniture, stamped flatwork and, of course, concrete rock formations, along with fulfilling many other unusual requests from clients there. He calls his company Cliffhangers because he still enjoys installing rock formations whenever he can.

Photo courtesy of Jon Nasvik

A patio made with Jon Nasvik's texture stamps.

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888-544-7559
DustlessTools.com

New Hilti Firestop silicone joint spray CFS-SP SIL

Hilti, a leading manufacturer and supplier of specialized tools and fastening systems for the professional user, announces a new silicone joint spray. The fast-curing properties of the new Firestop silicone joint spray CFS-SP SIL allow contractors to reduce delays caused by weather, while improving their productivity and reducing the risk of water damage. Testing in accordance with ASTM D6904 (modified) demonstrates rain and washout resistance within a few hours. It also has a mold and mildew resistance rating 1 (ASTM G21).

The Hilti Firestop silicone joint spray is ideal for a curtain wall or slab edge. It is both sprayable and brushable for a fast-curing coating with a short tack-free time. This low-slump formulation is easily sprayable and provides excellent coverage with few runs when used in a vertical application.

(800) 879-8000
www.us.hilti.com

Cool Tools & Materials

The Soaper

You've seen people soaping the sides of control joints before. This technique has long been an industry trick to make shaving joints easier. The tool by Hi-Tech Systems/Progressive Fastening Systems, The Soaper, makes this even easier.

Polyurea joint fillers are designed to adhere to the side walls of the joints. To properly fill joints, the joints need to be slightly overfilled and the filler scraped flush with the surface once it has cured. The problem is that fillers adhere to the surface as well as to the joint walls, making them hard to shave.

Rubbing soap on the floor and on both sides of the joints has long been known as a trick to make the joint easier to scrape. But, this was laborious and painful to do when bent over on hands and knees.

The Soaper holds two bars of basic, inexpensive soap, and the bars of soap can be quickly adjusted for different-sized joints. The soap bars are easily removed and replaced.

The Hi-Tech Soaper features a foam grip for stability and a bracket that allows two bars of soap to be clamped in and spaced to match the width of the joint. Waxy bar soap such as Ivory works best.

(800) 454-5530
www.hitechpolyurea.com

AmeriPolish announces hybrid silicate densifiers

AmeriPolish Architectural Concrete Products announced two new hybrid silicate densifiers: 3D HS and 3D HSL. Both products are a blend of reactive silicates and additives that provide enhanced densification and stain resistance.

3D HS high-solids formula is ideal for use on open or porous concrete that will readily accept densifier. It works equally well on both old and new concrete. 3D HSL low-solids formula is ideal for use on hard or nonporous concrete that will not readily accept densifier.

3D HS and 3D HSL are especially effective at resisting stains when they are used in conjunction with AmeriPolish SR2 subsurface stain resister.

(800) 592-9320
www.ameripolish.com

AmeriPolish offers stain resistance with SR2 and 3D SP

Two new stain resisters by AmeriPolish Architectural Concrete Products repel both oil and water on most hard surface substrates, providing real stain protection without forming a filmlike "guard." The new SR2 stain resister's extremely small molecular size allows it to penetrate into dense, hard and nonporous surfaces to create a subsurface barrier that is resistant to staining from many foods and chemicals. To obtain optimum performance, AmeriPolish SR2 should be used with AmeriPolish 3D (HS or HSL) Densifier.

SR2 offers long-lasting stain protection for industrial applications and a high coverage rate. SR2 is a nontopical, penetrating protector that is safe for surfaces that experience high traffic. Treated surfaces "breathe" and do not trap moisture. SR2 is also nonflammable and the surface provides a chance to clean up spills before they stain or etch.

AmeriPolish 3D SP is a semipenetrating finishing treatment designed specifically to add stain repellence, color protection and color enhancement to diamond-polished and hard-troweled concrete. This product can be used with dyes and densifiers from other manufacturers, but use it with AmeriPolish products for optimum stain resistance and color retention.

(800) 592-9320
www.ameripolish.com

New Mold Star 20T translucent platinum silicone

Mold Star 20T is an easy-to-use Shore 20A translucent platinum silicone that is mixed 1A:1B by volume with no weighing scale necessary. It features relatively low viscosity, and vacuum degassing is not required for most applications. Pot life is 6 minutes and cure time is 30 minutes at room temperature.

Mold Star 20T cures into a soft, strong rubber that is tear-resistant and exhibits very low long-term shrinkage. Molds made with Mold Star will last a long time in your mold library and are good for casting wax, gypsum, resins, concrete and other materials. Liquid rubber can be thickened with Thi-Vex for brushing onto vertical surfaces. It is easily colored with Silc Pig silicone colorants. Cured molds are used to cast wax, gypsum, resins and more.

(800) 381-1733

www.smooth-on.com

Cheng increases mold-making options

Cheng Concrete's expanded line of mold-making supplies includes new polyurethane mold rubber choices for casting all types of projects and tooling epoxy options for thermal form molds.

Choices include new Poly 74-20 Mold Rubber, a soft and very stretchy high-performance rubber that is great for casting wax, resin, concrete and plaster. Poly Poxy 1030 Epoxy Resin is a high-strength aluminum- and mineral-filled resin for lay-up or small castings. Poly Cure 1230 Epoxy Hardener can be mixed with Poly Poxy 1030 to create larger aluminum-filled epoxy castings (up to 8 inches) for vacuum forming and thermoforming applications.

(800) 877-6052

www.chengconcrete.com

Walttools releases economical integral color line for concrete

Walttools, a manufacturer and distributor of professional-grade decorative concrete tools and supplies, just released the Tru Hue line of integral colors for concrete. Tru Hue color is easy to use and will infuse concrete with long-lasting, rich color. It is often a base color for decorative contractors to create interesting effects using textures, colored releases and various stains, also available from Walttools. These effects can closely mimic materials normally found in nature, such as slate and stone.

With a dozen colors priced below $15 per yard, this is the most economical integral color option on the market. The current color palette consists of 30 colors, and that can be extended significantly with various combinations, including the lowest priced green shades. Using the integral color is as simple as throwing the proper number of bags, typically one bag for every yard of concrete, into the ready-mix truck. The bags are made of a quick-dissolving paper that break down as the mixer turns and allows the color to mix thoroughly with the concrete. After 10 to 12 minutes of blending, the concrete is fully colored and ready to be poured and placed.

Walttools Tru Hue integral colors are blends of pure natural iron oxides and special dispersing agents to ensure a thorough blend in the concrete mix. The palette consists primarily of soft earth tones that integrate well with most desired landscapes and architectural themes.

(888) 263-5895

www.walttools.com

TruCrete steps up outreach for Slick Mix self-leveling overlay

In April 2013, Trucrete announced the release of Slick Mix self-leveling overlay, and the company is now stepping up marketing to get the word out.

Slick Mix is a polishable white self-leveling overlay with the longest heal time in the industry. At 70 degrees the heal time is 25 minutes, with 33 minutes of working time and an 80-minute set time. This self-leveling overlay is also used as a broadcast binder for colored flakes. Slick Mix can be applied over the top of tile and colored flakes can be broadcast right into it. It can then take a topcoat in as little as four hours.

(443) 205-4547
www.trucrete.com

Applied Diamond Tooling introduces ceramic diamond pads

Applied Diamond Tooling has introduced Ceramic Diamond Floor Pads. Ceramic Bond eight-seg diamond floor polishing pads are used as transitional pads and can reduce the need for metal-bond diamonds. As a result, users will have fewer steps to achieve the polish. Users can easily remove the cutting marks left over by metal-bond discs and prepare the floor for polishing with resin-bond diamond pads.

Ceramic Diamond Floor Pads can be used wet or dry. They can be used on concrete or terrazzo. The pads are aggressive and long-lasting, with a thickness of 6 mm and a diameter of 3 inches. The pads are Velcro-backed for easy changing of grits and last up to 20,000 square feet.

(800) 980-7808
www.toolocity.com

E-Z Floor Guards are better than booties

Forget about traditional shoe covers most workers wear to protect floors from dirt and debris. Trimaco LLC recently added E-Z Floor Guards to its extensive range of products.

E-Z Floor Guards have a three-step system that involves applying a sheet of adhesive plastic film to the bottom of a shoe or boot in seconds. There's no need to stop, drop your tools, bend over and struggle to apply them as with traditional shoe covers. Simply step on the E-Z Floor Guard and the adhesive sticks the film to the shoe. Pull to get the desired amount to cover the bottom of the shoe, and then tear off. It's that easy: step, pull, step, tear.

This recyclable film is tough enough to keep floors looking new and it even works on wet footwear. An added bonus: You can apply additional layers of film on top of the existing one if you need to make multiple trips outside.

E-Z Floor Guards fit any shoe size. One roll of E-Z Floor Guards covers up to 250 pairs of shoes. They're available in a starter kit and in refill rolls.

(800) 325-7356
www.exfloorguards.com
www.trimaco.com

New Foundation Armor coating

After one and a half years of research and development, Foundation Armor has released the Armor AX25 coating. The new Armor AX25 is a siloxane-modified methyl methacrylate coating that can be applied to freshly poured and fully cured concrete surfaces. It offers superior resistance to de-icing road salts, pool decks with salt-water pool systems, rain, sleet and snow.

The Armor AX25 is a nonyellowing, high-gloss, siloxane-modified acrylic concrete coating. The Armor AX25 also offers superior resistance to weather and temperature fluctuations. The new coating meets ASTM C-1315, Type 1, Class A and B standards.

(866) 306-0246

www.foundationarmor.com

New formula for polished concrete cleaner and conditioner

With the newest formula of Majestic Concrete Cleaner & Conditioner by M3 Technologies, your customers can maintain their new polished concrete or terrazzo floors. It cleans, conditions, hardens, and renders a concrete floor more soil- and stain-resistant while enhancing the natural gloss and color of the floor.

Majestic Concrete Cleaner & Conditioner can be damp-mopped or used in autoscrubbers and is highly concentrated. It can be used with diamond-impregnated pads, a scrub brush or standard natural or white pads.

(800) 342-4533
www.m3techinc.com

Engineered quartz sand functional fillers help manufacturers reduce costs

BassTech International, a New Jersey-based global supplier of specialty raw materials and chemicals, has entered into a distribution partnership with Germany-based Dorfner Group for customers in North America. Dorfner's unique kaolin and crystalline quartz sand-based functional fillers are already used worldwide in industrial flooring, paint and coatings, glass, paper, building materials and composite materials.

Costs in industrial flooring can be reduced when less binder is used in proportion to the amount of filler. Through decades of research and development, Dorfner produces innovative functional filler systems that outperform natural sands at reducing resin consumption and decreasing final costs while providing exceptional strength.

Dorfner's Dorsimix filler blends are engineered to reduce costs while providing outstanding grip and durability for industrial and commercial flooring. Granucol colored quartz sands, available in more than 120 shades, offer designers a virtually unlimited palette of design options. Granucol is used as a primary component in modern kitchen sinks and industrial flooring.

(201) 569-8686
www.basstechintl.com
www.dorfner.de/en

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800.556.6366 www.jondon.com

Scanmaskin floor grinders are designed to put **more torque on the floor, not your hip**. You can calmly push the machine along—almost as easy as pushing a shopping cart—and you don't have to grit your teeth or break a sweat to do it.

Scanmaskin machines couple their great engineering design with a **durable all-steel construction**—right down to the dust shroud. There's ***no fiberglass or plastic***, so there's no dents, chips, or cracks that you have to patch up with duct tape. You get better vibration control, better dust collection, and a safer work environment.

Let's talk about productivity. Scanmaskin machines deliver ***high productivity rates*** and are designed to require very little maintenance. These machines are **designed to WORK**, not to be worked on. Just plug it in, push the start button, and get to work. Enjoy less downtime, fewer stoppages, and reduced maintenance costs.

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Whether you perform concrete demo, surface prep, or polishing jobs, Scanmaskin floor grinders can handle it all. From heavy remote-controlled units for your biggest commercial jobs to small, versatile edge grinders that get incredibly close to the vertical surface, **you can find the right Scanmaskin grinder for any job!**

Imprinta Stampable Overlay from Kingdom Products

Kingdom Products proudly introduces IMPRINTA STAMPABLE OVERLAY, a two-component restoration material designed to take excellent impressions. Durable and beautiful, this product provides unlimited design options and can achieve just about any shade of color by using Integral Color, Acid Stains, Color Hardeners, Acetone Base Dye, or Mystique Antique Wash.

Because we are proudly made in the USA, we've made it our mission to create jobs needed in America. In fact, this season our manufacturing facility hired two new full-time employees with the launch of our Impressionaire Floor & Wall System. Partner with Kingdom and help create employment opportunities through distribution and installation of our decorative concrete and premium quality repair materials.

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- Top Cap - Broomable / Spraydown Restoration
- Countertop Mixes
- Feather Edge Repair Mortar
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- Mystique Color Wash
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(888) 824-2383

www.kingdom-products.com

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(800) 884-2114

www.EngraveAcrete.com

Decorative Drain Covers from Iron Age Designs

Iron Age Designs manufactures decorative castings for hardscapes and drainage applications. Our products are made in the USA, made from recycled material, and ADA compliant. For ease of installation, our grates are made to fit the most common drain systems available.

Our product lines vary from standard trench drains, skimmer lids, catch basins, and spot drains. With so much emphasis on landscape improvement, Iron Age decorative drain covers can add the finishing touch to a pedestrian area or driveway, adding interest and value, much like any quality upgrade. Moreover, Iron Age grates are priced to be competitive with their more utilitarian counterparts, so you don't have to break the bank to afford them.

Do you have any questions? Would you like to have something custom designed for your project? Please contact us via email at info@ironagegrates.com or call us at 206-276-0925.

(206) 276-0925

www.ironagegrates.com

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Making and Keeping Great Hires in an Employee Drought

by Karen Van Heukelem

In 2010 the experts told us it would come. They warned us there would be a labor shortage in Colorado in 2014. We sat with a gloomy recession cloud over our heads, doing everything possible to keep our best employees busy so we could retain them, and being forced to let many good long-term employees go due to the lack of work. Hearing news of a future labor shortage just made the pain of losing great employees even worse.

But now, here we sit, in 2014, cursing ourselves because those so-called experts were right. It is indeed painfully difficult to find experienced field personnel.

In desperation we post employment opportunities on social media sites, in local newspapers and on online job listing pages. We even purchase radio spots, hoping to pick up the one or two rock-star employees left looking for new employment. Some of us scratch our heads wondering why there isn't a waiting list to work for our company — after all, we are pretty awesome! But the reality is, there truly is a labor shortage out there.

If it hasn't hit your region yet, it will, and it is tough. If it has, I will let you in on a few tips and tricks to beat it that we have discovered through trial and error.

Job fair. This sounded like a fantastic idea. We knew of a local ready-mix supplier who had a job-fair open house. They hired 25 people from this event alone. I am not sure how they advertise, but when we tried it, we advertised on the radio, posted flyers in local supply shops, told all of our employees about it, posted it in the newspaper, on online ads … you name it, we probably did it. Now granted, the day we had the job fair, it ended up being a snowy, miserable day. However, you could also argue the weather should have helped us get more people who were already employed but sitting at home for the day.

In any case, truth be told, we only had four or five candidates show up. We had talked to 10 individuals before the fair who said they would come to learn about the positions and fill out applications but never showed up. The job fair was a bust.

However, we did get 20 to 25 job inquiries because of the additional advertising we did for the open house.

Online listings. Yes, I'm talking about those popular virtual-marketplace types of sites. Employment ads can be posted to these sites for $25 or less. We are seeing some responses from these ads. The websites designed for the sole purpose of marketing jobs tend to get more hits and responses. However, with several former dishwashers and yoga instructors applying whose last job happened to be in 2012, I do wonder if they are serious.

Radio. When we advertised our job fair on the radio, we received an awesome influx of calls. But radio is expensive. We chose one of the higher-ranked Hispanic radio stations and played our ad during peak listening hours. Not a cheap investment and maybe not the best use of our money.

Newspaper. Newspapers are becoming a thing of the past, but I did do an ad in a local paper, partnered with an online listing on a major job-posting website. I received only one response. It's not the market we're after any more.

Word of mouth. The best advertising, as with almost every aspect of running a business, is done word of mouth. Looking back historically, many of our best hires were a direct result of a current employee reaching out to a friend or family member. We put "now hiring" magnets on our trucks and let all of our employees know we are looking for help. We have the most success hiring great, long-term employees this way.

The best advice I can give: If your region isn't currently in an employment rut but the experts say it is coming, you better act today to snatch up the best people before they are taken. In any listing or advertising you do for employment, make your company sound as wonderful as it is. Give the potential new hire enough information to know what he or she is applying for and to get excited about working for your company.

In our ads, I include a link to our website and photos of some of our projects. As I mentioned, the best advertising is word of mouth. Hopefully your current employees know of some qualified people either from other job sites or through friends or family they can refer.

Of course, in order for current employees to refer someone else to work for your company, they should be pretty happy working for you themselves. Make sure your employees feel appreciated, are being paid competitive wages and have a safe yet comfortable work environment. Treat your employees like family and they will most likely feel comfortable bringing additional friends and family on board. I remember working for Vince Schrementi of Everlast Concrete years ago one summer outside of Chicago, and he remains my poster child for how to treat employees. He treated each employee like they were family. He would help them out when they needed help, push and challenge them, and always have an open door. In fact, on Friday afternoons they would fire up the grill out back and just enjoy time with each other at the end of the workday. When you treat your employees well, hopefully they will stay and be your best recruiters for more like them.

Realistically, you will not be able to fill all your voids with qualified and experienced labor. At Colorado Hardscapes, many of our employees have been with us 20-plus years, and it's time to face the fact that we need to start training the next generation of employees and hire new blood.

As we bring on new employees, we mingle our crews by mixing the old and the new. The seasoned employees represent more knowledge than any trade school can teach. They are our most valuable training tool. It takes a lot of patience, but we are fortunate that many of our older employees realize the importance of training and bringing on new employees to help the company and to help their own job go more smoothly.

When possible, we start new employees on the nondecorative finishes to teach them the basics and our standard practices. As they master those areas, we move them into the decorative finishes and more detailed work. It can take six months to a year before a new employee can work independently or even cohesively on a crew, but it is a long-term investment worth making.

Be prepared to spend time and money recruiting, hiring and training employees. As we enter the next cycle of the economy, we are faced with employment challenges. If you are in the midst of the employment drought like we are, then buckle up, spread the word, treat your current employees well and start getting creative with your scheduling. And if you have too many wonderful employees, please send them our way!

Karen Van Heukelem wears many hats at Denver-based Colorado Hardscapes Inc., including business development, marketing, sales, estimating and project management, with an emphasis on specialty rock construction. She can be reached at karen@coloradohardscapes.com.

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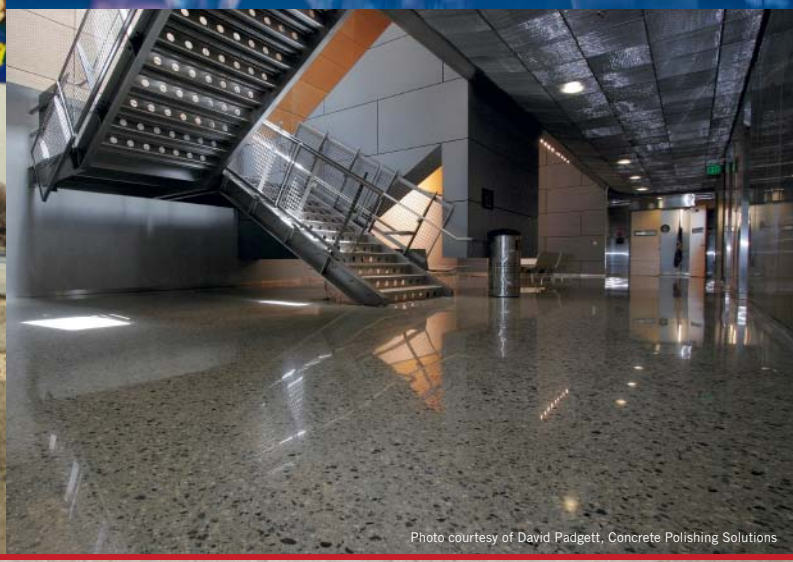

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ARTISAN IN CONCRETE

Steve VandeWater

Noblesville, Indiana

by Vanessa Salvia

Steve VandeWater, 51, was a Fine Arts major at Indiana University Bloomington, studying sculpture, drawing and printmaking. This artistic background informs his approach to concrete and also gives him skill and success with different styles and techniques. "The art background is where a lot of my inspiration and ability comes from," he says.

Fresh out of college, VandeWater started pouring concrete on a municipal crew, and the work suited him. "I liked it because it was fast-paced and you saw immediate results. I don't have a lot of patience!" he jokes. "I've been in concrete ever since."

One day in the early 1990s, VandeWater happened to drop by the job site of a local Bomanite installer who appeared to be short-handed. "I asked him if he needed help and he said yes," says VandeWater, "so I stayed and helped him finish and watched how he did the stamping." At that time in Indiana, stamped concrete was almost unknown, and there were no local suppliers of materials. The Bomanite contractor shared his tips on where to get the supplies that a stamper would need.

Not long after, VandeWater quit his regular concrete job and started his own independent company, ArtistiCrete LLC, doing nothing but stamping, staining, stenciling and concrete countertops, using the best products he could find from a variety of sources. Initially, much of his work came from residential customers who wanted their patios torn out and replaced. "They had a gray concrete patio and wanted something fancier, so they would hire me to tear it out and replace it with something stamped," recalls VandeWater. "Patios and small residential work were the majority of my business."

In the late 1990s, in addition to contracting, VandeWater opened and operated a small decorative concrete supply business. At that time, however, there were so few local customers that he sold the supply business and returned to contracting full time. "In retrospect, I should have stuck it out. Decorative concrete soon became a booming business in Indianapolis."

Despite the harsh winter weather in Indiana, the decorative concrete industry took hold there and grew quickly. "I don't know why it became so popular here, but the growth of the Internet at that time certainly helped bring decorative concrete to a much wider audience. It was new and unique," recalls VandeWater. "The time had simply come for it. When people started seeing it in magazines or on the Internet, they wanted it." By the mid-2000s, several more decorative concrete supply stores had opened in Indiana, so the materials were readily available and many more contractors began learning to install decorative concrete.

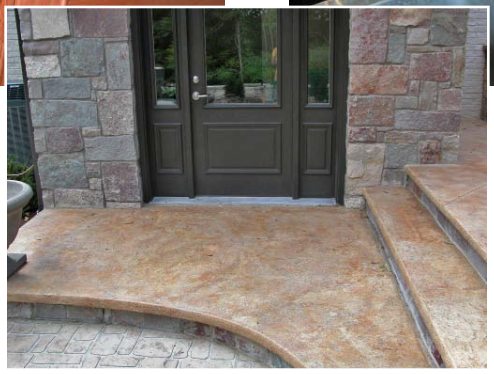
VandeWater's mold-making skills from college served him well over the years, and he was able to make many of his own stamps, skins and texture rollers. For the Artistry in Decorative Concrete demos at World of Concrete 2012, he created a stamp that mimicked a broken mosaic tile texture. Atop the tile texture, he stained a picture so that his completed work resembled an ancient Greek mosaic. For the 2014 demos, he designed a texture skin of layered coins.

When VandeWater was actively installing his own work, he created a number of projects that showcased his skill in varied mediums. A short-lived sports bar in Indianapolis hired him to make countertops that looked like basketballs, footballs and baseballs. For a residential wine cellar floor, VandeWater drew a design depicting grapes and a cask, and he painted it freehand with acid stains. For a homeowner, VandeWater drew a sun with a face and sunglasses, etched it into the concrete with a grinder and then stained it. "Drawing is what I really like to do," he says.

VandeWater's molded textures are very unique and have become one of his signatures. Although he doesn't generally sell these textures, he could. "I've had Butterfield Color cast the molds for me with the understanding that if anybody wanted them, they would be free to sell to them."

VandeWater believes that texture stamping is the most underdeveloped market for decorative concrete professionals. "There's an infinite number of textures that are possible, but very few of them have been made into commercial stamps," he says. "I think that's the way the industry will go in the future — very unique seamless textures."

Photos courtesy of Steve VandeWater



Photos courtesy of Steve VandeWater

Moving into sales

In 2011, after contracting for 18 years, VandeWater closed ArtistiCrete and took a full-time job running The Concrete Store at Sagamore Ready Mix in Fishers, Indiana. Closing his contracting business was partly a response to a dramatic increase in local competition. "There were so many new contractors getting into the business," he explains, "that there was an overabundance of them. Contractors were selling their work so cheaply that it was harder to make a good living. I was working far more hours than I ever had and not making as much money doing it."

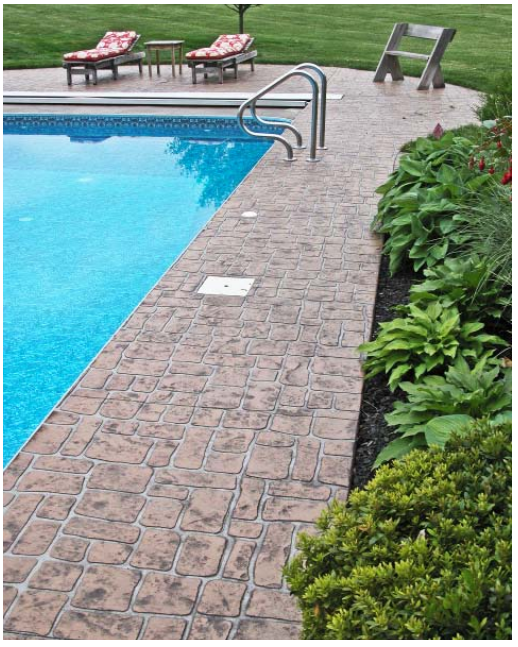
VandeWater and his business partner were actually doing the installations themselves, and it was taking its toll on their bodies. "As we got older, we realized that there had to be easier ways to make a living." For now, he plans to stay on the supply and education side of the industry.

With a full-time sales job, VandeWater doesn't get to spend as much time on his own creative projects as he would like, but when he does, he has fun with it. Hence, a hand-carved Mayan calendar and an actual working concrete mandolin. Part of the appeal for him is trying to create something that no one else has ever done before.

VandeWater knew that keys to making a playable acoustic mandolin were that it needed to be very thin and it needed to resonate, so the body is only about 1/8-inch thick. He used fiberglass reinforcing and a proprietary concrete mixture to make it somewhat flexible.

To make the mandolin, VandeWater built a form, covered it with the reinforced material, demolded it and used acid stains to color it. The inspiration for how to build the strong yet lightweight mandolin came from speaking with Mark Whitten of Iowa-based Earth Medium, who created the eagle atop Adrian Gascon's Artistry exhibit at the 2014 World of Concrete. "Whitten's individually made feathers were my big inspiration," says VandeWater.

"What I like about decorative concrete is that you're basically taking a plain gray material and making it resemble something else, and you're working under pressure," he says. "You attempt to make it look as realistic



as possible during a very short window, because you have to do your thing before the concrete gets too hard to work."

At Sagamore Ready Mix, VandeWater runs The Concrete Store, trains contractors and troubleshoots. He often goes out onto job sites where contractors are experiencing some kind of problem that they don't know how to solve, and he assesses the situation and brainstorms with the contractor.

Education and the future

In 2013 VandeWater became the decorative concrete columnist for *Concrete Surfaces* magazine. A website that he created, INdecorativeconcrete.com, has become a unique hub of information for decorative concrete professionals and homeowners alike. "I wanted a clearinghouse of information, especially as it pertains to Indiana customers, including such things as how the local climate can affect concrete," VandeWater says. "I wanted a place where contractors could be showcased, potential customers could hook up with them, and there would be a lot of information for anyone. I wanted to provide comprehensive information about decorative concrete in general." VandeWater's website offers troubleshooting tips, fixes and prevention techniques, all based on real-world experience. "The articles on the site deal with issues that I ran into over and over in my years of contracting," he says. "So instead of telling people about it individually I created the website to reach a larger audience."

VandeWater sees an unlimited future for the decorative concrete professional. "There is so much more that can be done if someone is innovative," he says. "The surface is barely being scratched and there are a lot of creative people involved in driving the industry, not only contractors but artists and people with all sorts of great ideas. There are some very interesting products and methods being introduced every day."

www.indecorativeconcrete.com

See more photos from this feature online at ConcreteDecor.net

CONCRETE FORT WORTH

Fresh decorative concrete work near the host city of the 2014 Concrete Decor Show

Photos by Nick Merrick

A Sound Choice

The Dallas City Performance Hall features concrete indoors and out

by Vanessa Salvia

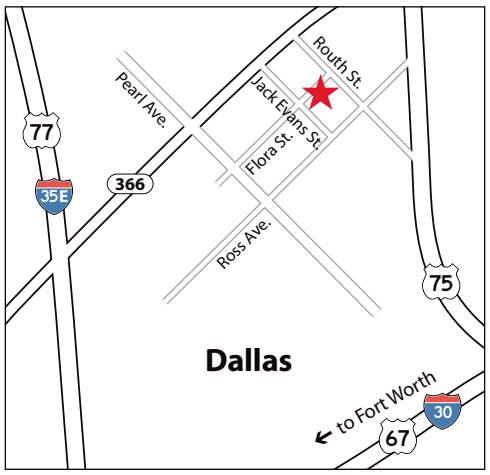
Located at the intersection of Routh and Flora streets in the Dallas Arts District, the Dallas City Performance Hall (DCPH) opened in September 2012. Concrete played a major role in its construction and as the interior and exterior finish.

Constructed in two phases, the facility is an all-concrete frame structure made up of linear pavilions capped with varying wavelike forms that compose the roof. The two-story structure is built of six parallel walls that are 18 inches thick and that vary in height from 35 to 85 feet.

Phase One, which opened in September 2012, features a 750-seat proscenium theatre, a multilevel lobby that offers open space for receptions and small performances, backstage spaces, and an event area on the balcony level. Phase Two will eventually include two additional theaters, an art gallery, a cafe, and rehearsal and classroom space.

Dallas City Performance Hall
2520 Flora St., Dallas
(214) 671-1450
Construction manager: McCarthy Building Cos., St. Louis, Missouri
www.mccarthy.com
Design architect: Skidmore, Owings & Merrill LLP, Chicago
Architect of record: Corgan Associates Inc., Dallas
Theater consultants: Schuler Shook Inc., Minneapolis
Acoustics: Jaffe Holden, Norwalk, Connecticut
Cost estimators: Donnell Consultants Inc., Tampa, Florida

The interior utilizes steel-and-wood railings and poured-in-place architecturally exposed concrete walls. The architect required six different patterns of articulated board-form walls with random widths and length on the interior of the audience chamber, says Wesley Moncrief, McCarthy's project manager for this job, so three different mock-ups were made. The walls are the building's most striking feature: rough-hewn board-formed concrete of different dimensions, and with random depth placements, that provides visual interest while enhancing acoustics.



SmartSide Soffit boards — approximately 1/4-inch to 1/2-inch wide pieces of fiberboard that have an exterior woodgrain finish — were applied on layers of plywood to give the wall the board-form finished look. "To ensure quality control and to avoid bug holes and honeycombing, we vibrated the walls every 2 feet," says Moncrief. "It literally looks like wood grain. The architects and designers were very pleased with the outcome."

While the interiors are all exposed architecturally finished concrete walls, the entire outside was hand-polished by workers using M74 Micron flexible diamond hand-sanding pads. The project's architect wanted a more uniform look on the large exterior walls, so the workers sat on aerial lifts and, according to Moncrief, used "case after case" of the pads to sand the entire exterior surface. "The diamond sponges were used to to get rid of water stains and other elements that had built up on the wall prior to us having the opportunity to apply a waterproofing clear sealer," says Moncrief. "We didn't want to apply the sealer and trap the stains that had accumulated through natural causes, such as rain and anything in the air from living in a metro area and near an airport." Sealer was applied immediately after the sanding was finished.

The lobby and common area floors are deep-ground polished concrete placed by Texas Bomanite. All told, the job utilized 8,000 cubic yards of concrete.

The 100 percent publicly funded building was completed on a tight budget, and the many forms and functions of concrete helped the team to complete this building within budget. The completed project is expected to be certified LEED Silver.

Skateboard Central

A destination skate park features 19,000 square feet of finished concrete

by Vanessa Salvia

SINCE the city of Arlington's Vandergriff Skatepark opened recently, it has become a destination for skaters from all over Texas and the nation. Arlington has become a leader in skate park planning — within the next 10 years, the city plans to implement up to 15 skating opportunities, with the goal of a skateboarder being able to skate from one spot to the next. Vandergriff Park will be the hub of these planned areas.

Dedicated in April 2014, the first phase of construction of the 21,000-square-foot park included stairs, ledges, banks, hips, rails and other street features as part of a large skate plaza. A multidepth bowl and wavy "snake run" comprise the transitional skate terrain of the park.

The concrete in a skate park must be completely smooth to accommodate a skateboard's small, hard 40 to 55 mm urethane wheels, yet also be nonslippery. The concrete must be able to withstand all natural elements and temperature fluctuations, as the surfaces are completely exposed year-round.

"Shotcrete is specified for the banks and transitional portions of the skate park," says Yann Curtis, owner of subcontractor SPA Skateparks. "So, the snake run, multidepth bowl and banked surfaces in the street course require the shotcrete process.

Photos courtesy of SPA Skateparks

Shotcrete is used in these areas because the material is literally shot out of a hose onto the receiving surface at a high velocity, thus encapsulating the rebar. Applying

Vandergriff Skate Park
Vandergriff Park, 2800 South Center St., Arlington
Owner: City of Arlington
General contractor: Northstar Construction Inc., Fort Worth
Designer: New Line Skateparks Inc., Langley, British Columbia
Subcontractor: SPA Skateparks, Austin
www.spaskateparks.com
Size: 21,000 square feet
Scope: 19,000 square feet of concrete, about 320 yards of shotcrete
Shotcrete mix: 4,000 psi, 3/8-inch pea gravel, seven-sack, roughly 3-inch slump
Concrete mix: A more typical 4,000-psi mix

concrete on these features and areas would not be possible directly out of a truck or via traditional concrete pumping."

For the sections of the project that required shotcrete, a strong line pump mix was used — 4,000 psi, 3/8-inch pea gravel, seven-sack, with a roughly 3-inch slump. "After shooting the concrete from our concrete line pump with an onboard 185-cfm compressor, the concrete is cut and shaped to the appropriate radius, which changes at each part of the park," says Curtis. "There is essentially a zero tolerance for shape inconsistencies."

Curtis coordinated with the city of Arlington and the designer, New Line Skateparks, to come up with what he calls a "really unique" coloring plan. "We used ChemSystems concrete color," Curtis says. "Three pounds of integrally colored concrete in green and two pounds in Harvest Gold. Red and blue cast-on colors were coordinated to match the city of Arlington's logo. A lot of attention was paid to carefully and accurately mixing each truck to exact proportions so that the color matched from pour to pour." For the cast-on color, a penetrating sealer that supplied a nonglossy natural look was applied approximately 30 days after pour.

For the remaining parts of the skate park, Curtis used a more typical 4,000-psi mix with increased slump and larger aggregate than the shotcrete mix. These areas were poured either directly from the truck or via boom pump that can accommodate the larger aggregate.

"Every square foot of the skate park has been hand-troweled for a smooth finish, but not to the point of burning the concrete," explains Curtis. "A water-based curing agent was applied. No sealer was used, to avoid a slippery surface for the urethane wheels."

SPA Skateparks, of Austin, Texas, is a design-build contractor developing site-integrated, poured-in-place skateparks across the country. "We strive to incorporate various colors, materials, textures and green-building initiatives to enhance the existing surroundings," says Curtis. "We believe a properly developed skate park should not only consist of world-class skate park terrain, but also become an inviting public space for all to enjoy."

CONCRETE FORT WORTH

Fresh decorative concrete work near the host city of the 2014 Concrete Decor Show

Wood and Brick Looks Provide Elegant Solutions

Contractor scores two jobs at Fort Worth shopping plaza

by Vanessa Salvia

Chris Post, owner of Elite Concrete Solutions in Fort Worth, landed a second job while creating walkways at the University Park Village shopping center. The owner of Pacific Table, a restaurant at the shopping mall, saw him working on the sidewalks and invited him to lead the remodel of a faux-wood floor and countertop at the popular eatery.

The sidewalk project was only 7,000 square feet, but it took 30 days to complete last November, because the work could only be done at night and the mall wanted only three sidewalk sections worked on at a time. "The stores were still open and operating," says Post. "It was a complicated job because we had to start it at midnight and be cleaned up and off the property at 9 a.m. To get concrete trucks there at 4 a.m. was difficult!" The walkway sections are 18 feet long by 6 feet wide.

Photos by Chris Post

The customer wanted the sidewalks to have the look of pavers. Instead of real pavers, which would heave up and cause tripping hazards, Post used Artcrete's Faux Brick stencils and specially designed color hardener to create brick, tile, stone and other patterns in concrete. Post utilized a border stencil called Stacked Bond along with a Herringbone stencil. "The stencils were interesting," he recalls, "because we had to cut them to fit the size. We created texture using a texture roller and then we used Faux Brick Clear Liquid Release Agent to keep it from sticking to the concrete. Everybody was completely satisfied and pleased."

For the restaurant flooring, Pacific Table's owner wanted a wood look, but wood is not practical in a restaurant. To accommodate, Post hand-textured 2,000 square feet of flooring. The owner liked Post's sample and gave the go-ahead for a floor that looks like it is hand-scraped wood. It was finished with an epoxy and a satin-finish urethane.

"We had to grind all the concrete off the existing flooring, apply two base coats for a good binding surface, then use 1/8-inch fabric tape to create a wood plank pattern all by hand, and then add in cross-cut lines." says Post.

His team worked three planks at a time,

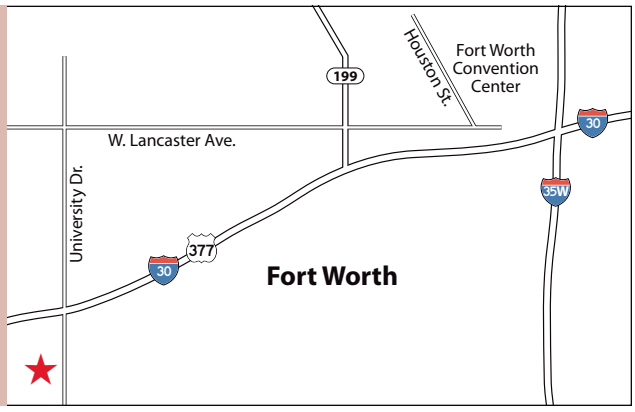
University Park Village
1612 S. University Drive, Fort Worth

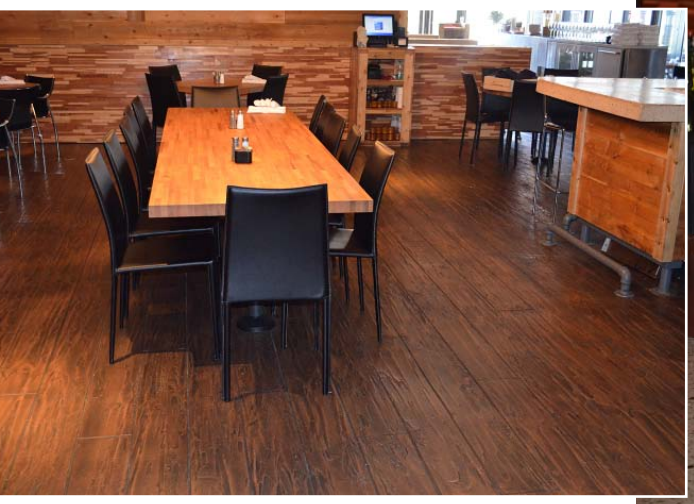
Pacific Table
University Park Village
1612 S. University Drive, Fort Worth

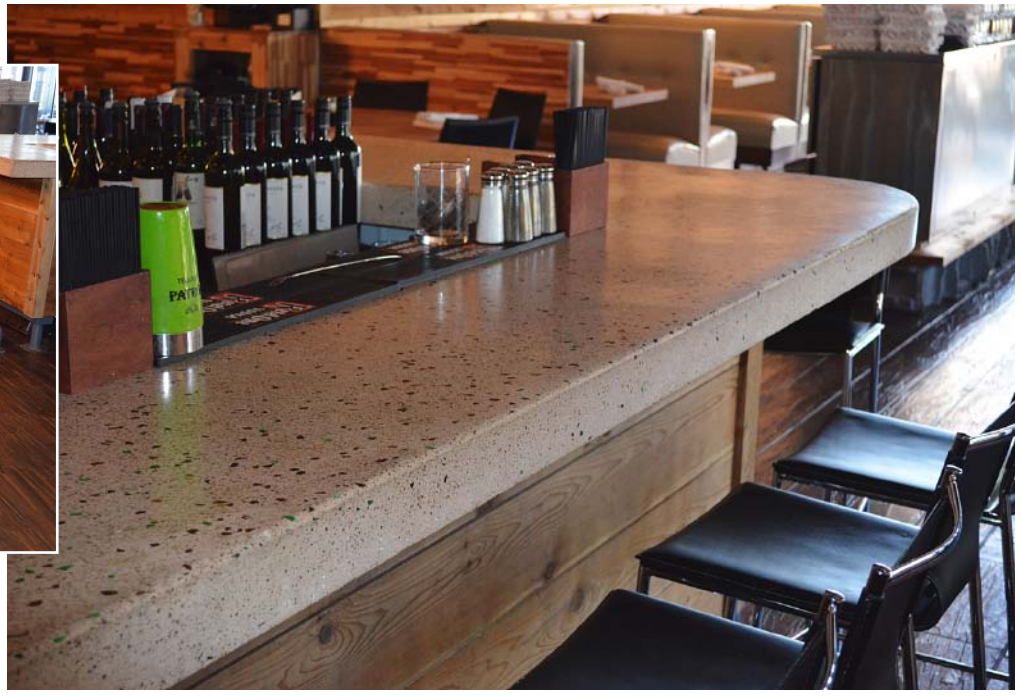
Clients: University Park Village and Pacific Table, Fort Worth

Contractor: Chris Post, Elite Concrete Solutions LLC, Fort Worth

www.eliteconcretesolutions.com







spreading a Concrete Colors of Texas polymer overlay from 1/8 inch to 1/4 inch thick, then troweling with a back-and-forth motion to create texture. "When sanded down, this technique gives a hand-scraped look, and hand-scraped wood in Texas is very popular," says Post, "so recreating that in concrete is a big deal for me." For color, Post applied colors from Smith's Decorative Concrete Products, then a 100 percent solids epoxy followed by two coats of satin-finish urethane, all from Arizona Polymer Flooring.

For the restaurant's bar top and sushi bar, the owner wanted a commercial-grade 4-inch-thick top. Post lightly broadcast green and blue glass from EnviroGlas, then polished it, first using a 30-grit metal bond, then finishing with a 3,000-grit resin bond. The team used a commercial bar form with a large square edge from Z Counterform.

A concrete go-cart track at Legoland

by Vanessa Salvia

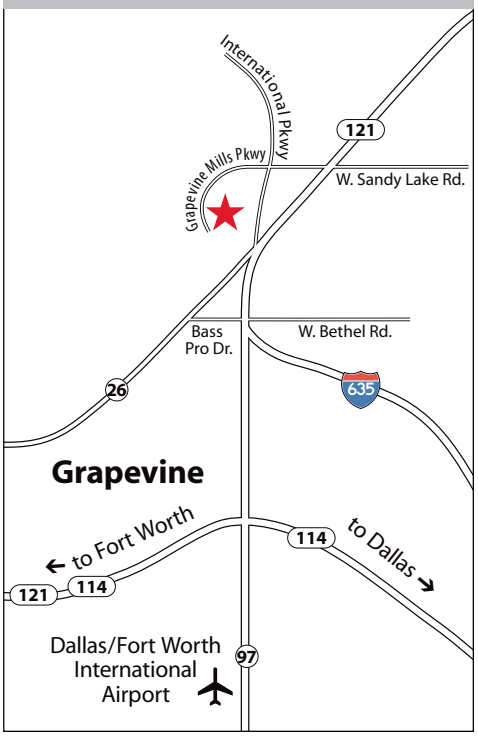
The go-cart track at the Legoland Discovery Center was another challenging, yet fun, job for Chris Post of Elite Concrete Solutions LLC. The roadway hash marks required him to make a 2-by-4 jig to lay them in an evenly spaced manner all the way around the track. "Everything is at a curve," says Post, "so we had to make a stencil and move it every 18 inches."

The floors were ground and shotblasted. Then, a prime coat the same color as the topcoat was applied. Once the base coat of the track was finished, Post applied vinyl stickers, which served as stencils to help create the design on the floor.

The owners wanted a different color on the stem walls alongside the track, so Post rolled on a darker brown. Everything was clear-coated for protection. General Polymers supplied all the epoxy used on the job.

Photos by Chris Post

Legoland Discovery Center
Dallas Fort Worth, Grapevine
3000 Grapevine Mills Parkway, Grapevine
Contractor: Chris Post, Elite Concrete Solutions LLC, Fort Worth
www.eliteconcretesolutions.com



High-traffic polished flooring at Dave & Buster's

by Vanessa Salvia

THE owner of Dallas's Dave and Buster's sports bar wanted the look of a contemporary football field for the floor. After the floor was polished to an 800 grit, Chris Post of Elite Concrete Solutions LLC had stickers made of numbers in an NFL-style font. Tape and the stickers created the field pattern. "After the design was put down we sprayed it with diluted black dye and polished to 3,000 grit," he says. "The only complication was, again, it was a night job."

The curve of the design posed a challenge too. Each of the 120 grid marks on the floor had to be put down by hand, one by one. "It was a lot of knee work!" says Post.

Dave and Buster's, Dallas
9450 North Central Expressway, Dallas
Contractor: Chris Post, Elite Concrete Solutions LLC, Fort Worth
www.eliteconcretesolutions.com

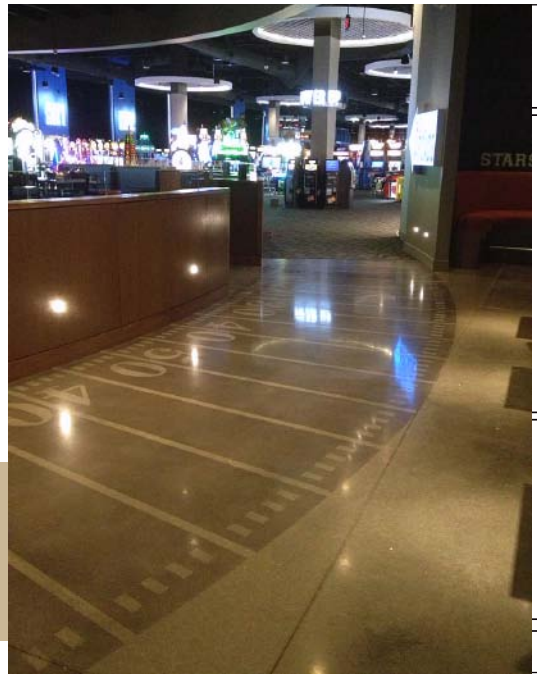
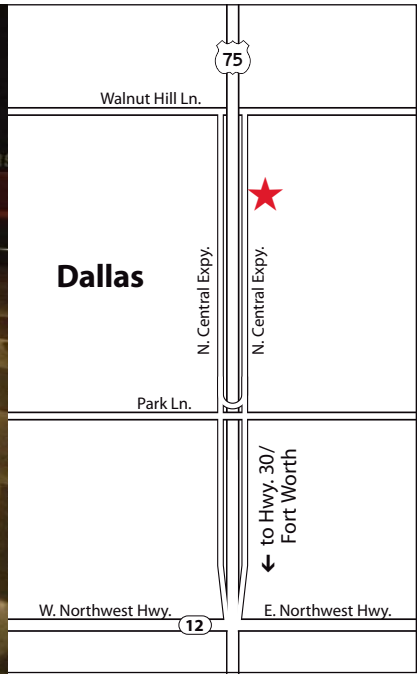


Photo by Chris Post



Wild fire pit warms up Wild Salsa restaurant in Dallas

by Vanessa Salvia

A FIRE pit is not an unusual feature for a nice restaurant, but there is something unique about the built-in fire pit at Wild Salsa.

Monster Constructors stepped in to repair a pit placed by another contractor. The result is a glow-in-the-dark, tabletop-height fire pit that presides over a corner section of the restaurant and is situated near a busy Dallas street. Passers-by peer in and snap photos of the fire pit, which has become a draw for the restaurant.

"Once the contractor that was originally awarded the job had finished, it was a leaning tower that was headed for demo. It was nearly falling over," says Mark Womack of Monster. "Fortunately we were then given the opportunity to resurrect or demo and start new."

Womack decided to attempt the reconstruction, and the finished product now speaks for itself, he says. "I was given artistic license combined with the owners' desire to have something unusual," he says, "so now the restaurant has this stunning one-of-a-kind piece."

Womack needed to completely reconstruct the fire pit, cutting away chunks of the old structure and remolding the entire pit to be straight and perfect. "Once the structure was corrected, I hand-seeded a confetti mix of different colors of recycled glass mixed with glow-in-the-dark pellets around the base and top while keeping with the gray tones of the bar tops," Womack says. "After some distressing of the edges and surface top to give it an aged look, it was sealed with polyaspartic to lock it all in and give the countertop portion a glass finish."

Womack's crew at Monster also made large custom ramp sinks for the restrooms, stained and finished the concrete floors, and constructed 150 square feet of bar tops, with recycled glass in the edging.

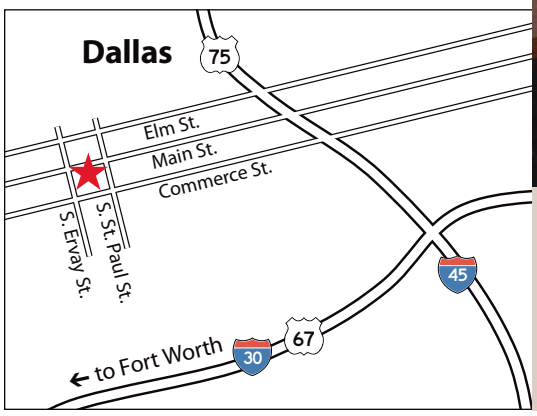


Photo courtesy of Mark Womack

Wild Salsa
1800 Main St., Suite 100, Dallas
Contractor: Mark Womack, Monster Constructors, Krugerville, Texas. Mark Womack Designs does business as Monster Constructors and StoneCrete Studio.
www.monsterconstructors.com

Concrete Art at the Kimbell

The art museum now has a parking garage worthy of its mission

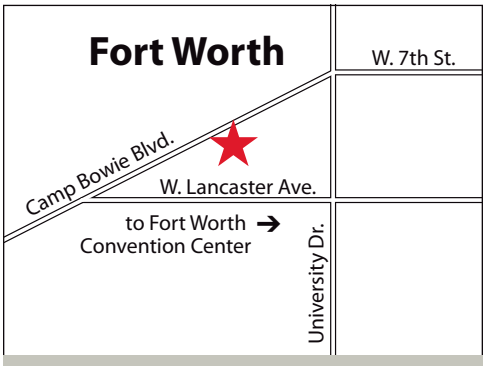
by Vanessa Salvia

The Kimbell Art Museum houses one of the country's most well-known collections of art. The original building, designed in 1966 by Louis I. Kahn, opened in 1972. In 2010, ground was broken on an expansion, this time utilizing the design of Italian architect Renzo Piano.

The Piano Pavilion opened to the public on Nov. 27, 2013. It houses classrooms and studios, an auditorium and gallery space.

To make room for more visitors, planners envisioned a large underground parking garage. HP Spartacote's Sparta-Guard PURE, a VOC-free polyaspartic floor coating system, was chosen for nearly 60,000 square feet of flooring for the car park and entry ramp. The flooring needed to not only be functional but also aesthetically appealing. "The parking garage almost looks like part of the museum," says HP Spartacote regional manager Michael Brents. "And that was part of the goal.

Photos courtesy of Southwest Construction Services



Kimbell Art Museum
3333 Camp Bowie Blvd., Fort Worth
Owner: The Kimbell Art Foundation
Installer: Southwest Construction Services, Dallas
www.sw-construction.com
Scope of work: A high-traffic parking garage and entrance ramp
Materials used: HP Spartacote's Sparta-Guard PURE solid-color polyaspartic coating system

They want you to have part of the museum experience even though you're not in the museum yet. I think it's noteworthy because they accomplished that."

HP Spartacote's Sparta-Guard PURE system included Hydro-Shield SL moisture mitigation primer, custom-pigmented Sparta-Flex PURE, and a Diamond-Topp polyaspartic topcoat. "The architectural and design team had been familiar with an HP Spartacote application in a parking garage that was completed several years prior," says HP Spartacote vice president of sales and marketing Ben Grier. "When it came time to specify the appropriate system, we had the opportunity to work closely with their team to design a system that met their requirements."

The crew worked under a very constrained schedule for installing the car park. "One day was the difference between success and failure," recalls Grier, "so the general contractor required a flooring system that would allow for rapid cure and return to service capabilities. Additionally, ambient environment temperatures were dropping into the 40s at night."

The floor was below grade, so the design team felt it was best to install a moisture mitigation primer. "The existing concrete had a heavy-broom finish, so the prep was challenging. The contractor (Southwest Construction Services, of Dallas) profiled the surface to CSP-3 with a large riding shotblaster to cover the large floor in a short amount of time." Following surface prep, the installation team applied the moisture mitigation primer over the entire floor.

Then, crews applied two custom-pigmented coats of Sparta-Flex PURE polyaspartic. The design team chose a custom

light-silver/gray color, which was a blend between HP Spartacote's standard light gray and white colors. The color complements the lighting and the ornate concrete pillars found throughout the garage, as well as the lighting scheme of the gallery proper, which bathes the environment in a reflected silvery light.

After that, the design called for ornate and detailed striping plans. The architect's team wanted the markings to offer contrasting dark gray and green colors, which according to the architect, allowed the floor to "breathe."

The Diamond-Topp topcoat provided a slip-resistant matte finish while offering a highly durable wear surface. "The texture is one unique attribute to that project," says Brents. "The Diamond-Topp has a really fine microtexture that's accomplishing your slip resistance and yet it's still cleanable. The nature of that texture is so fine it almost feels like frosted glass — it doesn't feel smooth but it doesn't feel rough either."

Brents is enthusiastic about how the interplay of the light and the texture elevates the experience far above the typical parking structure. "I think any person, even Stevie Wonder, would think that this may be the brightest space they've ever been in, much less the brightest parking lot they've ever been in," he says. "Other than the obvious fact that there's cars and striping, it doesn't feel like any parking garage you've ever been in."

Despite the constrained schedule, the garage opened on time. "It's holding up and performing great," says Grier. "The colors and angles found throughout the entire structure are very impressive."

"It's definitely unique and it doesn't look like your normal everyday parking garage," says Brents. "And it is truly an example of a very durable high-tech flooring system that was used to make a parking garage not look like a parking garage."

CONCRETE FORT WORTH

Fresh decorative concrete work near the host city of the 2014 Concrete Decor Show

Living in Color

TCU's Worth Hills Village offers residence halls with decorative concrete flair

by Vanessa Salvia

In August 2013, Texas Christian University opened two new residence halls for increased on-campus housing. The halls, called Worth Hills Village, accommodate about 400 students near the southwest corner of the campus.

TCU broke ground on Worth Hills Village in 2011, and construction is proceeding in three phases. Phase one established the new dormitory buildings. Phase two will include a parking structure, dining facility, and possible renovations to another residence hall. Phase three will include new housing for fraternities and sororities.

Texas Bomanite worked with architect and designer Newman Jackson Bieberstein on the design phase and The Beck Group for the installation. Texas Bomanite had previously worked on other construction projects on campus. The university liked the finishes and techniques that Texas Bomanite used in other areas, and put them in the driver's seat on the Worth Hills Village project, says project manager Chandler Balch, Texas Bomanite's lead estimator.

Photos courtesy of Texas Bomanite

Texas Christian University
2800 S. University Drive, Fort Worth
(817) 257-7000
Contractor: Texas Bomanite, Dallas
www.texasbomanite.com
Bomanite systems used: Exposed Aggregate System Sandscape Texture in Gobi Desert; Micro-Top
Architect: Newman Jackson Bieberstein Inc., Dallas
Installation partner: The Beck Group, Dallas

The project includes a walkway that extends from the back of the dormitory complex between the two halls to the corner of Stadium Drive and Bellaire Drive North. The walkway features two custom TCU logos. Often, logos such as these are accomplished using stain or epoxy, but not in this case. Micro-Top XT by Bomanite, a two-part, polymer-modified cementitious coating, was used to fashion a 25-foot circumference purple horned frog. The second logo, a 62-foot circumference circle of the TCU letters, was installed using Bomanite Sandscape in the color Gobi Desert.

The landscape architect wanted something a little different for the walkways, even though integrally colored bands would have worked. Bomanite's Sandscape product uses a combination of integral color, a custom mix design, topically applied chemicals and skilled technicians to achieve a consistent etched look.

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How a Decorative Concrete Veteran Rescued a Nightmare Project

Science and Mathematics Building, San Joaquin Delta College, Stockton, California

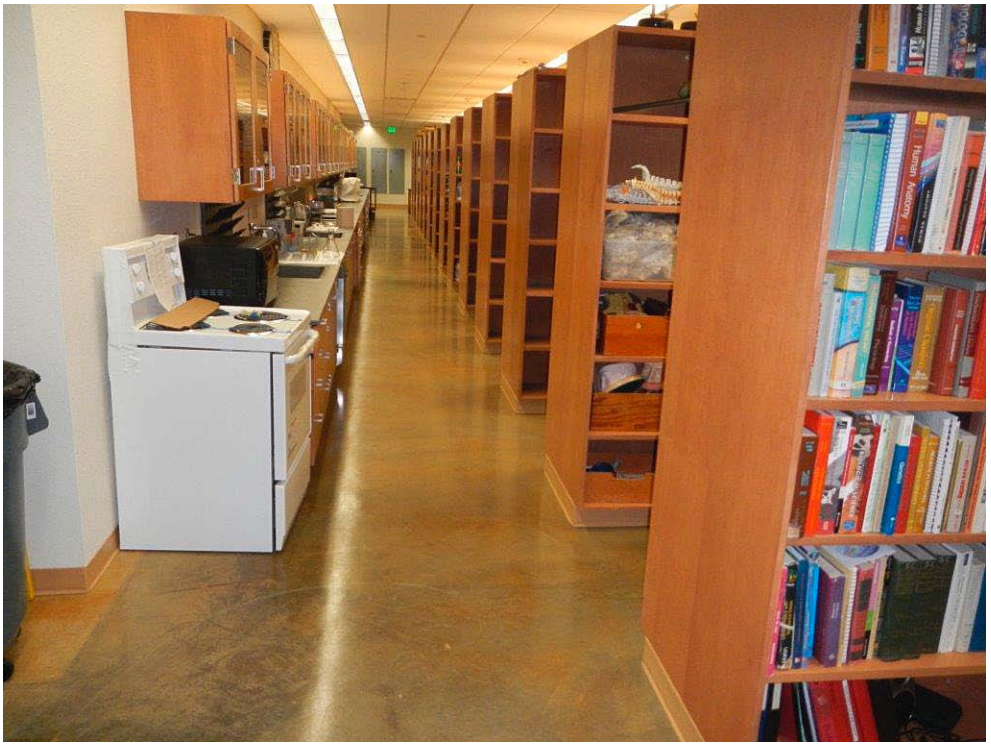
by Julio Hallack

In March of 2012 my company received a call from an outfit that was working on a project at San Joaquin Delta College in Stockton, California. They wanted to discuss the issues that they were having with the application of an acid stain on almost 50,000 square feet of floor.

The stain would go on three floors of a a new science and math complex to replace the Cunningham Building. One challenge was that on the bottom floor they had one kind of concrete, while on the second and third floor they had a specialty lightweight concrete.

Unfortunately the mix design specs were not really clear. They had also applied a water-based curing compound very inconsistently, in some areas very heavily. So this was a challenging project.

The contractor who was awarded the job to do the staining had walked away from the job during the mock-up process, from what I understand. He maybe was not able to deal with the pressure that comes with a job like this, especially when you have hundreds of people from different trades there and everybody's working on top of you. This project was not disciplined at all.



Photos courtesy of Julio Hallack

A successful floor installation.

Project at a Glance

Client: San Joaquin Delta College, Stockton, California

Replacement flooring contractor: Concrete by Hallack, Turlock, California

General contractor: Taisei Construction Corp., Cypress, California

Project description: Julio Hallack took over this job after the initial contractor walked away. The job involved application of a stain on almost 50,000 square feet of floor over a three-story building.

How long from start to completion: Hallack worked on the project from March 2012 to April 2013. The building officially opened in January 2014.

Tools and materials used: Lithochrome Chemstain Classic acid stain from L. M. Scofield Co. in Padre Brown; bonding sealer and high-gloss finish sealer from Surtec; Padco T-bar applicators.

Insisting on a new contract

On our contract, we had to make many changes to the specs and terms because they were not, to my belief, common industry standards. I had to immediately get my attorney involved. It cost me about $1,500 for his involvement but it was worth it. We presented some amendments to their package and their contract.

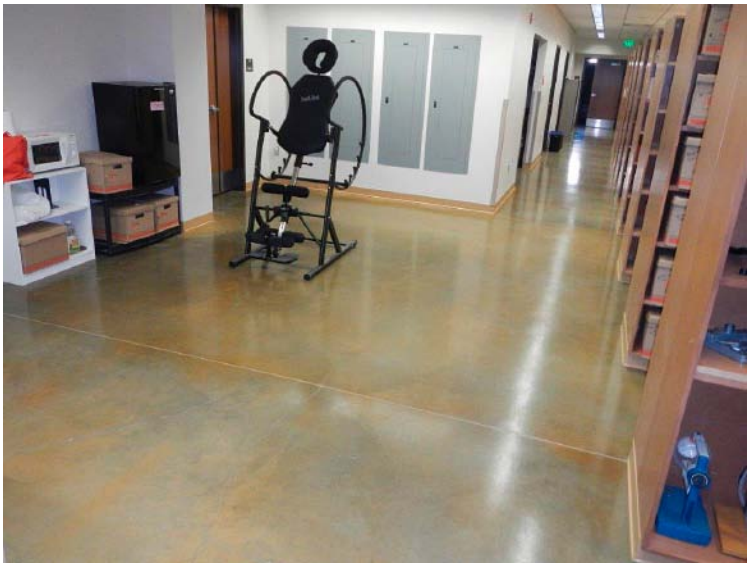
The specs said that we were supposed to install chemical stains followed by one coat of sealer and that's it. And we're talking about a school, with thousands of pedestrians and heavy use. So to my view the floor was not going to be protected.

There were no doors. Heaters were scattered all over. The temperature was in the low 40s. There were wires hanging. The lighting was very poor. And they never gave us whole floors completed. They gave us rooms at a time, and we had to be hopping through construction materials, over all the trays and electrical cords. This was one of the more miserable jobs I have ever done.

Thanks to my years of experience and planning, I was able to overcome and deal with the nightmare of delivering a product little by little so they could continue working.

I told them the most important part of my work was going to be prepping. We needed to strip out the curing compound and it was going to cost. All of that we had to explain to them.

And we had to deal with blemishes and damage to the concrete. Many of their



More finished flooring at the new building.

Joshua Martinez removes curing compound.

electrical supplies were on the ground, and there were a lot because this is a large building.

I addressed all of those things in my contract before I started working. And this is why I think I succeeded on this job. I pay attention, and I saw all the problems before I started working. And I made sure that those problems were not my problems. We put it in writing.

Before I started working I presented them with a new contract and they agreed with the amendments. I understand now they had no choice. They had contacted other contractors and no one was willing to take the job, period. And because of the economy, there were not that many contractors left who had the expertise.

The original contract called for the contractor to repair all blemishes, but I said no, not on my contract. I didn't want to get caught with that.

Fighting over color

We started doing mock-ups. But we could not get the stain reaction that the architect wanted. We made mock-ups as large as 3,000 square feet and still we could not get what they wanted.

At first, we had the reps from the stain company doing this, doing that. Finally I told them I needed to make my own mock-ups.

I brought in a Scofield vendor. I took a Padre Brown from L. M. Scofield Co. and I diluted samples 5-to-1, 3-to-1 and 2-to-1, then did three applications of the chemical stain. The architects saw A, B, C and D, and they picked A. I said, "OK, A is a Scofield Padre Brown diluted 3-to-1. And D, the one you like less, that's the spec color applied three times. You have a choice. You decide what you want to do. If you want me to stay you need to change the specs and let me do the one you said you wanted." They approved it and we went to work.

I also told them that I needed to make amendment changes to apply a minimum of two sealer coats and then, before the building opens, three or four more coats. And I needed to see all of that in writing. I wasn't going to take my company to bankruptcy.

Cal/OSHA trouble

When we started working — two rooms at a time — I knew that if I managed myself I was going to be breaking even and if I didn't I was going to lose my butt.

They had to put heaters in to control the temperature, and every day I would take temperature tests all day long. I would take hundreds of pictures of every single thing I was doing, because I knew I had to protect my company.

We were working for three days when suddenly Cal/OSHA shows up. Some of the other trades had complained that they were getting sick, headaches, that there were fumes. It had nothing to do with us, but they blamed it on us. Reportedly, they were getting fumes from the butane tanks that were being using to heat the rooms.

So Cal/OSHA demanded our company records. We had everything available and we gave it to them. Then they interviewed all of my employees. They did not allow me to be in the interviews. They wouldn't let us continue working.

And within a couple of days, they said we could continue working, that everything was in order. Can you imagine if I wasn't prepared? I could have gotten a $10,000 fine from Cal/OSHA.

Getting paid

Getting paid was difficult. We had to stay on top of it — we had to stop working at one point until we got progress payments. At what we thought was the end of the project we got a call to do a walk-through, and they wanted to do all kind of repairs. Repairs of things that we had nothing to do with. Big scratches, big blemishes. The general contractor had decided to repair holes themselves because they didn't want to pay us. You can imagine what kind of repairs they did.

Color consistency

It was hard keeping the color consistent from room to room. Very hard. As I mentioned, we had started working in freezing temperatures and then moved into the summer months. The stain takes better when it is warmer. I asked for a record of mixes used and they wouldn't give it to me. The building was poured in two sections and we saw a big difference in the stain right away.

We had to camouflage the stain a little bit. We had to play. We made dilution formulas a little bit different. We played with 4 to 1 and 3 to 1 as we needed to. That gave us what we were seeking.

At the cold joint, when you wet it you could see that one side took more water than the other. So on the side that took more water, we used a lighter dilution. And on the one that took it less we used a different dilution. And let me tell you, you cannot see the difference.

We did some mock-ups first. On the second floor we had to apply stain twice in certain sections after we had already cleaned it. But on the third floor we already knew what we had to do.

Cracks

Also, there were cracks on the second and third floor. I repaired some areas and showed them some ideas. The architects didn't like the colors. I said, "OK, here's the color chart. You can use whatever you want." So the architect chose a brown that they liked.

They had to make another amendment saying they had to pay me for this. I had one guy spend three days doing crack repair.

The sealer

I would say it was close to a year between when we finished the stain and when we put on the first layers of sealer where it was needed. The floor was covered by a very good cardboard, a special

Julio Hallack uses a Padco T-bar applicator.

Photo courtesy of Julio Hallack

One of the best things to happen on this job site is that we used the Padco T-bar applicators. We had a very narrow time frame, but thanks to the applicators, we flew. We were able to apply sealers quickly and efficiently. The applicator allows you to spread the sealer extremely evenly and doesn't leave any puddles, so you can walk nonstop. We applied three finish coats of sealer on 50,000 square feet in about two days. That is job performance.

roll-up paper, in the meantime, but it was still about a year later.

We ended up using sealer made by Surtec, out of California. We used a good bonding sealer and a high-gloss finish sealer. We used a company that has a history of providing those products locally to make it simple.

At almost the end of the project they gave me permission to go back to put on the extra coats of sealer that we recommended. The client agreed to that, so they sent us a purchase order. When you go to strip the floor you strip the finished sealer but you don't strip the base sealer. It's very important to understand that, because otherwise, you'd start eventually damaging some of the integrity of the stain.

The finished floor was beautiful. It looks very nice considering what we were dealing with.

Access to water and drainage

We were restricted on water supply. The water was a long way away. We had to use about 200 feet of hose to get to the second floor and 300 feet to get to the third floor.

We were also restricted on drainage because they said most of the drains were not connected so we couldn't use them. There was a drain on each floor assigned to us on the far end. We had to walk, so you can imagine all the time it took for one employee to go and drain the water and come back.

Those kinds of things were discussed in our original meeting, but when we started working there were all kinds of excuses. Still, we had to perform and do what we had to do. The challenge was that when you have scrubbing machines, and you have vacuum equipment full of water, and you have to be hopping extension cords, obstacles and equipment, there's a lot of downtime. You lose a lot of time and money.

We had to carry all of our equipment on the stairs. Every piece of equipment had to be lifted by hand because there were no elevators. The forklifts on-site can only be driven by a union person, and at the beginning they told us they were going to facilitate all of that for us, but when we were actually trying to perform they were too busy to help.

A conflict over drain cover damage

They blamed us for contaminating all of the drain covers. The plumber wanted to change all of the drains and charge thousands of dollars. I said that it is an industry standard for us to cover the drains, which we did. We had pictures. It's also an industry standard that these drains come from the manufacturing company with plastic tape that is removed at the end of the job. I took a knife and I showed them on one of the ones they had blue-taped to say I was going to have to pay for it. Right in front of their faces I removed the tape and there was a beautiful gorgeous drain cover. And I said, 'You know, your plumber is being dishonest to you. Your plumber wants to stick it to me and put in all kind of drains when there's nothing wrong.'

I also told them that a lot of the contamination they saw had nothing to do with me because I didn't do the repairs. The repairs were done by their own people. So you can't blame me for that. That took care of that problem.

There were scratches that went 30, 40 feet, 60 feet long. I got pictures when we finished and had a walk-through. You get those kind of scratches by dragging furniture, by dragging things that you don't have on a proper pallet, by using a dolly when one of the wheels is stuck. It's called negligence.

How this could have been avoided

Every contractor needs to understand mixes. You need to understand concrete before you do staining. You need to understand that regular concrete is going to take stain very differently from a lightweight concrete. A lightweight concrete is going to take the stain lighter, it's going to confuse you, and its never going to give you the same look as the other floor.

I got the floors to look pretty consistent. I changed my formula. But I also made the clients sign a waiver.

I also communicated by email very heavily with our client. Every single day I wrote out my performance on the job site and added my comments, and I copied it to everybody in the contracting company.

Unfortunately this job was too complicated: a new state building, all kind of regulations. The general contractor's planning can be blamed for not dealing with a proper schedule and having too many redos. But I'm not putting all the blame on the general contractor. They spent a lot of money on a special heavy paper to protect the floors, so they did some great things. And their project manager is an unbelievable guy, to manage and deal with so many issues. We stayed on the job site because of him. The man has a lot of ethics and he knows how to manage a project. He worked with us very well.

The school and general contractor are in litigation right now. We recently submitted some paperwork to the president of the college and to that administration to get paid our retainer. It was only about $20,000. But 20 grand is 20 grand. And I want my 20 grand.

The total job ended up being billed at about $160,000, and let me tell you, that job should have been at least a quarter of a million dollars the way it went.

Photo courtesy of Julio Hallack

A beautiful job well done, despite many challenges.

Luckily, because we followed all the step by steps that you're supposed to as businesspeople, because we followed the law and everything else, we broke even, but it's a sad situation. A beautiful project, beautiful building, beautiful architecture. Why did things go so wrong? But the end product is not what it should be.

The biggest nightmare that I see is that contractors don't learn their lesson and they continue underbidding themselves. Our industry is lacking business understanding. They want to get a job. But If you want to just get a job, do something else. If you want to stay in this business, learn how to bid it correctly.

Do your homework. Don't run into trouble. Meet with the manufacturing companies. Learn about cases similar to what you are doing. Get history and prepare yourself. Don't risk yourself and your business.

Also, exercise your contractor rights and send preliminary notices if you need to. File mechanic's liens and stop notices if you do not get paid on time.

After 25, 26 years in the business I've done it all. But this job taught me many lessons. I could write a book about this job. I'd love to help everybody understand that when you are working with the state, when you are doing government work, when you are doing prevailing wage, you need to be very well-informed and educated about the law, especially when you have to sign and give a year warranty in writing knowing the conditions you're going to be facing. So, take pictures, pictures, pictures everyday. Take temperature readings and record at what time you took them.

I'm very responsible and I had to honor my contract and I did. And I think a lot of people see that. A lot of the subcontractors saw us performing and they complimented our discipline, they complimented our performance. They said, "We don't know how you guys can do that."

Julio Hallack is president and CEO of Concrete by Hallack, based in Turlock, California. He can be reached at hallackj@concretebyhallack.com.

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An Epic Hardscape in the Hills

Burns Backyard, Soquel, California

by Joe Maty

If you're going the makeover route, why not make it extreme. Or at least dramatic.

Either description can be applied to the three-pronged game plan devised to vastly revamp the hardscapes surrounding a sprawling, exclusive residential property on the Central California coast owned by businessman Paul Burns. At the helm of this triumvirate was Jay Webb, owner of 100% Concrete Inc., Ripon, California. Playing pivotal roles were JLC Concrete, based in Sacramento and owned by Jay's brother Mike Webb, and Sun Masonry and Stain, also of Ripon and headed by Aaron Oldham.

Their task: new or restored decorative concrete surfaces for the garage, driveway, patios and walkways, with a color palette that would bring these elements into chromatic sync with the newly applied exterior facade finish.

Owners Paul and Betty Burns consulted with Mary Breslin, a Santa Cruz designer, after purchasing the home and pondering ways to update the property. The hardscapes had been acid-stained, primarily in red, at least two decades ago, and had lost their dazzle, to say the least.

"The exterior color was a dreary charcoal with barn-red trim," Breslin says, referring to the home's facade. "The hardscape matched this palette."

The home, in Soquel, California, overlooking Monterey Bay, had been custom-built by the previous owners and is characterized as French Country style, with beams reclaimed from a Northern California warehouse used throughout. The house had not been updated for decades, and the Burns decided a new color of paint was in order — a custom "soft Chamois" that matched the paint color applied to the living-room walls, Breslin says.

This created a new problem. "With the house transformed by this new, golden finish, the hardscape was out of sync," Breslin says. "Mr. Burns was already familiar with the possibilities of resurfacing concrete from improvements made at his previous residence. He hired the same contractor (100% Concrete) to transform these old surfaces."

The garage job, a bit player in this transformation drama, was relatively straightforward: a new floor surface in a granite color, using the MiraFlor Full Flake Broadcast System from Miracote, with a urethane topcoat.

A more daunting task was bringing the existing exterior concrete surfaces into step with the home's newly applied exterior plaster and paint, and turning the gravel driveway and parking area into a decorative concrete feature.

Restoring worn-out acid stain

The original stamped-concrete walkways and patio were acid-stained in three or four colors, but these were "worn out and sealed a number of times," says Sun Masonry's Oldham.

Photos by Aaron Oldham

Here, Breslin settled on the Sierra color, a cream or "yellow-tan" shade of solid-color stain offered by NewLook International, as the primary shade for the restoration and recoloring of the concrete. For highlights on edges, a translucent NewLook stain in Medium Gray was the choice.

The color restoration began with stripping several layers of sealer from the 4,000 square feet of patio and walkway surfaces. Sun Masonry used NewLook's EasyStrip 1000, a water-based concrete coating stripper. To apply the stripper, Sun Masonry employed an airless sprayer of the type used to apply paint. The EasyStrip was given an overnight dwell time, then power-washed at 3,000 psi.

Then, the Sierra stain was applied using an applicator broom, a process that spanned three days. That was followed by broom application of NewLook Translucent Color

Project at a Glance

Client: Paul and Betty Burns

Contractors: 100% Concrete Inc., Ripon, California; JLC Concrete, Wilton, California; Sun Masonry and Stain, Ripon, California

www.100concrete.com
www.jlcconcrete.biz
www.sunmasonryandstain.com

General contractor: 100% Concrete

Designer: Mary Breslin, Santa Cruz, California

Project cost: About $150,000

How long from start to completion: About 30 days

Concrete mix: San Benito Supply, Watsonville, California

Project description: Installation of epoxy flake flooring system in garage; restoration of exterior colored concrete walkways and patios; construction of stamped concrete driveway and turnaround.

Materials used (garage): Miracote MiraFlor Full Flake Broadcast System

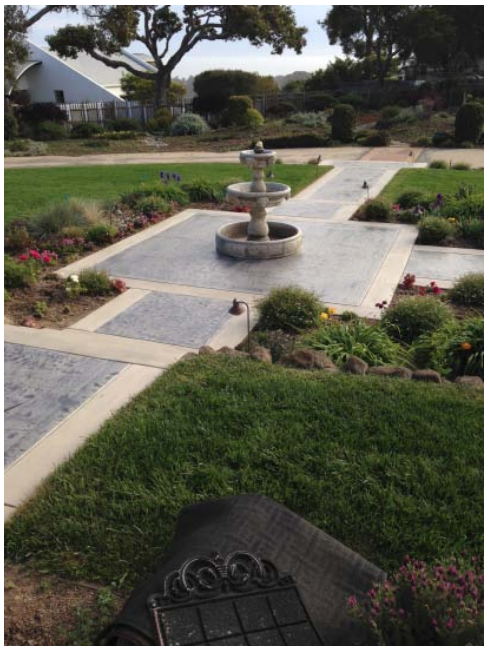
Materials used (outdoors): NewLook International's EasyStrip 1000 concrete stripper, Original Solid Color Stain in Sierra, Translucent Color Enhancer in Medium Gray, and SmartSeal WB; Proline Concrete Tools' Seamless Old Granite Cleft Stone pattern, Dura color hardener in Soft Gray, Dura antique release in Rock Gray, and Dura-Seal HG sealer.

Materials supplier: SCP Distributors LLC, Modesto, California

Enhancer in Medium Gray as an accent color, a process that took two more days. A NewLook sealer was applied the following day with a pump-up sprayer.

Application of the Enhancer stain as an accent color proved challenging, as the Medium Gray color contrasted sharply with the Sierra solid-color stain, meaning any blemishes from overspray would stand out. "They wanted extreme contrast using the dark gray, and any problem would be immediately noticed," Oldham says. "It was a very detail-oriented job, I'll tell you that."

Oldham also emphasized the importance of surface prep before applying stains in a restoration job like this — ensuring a surface clean and free of any old sealer. "If you don't start with a good surface, everything is lost," he says. As part of the surface cleaning process, Sun Masonry uses a tape test, where the tape is applied to the surface, removed and inspected for any residue of dirt or sealer.



Pouring and stamping 26 truckloads

In addition to the dramatic restoration and recoloring job, 100% Concrete and JLC Concrete teamed up to install a new stamped concrete driveway. A procession of concrete-mix trucks inched their way up a twisting climb, backing up for the better part of a mile through a canyon-like cleft in the hills just to get to the job site for the driveway pour. The route left little margin for error, with a drop of 100 feet or more to one side of the road in one particularly hair-raising spot.

Texture was applied with the seamless Old Granite Cleft Stone pattern from Proline Concrete Tools. For color, the contractors used Proline's Dura dry-shake color hardener in Soft Gray, with a darker

Photo by Aaron Oldham

Photo by Timothy Malispina

Rock Gray release. A clear sealer was applied about a month later — Proline's Dura-Seal HG, a solvent-based high-gloss product with VOCs of 100 grams per liter.

JLC Concrete and 100% Concrete turned on the jets for this part of the job, with pour, stamping and color-hardener application completed in two days. Jay Webb said putting down that much concrete, with color hardener, in that time frame presented a real test. Keys to making it happen were "having the talent — the crew with the talent and experience — and working with the ready-mix producer to get it to the job in a timely way."

A synthetic reinforcing fiber, called a "stealth fiber" by Jay Webb, was added at the concrete plant to enhance performance of the concrete mix. "We run that in just about every pour," he says. "Even with rebar. We see really good success with it."

JLC Concrete's Mike Webb said the aggressive timetable demanded a large crew of about 20, coming from 100% Concrete and his JLC Concrete. They worked two 15-hour days on the pour and stamping of the driveway, doing some 15,000 or 16,000 square feet, placing 11 truckloads of concrete the first day and 15 the second.

On a job this large with stamping and color hardening, "The biggest thing was making sure everything is uniform," says Mike Webb. "Otherwise it's a checkerboard."

Coordinated color

Paul Burns and wife Betty Burns consulted with Mary Breslin, a Santa Cruz designer, on the color choices. Breslin says color samples provided by 100% Concrete offered an attractive match for the exterior house color, which she described as a "soft Old World pale gold befitting a Country French style original to the home." The exterior house color, in turn, was in sync with the interior wall color in the repainted living room. All doors and trim, meanwhile, were specified by Breslin to coordinate with the dark gray roof tiles.

The colors for the exterior hardscapes — "yellow-tan" and gray — reflected this overall color scheme, and figured into a "completely updated, coordinated look" for the residence, Breslin says.

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Formed Concrete Balconies are a Hit with Golf Enthusiasts

Merritt Residence, Carmel, Indiana

by Gail Elber

In 1987, Dan Mattingly was an enterprising young contractor using his pickup truck to carry leftover concrete from the local ready-mix plant to his first decorative concrete jobs in the Indianapolis area. Twenty-seven years later, Mattingly Concrete is a go-to company for challenging jobs in Central Indiana. "We specialize in high-end residential decorative restoration," says Dan's son Will Mattingly, who now oversees the company's day-to-day operation. "Ninety-nine percent of the work we do is fully tearing out and replacing decorative concrete without making too big of a mess or destroying everything around it. Our crew takes a great amount of pride in this work. Without a crew of this caliber, these jobs would not be possible."

In 2012, Mattingly Concrete took on the challenge of helping remodel a residence with a view of the 13th hole on Carmel's Crooked Stick Golf Club course. "That particular project required an outfit that knew how to work around existing spaces and landscaping," Mattingly says. "They had demolished part of the house and were bringing it back to its former glory."

Photos courtesy of Will Mattingly

Will Mattingly stamps the deck with a slate finish.

Project at a Glance

Home: Merritt Residence, Carmel, Indiana

Decorative concrete contractor: Mattingly Concrete Inc., Carmel, Indiana

www.mattinglyconcrete.com

General contractor: Morken Construction Inc., Fort Wayne, Indiana

Design and project management: Mattingly Concrete personnel were led by Scott Brehm (formwork), Bruce Van (demolition), and Will Mattingly (jobsite foreman)

Project description: Among other decorative concrete elements, Mattingly Concrete created two second-floor stamped concrete balconies.

Products used: Marshalltown Uni-Mix Integral Concrete Colorant in Gull Gray; Marshalltown Perma-Cast powdered release in Storm Gray; Butterfield Color Italian slate stamps, cobblestone stamps, chiseled-edge form liners and heavy stone texture skins.

Challenges: Concrete had to be poured and stamped on days with 90-degree heat and 100 percent humidity. A tight construction schedule meant working around other contractors.

Nothing was small about this project. "The project was in its third year and had been through two builders," Mattingly says. Now there was a deadline: The owner wanted the home to be ready to entertain VIP guests for the 2012 BMW Championship golf tournament at Crooked Stick.

Over a nine-month period, Mattingly Concrete poured "a few hundred yards of concrete," most of it stamped, including foundations, seven patios, five sets of steps, a pool deck, two driveway aprons, garage aprons, 2,000 lineal feet of driveway borders and two showpiece balconies.

"They wanted to make the balconies look like a big piece of rock suspended over their pool area and another one over the patio," Mattingly says. "They wanted the entire surface and the edges to be stamped."

After steel columns were installed to support the balconies, Mattingly's crew erected scaffolding and then built the forms on top of the columns. "The way it was formed was quite an undertaking as far as working around other people went," Mattingly says. "An engineer helped design it and how the load was going to be carried, but we ended up making most of the critical decisions as far as how the formwork would hold."

Polystyrene foam blocks, placed in forms to create a lightweight beamed deck.

The balcony after the pour.

After supporting joists were installed by the framers building the house, Mattingly's crew braced the structure and installed the formwork. "To make it lightweight, we blocked out the middle of it and filled it with 2-inch polystyrene foam, which gave it a beam effect, with a lot of rebar in those areas."

The mix was a six-bag mix called a reverse-weight stamp mix. "It switches the ratio of sand to gravel and adds a few other things that enable an easier finish and more uniform stamping," Mattingly says.

The balconies were poured in August. "In Indiana, you get up to 100 percent humidity and 90 to 100 degrees during the day," Mattingly says. "Luckily, the homeowner was OK with our starting at four or five in the morning for several weeks in a row."

The mix included integral color, which accelerated the set time. "We did both of the balconies in one pour. One balcony was 11 or 12 yards, and one was 9 1/2, so there was a little bit of jumping around going on."

The forms were constructed so that the sides could be taken off the day of the pour. "We had a form liner with a chiseled edge, and we took the forms off and used a plastic bag to powder the edges with Perma-Cast Storm Gray colored release. That gives it a softer surface."

After the balconies were poured, Mattingly's crew finished the balconies by saw-cutting control joints and applying sealer. The whole process, from form construction to finishing, took four or five days. Afterward, the steel columns were sheathed in limestone, limestone trim was added, and lighting and wrought iron handrails with limestone piers were installed.

The last few weeks of construction involved seven-day weeks and a ballet of tradespeople working around one another in an effort to get the home ready for the golf tournament. But everything came together, and the homeowner and his friends got to watch Northern Ireland's Rory McIlroy take home one of golf's biggest rewards, the BMW Championship's $1.4 million first-place prize.

What Causes Hot-tire Pickup?

by Chris Sullivan

Question: Why do my car tires pull the sealant off my patterned concrete drive?

Photo courtesy of Lynn Hoyland

Hot-tire pickup isn't caused by tires melting sealers. It's a sealer composition and adhesion issue.

The issue of car tires pulling sealer from concrete is known as "hot-tire pickup." The initial conclusion most people make when they hear "hot-tire pickup" is that a hot tire is melting the sealer and causing it to peel off the concrete. While heat *is* a factor in the process, the sealer is not melting. Like most sealer issues, hot-tire pickup comes down to sealer type, and more importantly, sealer adhesion — the bond between the sealer and concrete substrate.

As a car tire runs on the street during normal use, the temperature of the rubber increases. To experience this, feel your car tire in the morning before you drive, then again after you arrive at your destination. The heat generated from normal use causes the tire to expand slightly. When you stop driving and the tire cools, it shrinks back to normal size. This contraction in size puts pressure on the surface the tire is resting on. That pressure is the force that causes hot-tire pickup. As the tire shrinks, it pulls the sealer off the concrete.

This is why you can see the tire treads in the concrete with most hot-tire pickup failures — the tires only pulled the sealer off where they were physically touching the surface.

But that is not the whole story. If that were the case, every sealed concrete driveway would experience hot-tire pickup, and we all know that is not the case. In fact, the number of hot-tire pickup issues is quite small when you consider the total square feet of sealed concrete that exists. So if all tires contract when they cool, why don't all sealed driveways with cars parked on them exhibit hot-tire pickup? This has to do with the type of sealer on the driveway and how well it has adhered to the concrete.

While all sealers have the ability to withstand hot tires without failure, some sealers are better suited to resisting hot-tire pickup than others. Acrylic sealers perform worse than epoxies and polyurethanes when it comes to resisting hot-tire pickup. This is because acrylic sealers do not exhibit the same degree of cross-linking that epoxies and polyurethanes do. Cross-linking is a chemical process in which the polymer chains of the sealer resin form bonds among themselves. Highly cross-linked sealers are more durable, more chemical-resistant and stronger overall than those with minimal cross-linking. It only makes sense that epoxies, polyurethanes and polyureas, which are all highly cross-linked, resist hot-tire pickup much better than acrylics.

The downside to using epoxies and polyurethanes is that the cross-linking properties that make them so durable also make them mostly impermeable and not good candidates for exterior sealing applications. The impermeability does not allow these highly cross-linked sealers to breathe very well, which in turn makes them more prone to trapping moisture and turning white in exterior applications.

Since most driveways are outside, this leaves us with acrylics. That is why 99 percent of exterior decorative concrete is sealed with an acrylic sealer. Not to mention the fact that epoxies and polyurethanes cost two or three times more than acrylic sealers.

The most important factor in hot-tire pickup is sealer adhesion to the substrate. If you get proper adhesion between the sealer and the concrete, hot-tire pickup is not an issue, even when using acrylic sealers. In most hot-tire pickup failures, the sealer bond to the concrete is weak, and the force of the contracting tire is enough to peel the sealer from the concrete. This is another reason to properly prepare all substrates prior to sealing, and to apply sealers in thin coats to minimize the amount of sealer on the surface. Remember, "thin to win" when it comes to sealing concrete!

Also, keep in mind that the type of tires on the vehicle can play a significant role in the severity of hot-tire pickup. High-performance tires found on many cars and

trucks these days are soft. The chemicals in the tire that make them soft (plasticizers) can leach out of tires and actually make the tire more prone to sticking to the sealer.

This piece of information is good to know but not very practical, since asking a homeowner to buy lower-quality tires to prevent hot-tire pickup is not something I would recommend. If you do have a driveway with hot-tire pickup, the best response involves stripping the sealer, touching up the color, properly cleaning and preparing the surface, and resealing. I recommend using low solids (below 20 percent) and limiting the application to one coat of sealer.

Chris Sullivan is vice president of sales and marketing with ChemSystems Inc. He has led seminars and product demonstrations throughout North America. Reach him at questions@concretedecor.net.

Chris will lead two seminars on Thursday, October 2, 2014 at the Concrete Decor Show: "Trends in Decorative Concrete" and "Selecting Sealers for Decorative Concrete." For more, go to ConcreteDecorShow.com.

Texture Stamp Mats Changed the Game

by Doug Carlton

I was on the verge of giving up on decorative concrete after offering stamped concrete for three years as part of my company's concrete services. What changed my mind? The creation of texture stamping, thanks to the invention of what today we call texture stamp mats. If not for this stamping revelation, I would have missed out on a great opportunity and you surely wouldn't be reading this article.

Before texture stamping, stamping professionals were limited to interlocking stamp patterns and all of the frustration and anxiety that accompany them. Flash forward to 2014, and numerous opportunities exist to showcase your decorative talent, thanks to the many variations of texture stamp tools.

The benefit of randomness

The customer's "expectation thermometer" rises the minute a contractor sells an upgrade such as stamped concrete. This means that the customer will no longer view a slab of concrete as merely functional. That concrete must now also be decorative and complementary to all other surrounding improvements. Mastering the stamping process in order to meet these expectations requires a combination of effort and knowledge. This is the learning curve. Luckily, a great benefit of texture stamping is that the skills to create an attractive hardscape can be learned quickly.

The concrete placement, coloring and finishing process remains the same, regardless of the stamping process or pattern, up to the point of imprinting. But as soon as the actual stamping process begins, the simplicity of texture stamping prevails. Texture stamp tools require no special alignment or interlocking. Nor do they require a stamping professional to stop and analyze how one tool (or mat) pattern fits into the previous one. Texture mats have the benefit of randomness, which means a crew can stamp one area and then jump to another area on the project's opposite side, even if that means leaving a gap between. This luxury is seldom shared by interlocking stamp patterns.

Timing is crucial

Poor timing is the greatest threat to concrete placement. Since most exterior decorative concrete is placed in warm weather months, the window for stamping the surface is limited. Meeting a customer's expectations hinges on the consistency of color and surface impressions. Color consistency can be improved later on during the sealing stage, but the same is not true with impressions. It is imperative to consistently imprint the concrete surface the day of the pour.

Texture stamping requires half the time and effort compared to other interlocking stamp patterns. I recently timed two crew members as they texture-stamped a 500-square-foot patio in less than half an hour. Their expediency lead to a consistently stamped patio that our customer found attractive and I found profitable.

The ability to imprint concrete faster means the same effort and manpower will imprint more surface area in less time. As you know, labor is the hardest item to estimate, and that's why the efficient nature of texture stamping is an added benefit to the bottom line.

Works well with joints and edges

Texture stamping has other attractive advantages over interlocking patterns that simulate stone, brick or tile. Like all concrete surfaces, stamped concrete requires tooling or saw cutting to allow the concrete to crack in a controlled fashion. Ignoring this crucial step will eventually lead to an unattractive display of random cracking that most customers will not find appealing. The aforementioned interlocking patterns do not look natural with tooled or saw cut lines running through their pattern, but this is not true with texture stamping. Tooled or saw cut "breaks" add to the appeal of texture stamping, especially when they are preplanned and coordinated.

Another attractive benefit of texture stamping is how it seamlessly blends with free-flowing edges around a project's perimeter. This is not so true with interlocking patterns. Free-formed lines (curvilinear) appeal to the eye more than square corners or straight lines often observed with interlocking stamp patterns. This is one reason why texture stamp patterns are most common around pool

decking and connecting sidewalks. Texture stamping's ability to simulate lines seen in nature is appealing to the eye. This helps create an organic hardscape that only texture patterns can provide.

The option to easily master a skill that creates an attractive, yet profitable, decorative concrete service is always worth pursuing. Nearly all stamp tool manufacturers now offer texture stamp mats in various sizes and shapes. Unlike with most interlocking patterns, it is not necessary to purchase more than three or four stamp tools in most cases.

Doug Carlton is working on his third decade in the decorative concrete industry. He's the owner of Carlton Construction, located at the base of the Big Horn Mountains in northeastern Wyoming. Doug can be reached at carltondoug@sbcglobal.net.

Broadcast vs. Troweled Quartz Systems

Which one is right for your job?

by Stacey Enesey Klemenc

When it comes to resinous quartz flooring, there are two basic ways to approach the installation. You can broadcast the quartz onto a floor coated with wet epoxy, or you can mix the epoxy and quartz together — making what is often called epoxy mortar — then trowel it on.

Both ways will produce seamless, durable flooring that can be decorative or utilitarian. The 100 percent solids epoxy floor coating is usually clear and the quartz-sand component typically features a blend of contrasting colors with a dominant highlight color. Preblended mixtures are available from many manufacturers.

"Both systems have similar aesthetics, but inherently, the epoxy mortar system will be smoother because of its nature," says Todd Cook, technical sales rep for Westcoat Specialty Coating Systems. "The broadcast will be more textured."

Of the two, trowelable epoxy mortar systems tend to be more colorful. "Although a color blend may be identical (in both types of mixes), the aggregate is larger in the trowel-grade quartz so the colors are more prominent," says Kevin DeCarlo, president of Durex Coverings Inc., in Baltimore, Maryland, whose business involves about 85 percent resinous flooring. With a troweled installation, "You get a speckled mosaic look. With the broadcast media, you'll get more of a monochromatic look," he says.

A broadcast-quartz floor by Baltimore-based Durex Coverings Inc. that incorporates the Mosaix Floor system mixture of ceramic quartz aggregate and clear epoxy resins.

Photos courtesy of Durex Coverings

A trowelable epoxy morter floor will have a speckled look, says Durex Coverings president Kevin DeCarlo.

Both flooring systems are intended for medium to heavy-duty use, with the troweled variety the more durable option when you have wheel traffic like fork lifts, says Cook.

"A troweled system's long-term abrasion and impact resistance are superior to a broadcast system" and subsequently cost more, DeCarlo says. As for appearance, "Broadcast can look good but troweled quartz will look slightly better. It's sort of like better and best."

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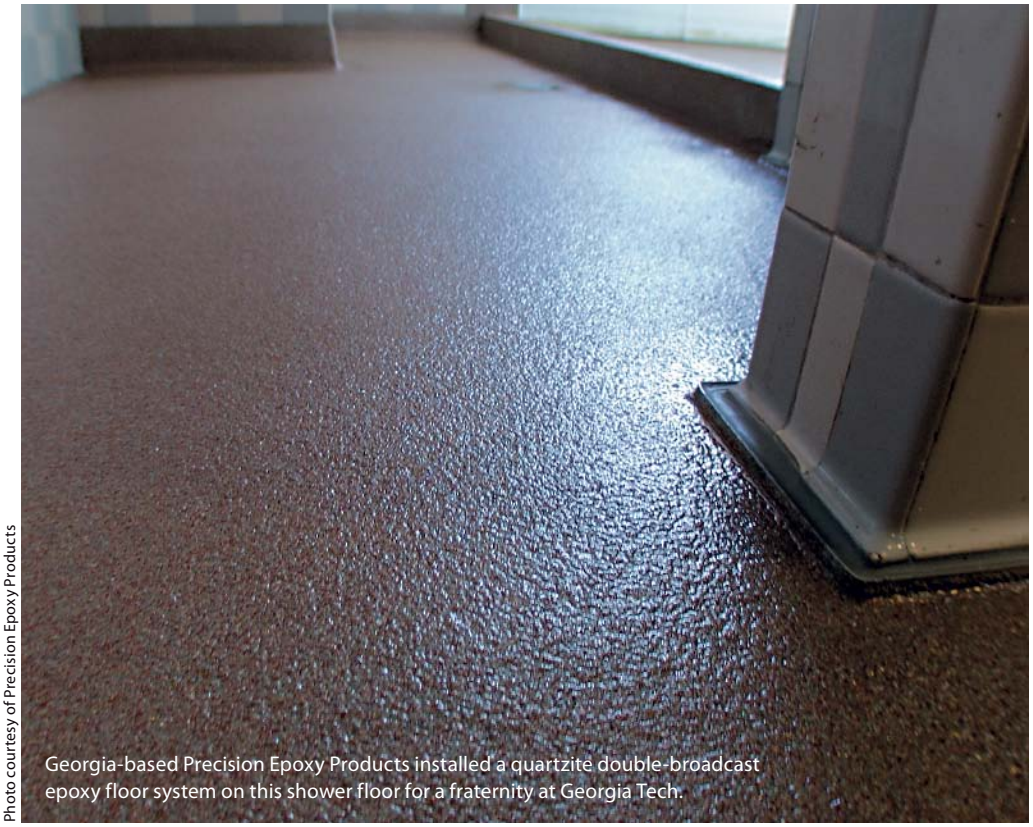

Photo courtesy of Precision Epoxy Products

Georgia-based Precision Epoxy Products installed a quartzite double-broadcast epoxy floor system on this shower floor for a fraternity at Georgia Tech.

manufacturing plants, bathrooms, locker rooms, kitchens, restaurants, healthcare facilities, showrooms, garages, warehouses and schools. The floors can be finished to be resistant to chemicals, stains, mildew, mold or fungus. They can be able to withstand high traffic and heavy loads, and they can be finished to offer varying degrees of skid resistance. They also can be topcoated with UV-resistant finishes so they won't yellow in direct sunlight, and they can be colored with UV-resistant quartz sand to better maintain their hues.

Most specialty floor coating manufacturers produce both broadcast and troweled quartz systems, with some offering one of each and others a wider selection. Key Resin Co., for instance, has several systems geared for various applications, including products that combine quartz with recycled aggregates such as crushed glass or feature rapidly renewable content in the resin.

"Using rapidly renewable or recycled content is a real trend today," says Key president Jeff Cain. More and more

A Jersey Contractor Prefers Troweled Systems for Color Patterns

Troweled quartz jobs go faster than broadcast jobs because multiple steps aren't needed to apply the system, says Fernando Franco, part owner and technical director of Bodenkraft, a company in northern New Jersey that specializes in seamless decorative epoxy and concrete flooring systems.

On jobs over 1,500 square feet, he typically has between two and four guys hand-troweling and gauge-raking, with one or two men behind them on power trowels flattening the floor and eliminating trowel marks. "We like to use a power trowel for our final finish," he says. "It'll knock off the high spots and flatten things out a little better. You just need to keep it steady like you're buffing a floor and not push too hard. It isn't meant to create movement or anything like that. You're basically just skimming the top and packing it down."

Because you have more control over a troweled system, it's easier to achieve multicolor mosaic or terrazzo-like patterns, Franco says. He likes to create patterns using terrazzo or Schluter metal strips before he trowels. "It's like coloring by numbers," he says. "You can get some pretty cool effects." The metal strips also can be bent to create patterns or shapes, glued down and troweled in. It wouldn't be practical to try to install broadcast systems in the same manner, Franco notes, as you would have to section off an area, broadcast a color and then come back and repeat the procedure another day. "It'd be way too time-consuming," he says.

With broadcast systems, he adds, it's almost impossible to control where the different colored sand will end up. "Artistic patterns are more difficult to achieve with broadcast," Franco says. "You are really limited to what kind of patterns you can make." However, Franco says, "There's a simpler learning curve when it comes to broadcast. If a guy can broadcast flakes, he can broadcast quartz." And although it typically takes him four to five days to install a double-broadcast quartz system, the floor can be installed in a day if a polyaspartic is substituted for the epoxy.

Photo courtesy of Bodenkraft

Applying a troweled system.

"There are right ways and wrong ways to install these systems," Franco says. "There's more to the process than just epoxy and (quartz) sand. Most people don't understand that it's a multistep job (that involves prepping, priming and sealing). There are ways to shortcut these systems but they will show up in the long-term performance."

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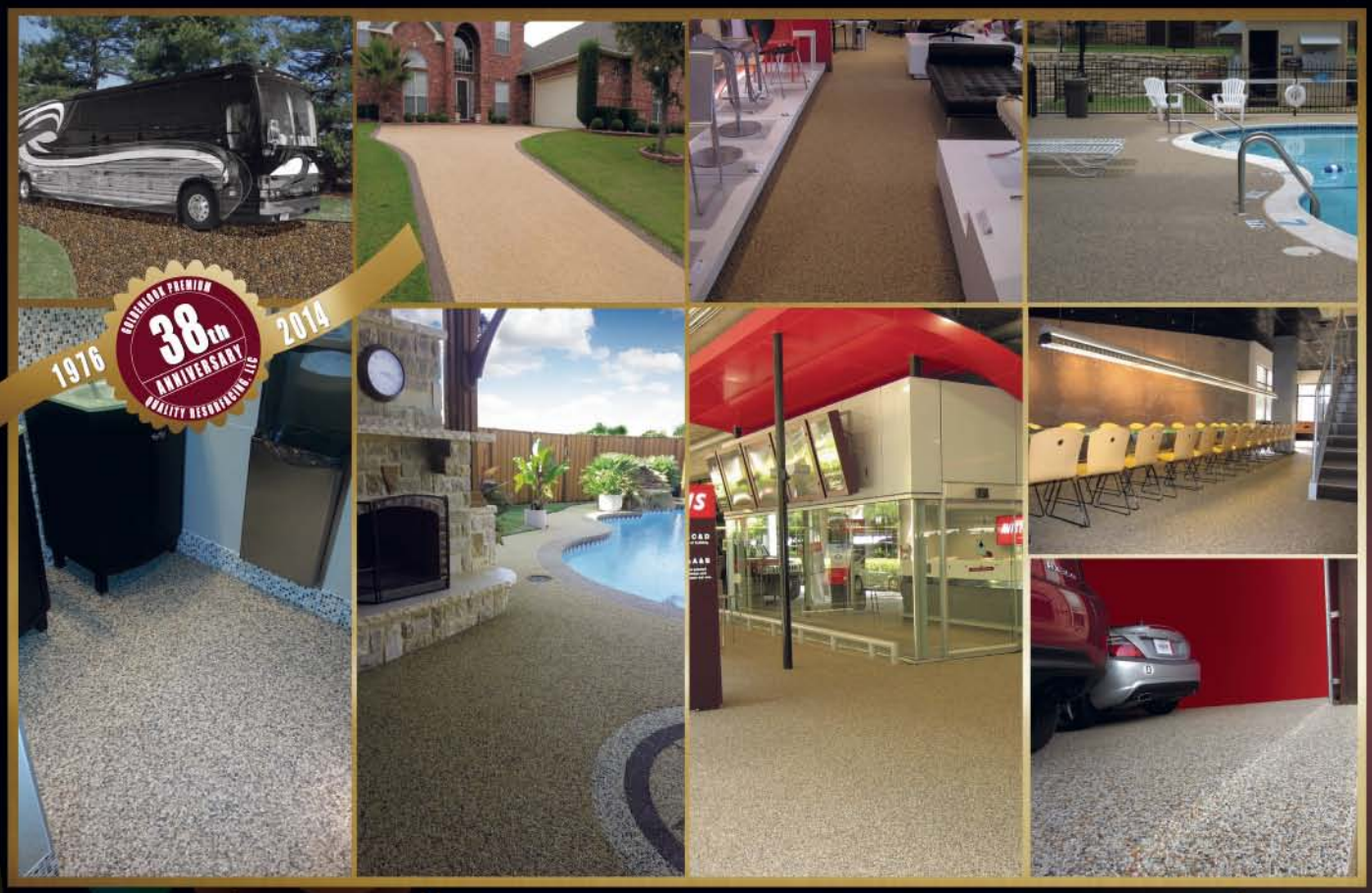

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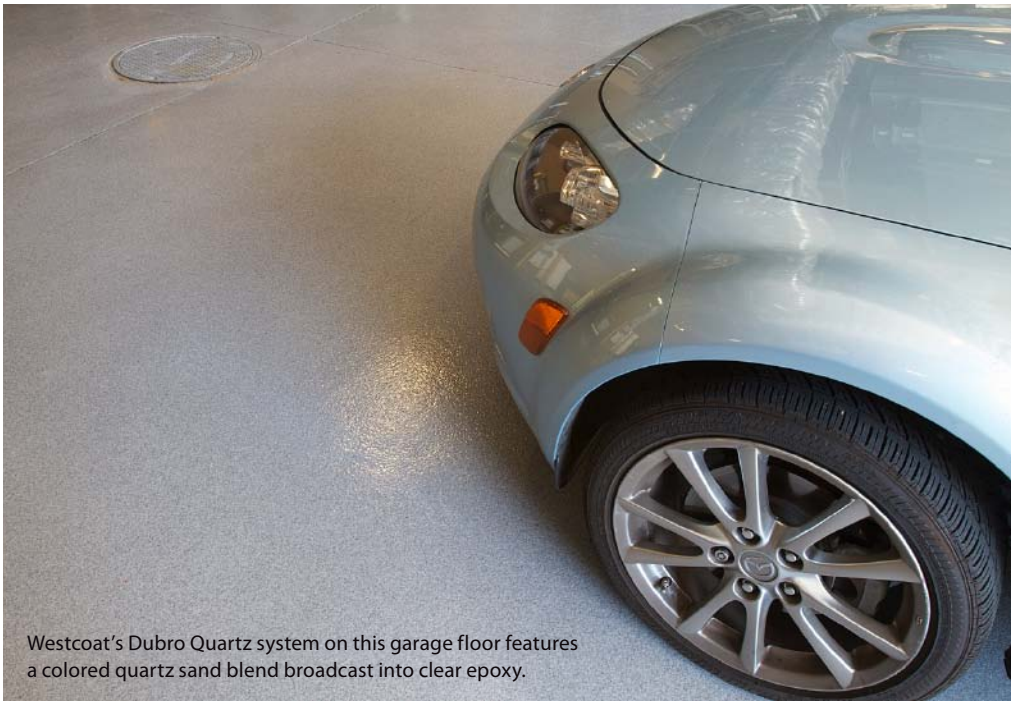
contractors are interested in acquiring LEED (Leadership in Energy and Environmental Design) certification from the U.S. Green Building Council for their projects, he says. The quartz itself is not recycled.

Troweled systems

According to Cain, troweled quartz systems are applied to floors prepped by bead, shotblast or grinding pad and then primed with a 100 percent solids epoxy. Next, the quartz is mixed with an epoxy binder to form the mortar, which has the consistency of semidry beach sand, and is troweled in. That topping is then grouted with a clear resin to fill in any micropores, strengthen the floor and close it off to contaminants. Finally, a topcoat is applied that ranges from an epoxy to various urethanes depending on the application desired.

Epoxy mortar installations are generally completed in less time than broadcast systems because the sand and resin are applied in one step, requiring fewer trips per job. "This reduces some of the downtimes and may result in a faster turnaround for that space," Cook notes. "Traditionally, they are also more labor-intensive during the actual steps and might require special tooling or equipment such as gauge rakes and power trowels."



Westcoat's Dubro Quartz system on this garage floor features a colored quartz sand blend broadcast into clear epoxy.

Photo courtesy of Westcoat Specialty Coating Systems

Troweled systems are more expensive to install, as they typically are applied at 1/4- to 3/16-inch, as opposed to a 1/8-inch-thick broadcast system. The added thickness makes them more durable. Also, emblems and more intricate designs are easier to do with troweled quartz, says Cain, and you can transfer from one color to another more seamlessly. With broadcast quartz, you're simply tossing sand into a wet surface, he notes. "It's harder to get crisp variation lines to form any kind of pattern."

Installing a troweled quartz floor requires more skill, he says. "It's more difficult to trowel a constant 1/4 inch and keep the floor flat with no trowel lines."

Epoxy Expert Favors Broadcast Quartz

Mike Ramy, owner of Precision Epoxy Products, a division of Rock Art Ltd. In Douglasville, Georgia, recalls his first epoxy job back in 1965 when he was just 13. "We coated the concrete of an 18-bay loading dock area and a forklift ramp up to the very large trash compactor/dumpster unit to nonskid the area of around 4,000 square feet," he says, describing the broadcast-quartz floor installation at a large paper mill. "It was my introduction into weekend and holiday work while businesses are closed to minimize disruption to normal operations at a facility."

His grandfather owned a painting business back then, and he spent summers and many weekends working with his dad and granddad. Back in the '60s, when epoxies first came along, they were often specified in food-related areas because of their ease of cleaning and resistance to germs, he says. Ramy remembers the old guys didn't want anything to do with epoxy, so they'd paint the walls and the young guys would handle the floors.

"That's how I got started," he says. And 49 years later, he's still at it. Today, Ramy not only installs epoxy products but he also formulates them. He has a standard line customers can chose from, and he customizes formulas to fulfill specific needs.

"Floor coverings are our bread and butter," he says. In his opinion, "Troweled quartz systems are very old-school. They're something we don't do much anymore for several reasons." The first is that with 3M out of the quartz granular-making business, spherical granules are no longer readily available, he says. "What you get today are jagged in shape and harder to trowel. They tend to lock together instead of spreading out nice and evenly."

The second reason is cost. Ramy says he has a sand-filled epoxy mixture that can be troweled down as a floor base or used to level out "birdbaths" or puddling areas at one tenth the cost of quartz. Quartz can then be broadcast on top of that. "If customers want a thicker floor, you can do a triple or quadruple broadcast," he says. If they want a troweled quartz nonskid surface, you'd have to come back and broadcast anyway.

Lastly, troweled quartz is not that popular anymore among his customers because of the labor factor. "You have to have workers very skilled at troweling. If the trowel crew is not on their game, you'll have a crazy, wavy mess. Maintaining a uniform thickness over large areas is very difficult."

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"If you have a large-scale project, there's more room for error if you have 20 hands troweling," says Cook. "You might see an unevenness or waviness."

Specialized power trowels

That's where a power trowel can come in handy, says Drew Fagley, president of HoverTrowel Inc., a company that makes lightweight power trowels originally designed and engineered for finishing colored quartz mortars. As a contractor, he says, he realized the aesthetic and physical benefits of troweled toppings as opposed to the broadcast method, but he was concerned about the inconsistencies of troweling by hand or conventional power trowel. So his company designed its own tool.

"Power-troweling with conventional power trowels or even hand-troweling can cause unsightly trowel marks," he says. "Even experienced mechanics can have issues with troweling imperfections because of the different colored aggregates fooling the eyes. Care must be given during these installations, because grinding is not an option with the surface-coated quartz. An impeccably smooth installation is a must for the desired result."

Power trowels designed to be used with epoxy are lighter than your traditional tool, says Paulo Bergstrand, president of Scanmaskin, a company that makes 110-volt and battery-run models. Most of the contractors he deals with broadcast the quartz and then trowel it in. The results from using a machine are a smoother, more compacted surface, he says. Not to mention, the installer is always standing during the installation.

Fagley notes that troweled epoxy mortars can be applied to a deteriorated or rough prepped substrate, while broadcast systems must be applied to very smooth surfaces or the imperfections will telegraph through the broadcast.

Pros and cons

Cook with Westcoat notes epoxy mortars can hide imperfections much better than broadcast systems and have better moisture tolerance, too. "A mortar system can be used to manipulate the contour of a substrate," he says. "This is nice for drains or things that need a slope. You get greater control."

DeCarlo points out that an unforeseen benefit of troweled quartz is the resulting porosity of the blended sand and epoxy matrix. Resin-rich broadcast systems produce tighter floors but are more prone to moisture-related failures, he says.

Photo courtesy of Key Resin Co.

Key Resin president Jeff Cain says that broadcast quartz makes more sense in garage settings, where a troweled system would be more costly and require more skill to install.

Although DeCarlo says he prefers to hand-trowel and doesn't often use a power trowel on decorative quartz, he says if you have skilled operators, productivity can increase greatly. But if your crew makes a mistake on a power-troweled floor, he says, it's almost unfixable. "Unlike other systems like terrazzo or industrial mortar, if you have inconsistencies or you overtrowel a portion you can't grind and patch your mistake."

The broadcast-quartz system

Floors that will be broadcast with quartz first need to be prepped and primed with a penetrating primer coat. Next, a binder resin is applied and the quartz sand is tossed by hand into the binder until the floor can't take any more sand. After this "lift" cures overnight, the excess sand is removed with a broom and vacuum. Most applications are double-broadcast, which involves another "lift" or layer of binder and sand before the floor is sealed. The thickness of this seal coat will determine the surface finish of a broadcast. The thicker the sealer, the smoother the finish.

Comparatively, broadcast quartz systems are easier to install, thus broadening the field of applicators, while achieving a look similar to troweled at a lower price. They also offer a natural built-in nonskid texture and have slightly better elongation characteristics than troweled. "It can offer a little more flex," Cook says. "Mortar is more rigid."

Contractors that normally lean toward the broadcast systems because of the lower price should reconsider epoxy mortar's strengths, says Fagley. "Depending on the job size and condition of the substrate, a trowel-down topping can be cost-competitive with an honest double-broadcast" while being thicker, more durable, aesthetically more pleasing and a faster install. "It becomes an easy sell for contractors confident in their procedures and abilities."

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How to Choose a Concrete Casting Surface

by Jeremy French

Concrete does exactly what you ask it to. Problems with casting concrete do not arise from the concrete acting up. Problems arise when we don't understand what we are asking for. With concrete, watch out what you ask for because you may just get it.

You can cast concrete on anything. You can cast it on wood, metal, rubber, plastic or dirt. You can cast it on whatever you want, and you will find that invariably you get what you asked for. What are we asking for? What is it that we really want? Herein lies the issue — learning what questions to ask and how to ask them.

Choosing the appropriate casting surface involves two primary variables: the nature of the material and the nature of the mold. With experience, this becomes an intuitive process, but initially this can be challenging and costly.

Understanding the casting material you are working with is a relatively simple matter that comes from experience, trial and error, and learning from the experiences of others. Every material has two primary aspects that affect the concrete's final appearance: the textural and visible quality of the material, and the structural/chemical and invisible quality.

To grasp the nature of the mold you will use, consider several other variables. What is the finished product going to look like?

What is the concrete mix design and placement method that will be used? How will the mold be constructed? What is the cost? Which landfill are you sending the mold material to when you are done with it?

Answering these questions and understanding the aspects of the material in order to choose the right casting surface begins a circular thought process that is often inherent in design and fabrication. The thought process of design is not a linear, two-dimensional event where we answer certain questions in a certain order and . . . *viola*. The design process happens when all the variables are viewed in three dimensions and we methodically see what fits and what doesn't. There is not necessarily always going to be a single right answer to a design problem, but there are often wrong answers.

The mold for this fireplace mantel is melamine casting material on a reusable Corian deck. It is being taken apart in order to spray a mist coat before putting it back together.

Photo courtesy of Jeremy French

Our job during the design of a piece is to weed out as many wrong answers as possible.

Questions to ask when choosing your casting surface

What is the finished product going to look like? How much are you grinding? A cement finish has requirements that a piece with a heavy grind doesn't. An easy example of the relationship between casting surface and finished product would be steel casting tables. You may be able to get a cement finish off a steel casting table, but that will require a lot of unnecessary work, and once the tables are used a few times you are taking an imprudent gamble trying to get a perfect finish. On the other hand, a steel table can prove to be a durable and inexpensive long-term casting surface for pieces that will be ground out of the mold.

The less grinding and polishing you plan, the nicer your mold needs to be. Your piece will be a reflection of your mold, so if you want a perfect surface you better have a perfect mold. The more you plan on grinding, the more crudely fashioned the mold can be. If you are going to expose heavy aggregates, don't waste your time making the Mona Lisa of molds, because it simply doesn't matter.

This is important in respect to cost and efficiency. If you spend a bunch of time on a mold that doesn't matter, you are wasting money. This may seem overly simple, but I have heard a lot of people fretting over molds when they plan on grinding 1/8 inch of concrete off once it comes out of the mold.

How are you going to seal? Different sealers have different requirements in regard to the state of the substrate they are to be applied to. Does your sealer need a profile to which it can mechanically bond? If so, casting on a piece of glass or some other ultrasmooth surface may not be such a good idea. Mold releases also should be considered in regards to the sealer you intend to use, particularly if you want a cement finish.

Will there be inlays? Inlays may require glues that may or may not be compatible with your casting surface. Also, certain inlays require that you cut into your mold in order for something to protrude

from the finished surface, for example, as with trivets. Some sink molds also require that you plunge into the surface to eliminate the reveal in the sink mold.

How many times will this piece be cast? The long-term durability of a casting surface, the ease of mold construction, and the reality of storage all become huge factors in production situations. Many types of resins and rubbers shrink or distort over time, creating serious issues for pieces that need to maintain a certain dimension.

How long will the concrete be in the mold? The farther along the concrete is in its curing cycle, the more the concrete will reflect the casting surface. This is a function of the increased density that comes from the crystal growth in the concrete — the more concrete cures, the more dense it becomes. If you want a piece to look like the glass it is cast against, the longer it stays in the mold curing, the better the reflection. In the case of leaving something in the mold, keeping the pieces moist and covered is important in order to mitigate curling.

What mix design and placement method will be used? Are you going to vibrate, spray, hand-pack or pour? Will the concrete be floated into the mold using "The Force"?

Placement methods and the rheology of concrete dictate how the mold will need to be constructed. Mixes that are very fluid or vibrated can exert quite a bit of force on your mold, and concrete in its fluid state can find ways out of the mold. Molds that are sprayed or hand-packed require less consideration in regard to force from the concrete and fluidity considerations.

Fluid pours should go into sealed molds to avoid moisture and fine particle migration out of your mold. Sprayed and hand-packed molds don't need to be sealed in the corners because there is not the same concern regarding migration. However, if you are after a cement finish, you will want to consider a sealed corner to avoid processing out of the mold.

For sprayed molds that are very tight (too tight to fit the hopper), you can leave one side of the mold off, spray the necessary faces, and reconstruct the mold prior to placing the fiber-reinforced mix.

How will the mold be constructed? After consideration of the issues discussed, some of the requirements for mold construction should become clear.

Something to consider — the mold needs to come apart at some point, so put down the Gorilla Glue, please. Part of the true art of mold building is building the mold that doesn't fall apart when it is being poured, but falls apart right when it is time to demold.

What's holding the mold together — brad nails, pocket screws, predrilled screws, double-sided tape, hot glue, construction adhesive, silicone, magnets, glued or screwed blocking? Is the fastening system and the mold surface compatible?

How much will it cost? The issue of cost is both a short- and long-term matter. I hear talk of seaming melamine because of the fear of the cost of buying something that is the right size. Really? What's your time worth? Ask yourself, is the real cost of your material after splicing, Bondoing, painting, sanding and all the processing of the concrete (because it isn't perfect like you thought it would be) going to be less expensive than a 12-by-5 sheet of laminate for $120?

The issue of long-term cost comprises use, waste and reusability. I remember being

The mold for this fountain's curved walls utilizes particleboard rims with pieces of formica laminate inside.

The finished fountain.

Photos courtesy of Jeremy French

so happy that we could just order a pallet of melamine at a time. It was less expensive, it saved all those trips to the hardware store, and they brought it right to our doorstep. I was actually excited that my melamine bill was $700-$800 a month.

But there is a much better alternative — reusable casting decks. The cost savings and the reduction in waste is so dramatic, it makes using melamine as the primary mold surface seem crazy.

What are you wasting? I have always found the idea of using pozzolans to save the planet a bit ridiculous when throwing away dumpsters full of sheet goods every month. If there is ever a measure of the impact a concrete studio has on the planet, I would argue that the appropriation of mold material would be at the top of the list.

More considerations

The textural and visible qualities of a potential casting material are easy to determine. What you see is what you get, mostly. There are a number of variables that affect the finish of concrete, but for the most part concrete will pick up every bit of texture that a material has in it. Whether it's the texture in Corian or the wood grain in a sheet of plywood that is underneath a heavy coating, if it is there it is going to be in your concrete. This is when the questions of surface rigidity and draft need to be considered.

Can your concrete physically release from the shape of the mold texture? Are you after an ultrasmooth and reflective surface out of the mold? Just get a piece of shiny laminate, clean it well before you pour, and you will have a smooth finish out of the mold. Regular laminate has varying degrees of texture, similar to melamine.

The chemical/structural and invisible aspects of a casting surface are a little harder to sort out. This is different from material to material. This pertains to everything from the porosity of different woods, to the chemical nature of aluminum and the effect it has on newly placed concrete, to the different types of coatings that go onto melamine and how they vary.

This aspect of casting materials can affect the finished piece in many ways, and often keeps something from looking like the surface you cast against because of poor release, water loss, or chemical reactions. It takes learning from your own experience, as well as the experience of others, to really begin to develop a grasp for this aspect of materials.

Material availability

Knowing what materials are options is one thing. Knowing where to acquire said materials is a whole other ballgame. The art of finding resources and allies is one of the primary tasks of someone in this profession. It takes scouring the earth, starting in your own neighborhood and reaching into the greater universe, all to find what helps you make your vision a reality.

A few places to search out casting materials locally: every hardware store (even mom-and-pop shops have surprising finds), suppliers to the laminate and solid-surface trades, plastic suppliers, sign shops, machine shops, art supply stores and marine/boat suppliers. If you can't find it locally, the world is at your fingertips. A basic Internet search should provide all the resources necessary.

There are a million different mold release options, from high-tech stuff to your mama's hand lotion.

Specialty items that achieve different looks can be found everywhere: fluorescent lighting covers, glues applied to molds, stencils, and knickknacks from the dollar store. The next time you are suffering through a trip to buy a Barbie doll for your daughter (or son), think, "How cool would that be cast in concrete?"

Happy casting!

Jeremy French was the founder of Mandala Studio in Asheville, North Carolina, an artisan concrete studio. In 2011, Mandala Studio became the research and development division for Delta Performance Products, home of Buddy Rhodes Concrete Products and Blue Concrete. Jeremy provides training and consultation to artisans around the world, and can be reached at jeremy@buddyrhodes.com.

A Guide to Unique Concrete Casting Surfaces

by Jeremy French

This is by no means intended to be a comprehensive guide to the finer details of all potential concrete casting surfaces. Instead, this article is intended to help you begin asking the right questions, as well as give you a basic understanding of some of the options. We cannot come up with solutions until we ask the right questions.

All the following materials should be tested with and without a mold release using your own mix design. Every different mix design, application technique and environmental reality can affect molds and release differently. There are variables that will change from region to region and from mix design to mix design.

Aluminum is lightweight and strong. It is not an inexpensive material and in certain situations can have a chemical reaction with concrete causing pitting and discoloration in the surface. This could be a cool effect except for the fact that it's inconsistent in terms of whether you get it and what it looks like.

Clay can be sculpted for a number of purposes, whether used as an edge profile or for high-detail sculpting. It is easy to work with, and you can get tremendous definition with it if you are patient. If using it to create a basic round-over profile in your mold, an extruder to create "ropes" of clay is worth the investment.

Concrete is a material used often in large precast situations. Depending on the finish of the concrete, minor undercuts and texture in general have to be considered to ensure release. For large detailed applications it is an inexpensive and easy-to-produce casting surface. Finding the appropriate release agent is crucial — the choice of release directly correlates to the finish of the concrete casting deck.

Corian has found its best use ever as a surface used to cast nice countertops. Corian is a good option for reusable casting decks. It is easy to sand to whatever finish you desire, and it can be seamed into large decks. Seams and texture in the Corian will translate into the finished piece, but are easily polished out. Corian is a good option for sink molds and other rectilinear forms, and if you want to get brave you can heat and bend the material. There is a two-part glue that is the best option for fastening pieces together. Both double-sided tape and hot glue are ideal for attaching forms to Corian.

Dirt. Maybe you think this is a joke. But dirt can make some fine pieces. The consistency of the dirt plays a huge role in what the options are. Three common methods when using dirt are digging holes, creating impressions, and creating internal voids. You can dig a hole the shape of the concrete you want, then pour the concrete into the hole. You can also place an impression into dirt and cast the impression. Dirt is an inexpensive material for creating voids in large pieces that are to be hand-finished.

The most versatile soils are certain types of fine clays that allow good detail for impressions and are easily shaped when digging holes.

Photos courtesy of Laurel E. Scherer

This fireplace mold surface is laminate. The recess is rigid foam board and copper.

The finished fireplace.

One consideration when using dirt is how the piece will be affected by the porosity of the soil. Moistening the soil prior to casting and applying oils and resins are ways to combat water loss.

Fabric is perhaps one of the most useful materials to gain recognition in recent times. Stretched fabric easily creates forms that are very difficult to achieve through other means.

Fabric as a form is used in two main ways, placed in the form and allowed to stretch under pressure, and prestretched and hardened. In both situations there is some type of armature that restricts the movement of the fabric, coupled with open space that allows room for the fabric to stretch. Fabric can also be used as an inlay purely for texture. There are a number of different fabrics that can be used, all of which have different stretching habits and different textures. This is a vast area that deserves an entire article.

Fiberglass relates to two main materials of pertinence, fiberglass molds and fiberglass resin. Fiberglass molds are some of the more durable and easily repairable molds available, particularly for multiple uses. Fiberglass resin is good for use in coating forms, whether they be made of wood-based materials or fabrics.

Be aware that the chemical reaction of fiberglass resin during curing creates a generous amount of heat in certain situations. In plain English, you can potentially catch your shop on fire. Resin should be laid in multiple thin applications to avoid catching things on fire. Fiberglass resin found at the big box stores has a considerably thicker consistency than what you order from a resin supplier. This can be a good thing or not, depending on what you are after.

Foam is a general term that can be used to describe a number of materials. The two that seem most worthy of discussion are high-density foam and sheet foam. High-density foam is good for using in CNC applications and in situations for carving. You can get different densities of foam and cast them yourself. Sheet foam can be used for a multitude of purposes. Its main benefits are that it is easily shaped, very available, and easily removed from molds.

Glass is mostly useful because of its sheen. If you cast on glass and cure properly (or get a mix overloaded with polymers) you will have a glasslike finish out of the mold. There are lots of types of plastics that achieve that same function with a bit less headache. Glass has plenty of obvious drawbacks in terms of durability and handling.

HDO, or high-density overlay, is used widely in the precast industry for forms. It is a plywood with a durable coating applied to it. It is good for many different applications, particularly for multiple uses. The pattern of the wood can show through the coating on cement finishes. This is particularly true after multiple castings.

Laminate is one of the more versatile materials available. It comes in dimensions up to 12 feet by 5 feet, it comes with and without texture, it is very reusable, it is very flexible and can take tight curves, it is very thin, and its uses are many. Our first reusable casting decks were made from laminate, and they held up beyond expectation. We use 12-foot lengths to mask seams in edges that are longer than 8 feet. We use it for curved forms, we use it for seams in molds, and the list goes on.

MDF and particleboard are useful sheet materials that are often more flat than plywood, and unlike melamine, they are ready for a coating. They are great for forms that will be coated with fiberglass resin or have laminate applied to the surface. Anytime these materials are being used, much attention needs to be given to ensure that water will never find its way into the material, unless you want it to swell up.

Melamine is one of the most useful casting surfaces available to us, albeit one that is plenty overused. There are different coatings used to create melamine, some more durable than others. It is not a great material for multiple uses, but it can be done. Previously used melamine can be used for edging and to build shop shelves, and is also great as a speedy snow sled. Perhaps there will be a contest someday to find the most creative reuses for melamine.

Paper is a great way to introduce texture. You can tear it, fold it or wrinkle it and produce some interesting effects. Concrete will bond tenaciously to many different styles of paper, so it needs to be well-sealed before casting.

Plaster is an Old World material of choice. The applications of this material are only limited by your imagination. Plaster can be jigged wet, cast and milled. Plaster can serve as a mold for direct casting or as a master to build other molds from. Care needs to be taken to seal the plaster before using it in a mold, regardless of whether you are using it as a direct mold or a master. There are lots of types of plasters to choose from, all carrying different properties.

Plastic sheeting and plastic films offer lots of options, whether a thin film or 1/2-inch thick sheet. Thicker plastics can be used for a reusable casting surface — you can build sink molds with it, and it can be used for reusable edging. Films can be used as a cover for a casting surface, but lots of care has to be taken to ensure that particles don't find their way under the plastic, as this will cause divots that are very difficult to deal with.

There are lots of different types of plastics that can be used. Some work well with concrete and some do not. Before making a big purchase of any plastic, it would be recommended to test a bit to make sure that it is not affected by the chemical reactions or temperatures associated with newly placed concrete.

Plywood is limited in its function for molds, though it works well for reinforcing molds and as a textural surface for casting against. There are less expensive and flatter options for surfaces that will need to be coated with another material prior to casting.

Rubber offers plenty of uses, as well as plenty of variations. There are as many styles of rubber as there are uses for the material. There are a few companies that offer rubber, and I have found their technical staffpeople to be very helpful in choosing the right rubber for any given application. Follow the prescribed directions for mixing and using rubber, or you can experience some expensive failures. Because of rubber's potential for flexibility, there are certain forms that can only be accomplished using rubber.

Tile board is an inexpensive shiny surface that seems like a wonderful option as a casting surface. We used it in the early days with both successes and failures. The inconsistencies in manufacturing eventually became so difficult to manage that we stopped using it altogether. The coating on tile board is not very durable, and one little scratch that is only visible in certain light can cause an undesirable result. On the flipside, you can intentionally scar it up and achieve some very interesting effects. On one of our first pieces we used a stick vibrator directly in the form, which forced the aggregate to bounce against the tile board, creating a very interesting pattern.

Steel casting tables might have lost favor recently, but they seemed to be the reusable casting surface of choice a few years back. Steel is a very durable material that can last forever. It wouldn't be the material of choice if you are after a cement finish, but pieces that will be ground will come out fine. I have heard horror stories of the wrong release being used with steel and having the concrete bond to the table. If you decide to go this route, seek advice from someone who has experience with this surface.

Stone slabs, as with Corian, found their highest calling when they started being used as a casting surface for concrete. If you can find the right stone, this can be a casting surface that is dead flat, lasts forever, and requires very little maintenance. Picking the right stone, with minimal patterning and variation, is key to finding success down this road.

Wax is a useful material for details in concrete. Hot wax can be cast for details like drain grooves and the like, keeping in mind that many waxes shrink as they cool. Wax can also be carved and torched for nice sculpted details. Some waxes can leave residue on the surface that has to be tended to after casting.

The Ugly Truth: How Moisture Can Ruin Your Decorative Concrete

Excess moisture doesn't just evaporate … it sometimes takes your design with it.

by Jason Spangler

BEAUTY and strength converge in decorative concrete. They fuse to create a durable, pleasing floor that literally becomes the foundation of a room's space and atmosphere. Achieving the desired result requires that you consider a number of variables for the specific stain and sealer combination you select.

One of the most important variables that require your attention is the moisture content in the concrete at the time the stain and sealer are applied. Moisture in concrete can come from two main sources. The first is the volume of water used to mix the concrete. Second, external sources of water may be an issue, such as water that can migrate from the ground to the concrete slab in the absence of a vapor retarder.

Both evaporating water and pooled water can interfere with a stain or sealer.

Right finish, wrong time

The damage that excess moisture can do to your stain or sealer can look different depending on the amount of excess moisture and the type of stain or sealer used. Here are some common indicators that the stain or sealer was applied too soon — before the concrete had a chance to dry sufficiently.

Efflorescence: As the concrete dries and its moisture rises upwards through the slab, it carries salts within the concrete to the surface with it. When too much moisture is moving through the concrete, it leaves a salt residue called efflorescence. As lovely as the word sounds, efflorescence is rather unsightly. Depending on whether or not the floor has been finished, efflorescence manifests in different ways. It can leave a white powdery substance on the concrete's surface after staining but before sealing. If the efflorescence gets trapped underneath a sealer or certain stains, it will look like a white "blush" has been spread on the concrete. Efflorescence can cause other stain or sealer failures, too. Read on.

Photo courtesy of Jason Spangler

A Rapid RH meter measures the moisture content of concrete.

Effects on stains

Reactive and nonreactive stains color the concrete in different ways, leading to different indications of moisture damage. In the case of reactive stains, the problems generally have to do with color variations.

Undesirable color changes: The acid in reactive stains contains metallic salts that instigate a chemical reaction when they mix with the free lime in the concrete. This reaction provides the stain color, but when excess moisture exists, the salts or acids in some blue and green stains can turn brown or black. The exact cause isn't clear, but the most popular explanations attribute the undesired color change either to oxidation or a fungus, both of which can happen with excess moisture.

Lighter or uneven coloring: Efflorescing salts in the presence of excess moisture will retard stain penetration, interfering with the chemical process of the acid stain coloring the concrete. Use of nonreactive stains in the presence of excess moisture gives rise to a different set of issues. Since a nonreactive stain colors the concrete by filling the concrete's pores or by creating a film that sits on the concrete's surface, typical moisture-related problems include flaking, peeling, bubbling, blistering and dark spots.

Flaking and peeling: An indication that the stain failed to bond with the concrete due to excessive moisture.

Bubbling or blistering: Caused by moisture that can't escape.

Dark spots: A sign of trapped moisture that can't evaporate.

Water-based sealer issues

Excess moisture can create several different problems when it comes to using sealers. For example, the following may occur when using a water-based sealer.

Powdery or white substance: The drying process for a water-based acrylic sealer can be drastically altered by the temperature and humidity of the drying environment. If the temperature is low or

humidity is high during the drying process, the coalescing solvent in the sealer will evaporate before the water, leaving the latex particles "unbound." Thus, the powdery or white appearance.

Solvent-based sealer problems

The following may occur when solvent-based sealers are applied in the presence of excess moisture.

Grayish or cloudy spots: Moisture can lift the sealer away from the concrete, which causes light to diffuse underneath the sealer (also called "sealer diffusion"), resulting in the appearance of discoloration.

Color whitens or "blushes": Too much moisture on the surface prevented the sealer from bonding, so it floats on the moisture instead.

Cracking, chipping, peeling or flaking: Another consequence of high pressure caused by moisture vapor that can't escape.

Frothy foam: The resin in a two-part solvent sealer bubbles when mixed with too much water, leaving a foamy substance.

As the concrete dries, moisture evaporates. Since a vapor retarder is typically placed underneath interior concrete slab installations, all of the moisture must evaporate by traveling upwards through the slab. Furthermore, if the relative humidities in the concrete and the air around it are different, the concrete will either give off or absorb moisture. The volume of water to be evaporated and the rate at which it evaporates impact when the concrete is ready to take a stain or sealer.

The many moisture-related problems described above can be avoided if the stain and sealer are applied when the moisture content within the concrete slab reaches an acceptable range — one that takes into account the specific moisture tolerance for the planned finishes. By waiting until the concrete has dried sufficiently, you won't be trapping excess moisture when applying the stain and sealer.

How to test for moisture

Conducting a moisture test beforehand is the only way to determine if the concrete is ready to be finished. One commonly used moisture test in the United States is the calcium chloride test. This test relies on a a salt compound placed on the concrete's surface to gauge whether excess moisture remains. The problem with this test is that

it only measures moisture at the surface. Because a moisture gradient (drier at the top, wetter at the bottom) exists within the concrete slab as it dries, the calcium chloride test does not provide an accurate representation of the true moisture condition deeper within the slab, nor does this test indicate the moisture that will later be seen at the surface as the slab moves toward a moisture equilibrium.

A more inclusive test for evaluating the true moisture condition of the concrete is in-situ relative humidity (RH) testing. This test has been used for some time in Europe, and is growing in popularity in the United States due to the scientific evidence supporting its accuracy.

When RH probes are placed at 40 percent depth within the slab (the correct depth for placement when the slab is drying from the top only), it has been demonstrated that the test results provide an accurate representation of the moisture level in the slab after it is sealed. While it is critical to get an accurate measure of the moisture level of a concrete slab, it is equally critical to know the moisture content readings that will be considered acceptable for applying the finish for your specific project.

The results of the RH moisture test must be evaluated against the moisture tolerance specified by the manufacturer for that exact stain or sealer. Pay particular attention to how permeable or "breathable" the finish is. For example, epoxies are the least permeable, which means moisture trying to escape an epoxy-coated slab will be unable to do so, and if moisture levels are in excess of the manufacturer's recommendations, these coatings are the most likely to be damaged.

Besides the recommendations of the manufacturers of the stain and sealer, certain other factors that may be unique to your project should also be taken into account. Here are some crucial variables to consider when determining the acceptable relative humidity range for your flooring finishes:

- Age and thickness of the concrete
- Grade of the slab
- Any materials being used to prepare the concrete and the water contents of each
- Ambient drying conditions
- Time available for the concrete to dry, including the time to dry between stain and sealer application.

Waiting to apply the stain and sealer until the concrete is ready takes planning and patience. However, the little bit of extra effort is more than worth it. You will avoid significant problems and achieve the result you seek: high-quality decorative concrete that offers exceptional longevity and beauty.

Jason Spangler has 17 years experience in sales and sales management and has successfully launched a variety of products to the market, including the original Rapid RH concrete moisture tests. He currently works with Wagner Meters as the Rapid RH product sales manager. Reach him at jspangler@wagnermeters.com.

Jason will lead the seminar "Concrete Moisture Identification: When, Why, How" on Thursday, October 2, 2014, at the Concrete Decor Show. For more, go to ConcreteDecorShow.com.

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Polished Concrete's New Texture Standard Could Mean a Glossier Future

CSDA's ST-115 improves efficiency, some say

by Amy Johnson

How can you tell if you have achieved a quality polished concrete floor? More importantly, how can the owner tell? Up to now, judgments have been fairly subjective, based on a contractor's experience and aided by a gloss meter or distinctness-of-image (DOI) meter. But as Clif Rawlings, vice president of key accounts for AmeriPolish Inc., explains, "A gloss meter can be fooled."

A gloss meter measures how light is scattered, but an angle, ambient lighting, or even a high-gloss coating can impact the number. A DOI meter addresses this problem by "seeing" through a coating to determine the consistency of the surface underneath, but it cannot measure the porosity of the floor. So these readings may reveal little about the condition of the actual concrete or expected life of the floor.

The industry has been searching for a better way to quantify the refinement of polished concrete in order to reassure customers that they are getting the floor they expect. Now, Rawlings says, the CSDA ST-115 standard is "a step in the right direction."

Photo courtesy of Color Surface

Color Surface shaved off the top 1/4 inch of this approximately 30-year-old floor to reveal the aggregate beneath, then polished the aggregate. The photo is of a high-end Japanese restaurant in Las Vegas. Color Surface president Robert Fruland says texture meters have made his team faster and more efficient.

What is the CSDA ST-115 standard?

In fall 2013, the Concrete Sawing & Drilling Association (CSDA) working with ASME, ASTM and ACI, issued a specification titled "Measuring Concrete Micro Surface Texture." (See the January 2014 issue of *Concrete Decor* for more details.) Briefly, the standard, commonly called ST-115, details methods and sets parameters for measuring the average roughness of a concrete surface. This measurement, the Ra, describes the surface refinement, the average difference between the profile peaks and valleys — the scratches — measured in micro-inches. The Ra is key to achieving the desired appearance, performance and sustainability of the finished polished floor.

The microtexture is measured by running a texture meter with a stylus probe over the surface. A reading of the variations measured in micro-inches or microns can be expressed as a surface texture grade. These grades are not ratings of "good" or "bad": they are objective, measurable levels that roughly correspond to traditionally subjective descriptions such as "heavy texture," "ground," "honed" and "polished."

Why owners and architects care — and why you should too

For years, the variation and unpredictability of the finished appearance and wearability of polished concrete floors has frustrated architects, specifiers and building owners. Even specifying polishing to a certain grit or gloss number could produce different results from one floor to another. And floors that looked good and met the required gloss level in the beginning often turned out to wear more quickly and require more maintenance than anticipated. This soured some design professionals on the whole idea of polished concrete floors.

The ST-115 standard allows the customer to specify a Ra number that the contractor must reach. They no longer have to specify a grit or a gloss number. If they want a matte finish, for example, they specify a "B-2 low polish" finish from the Surface Texture Finishes Chart in ST-115, and the contractor will know he has to hit an Ra of 32 micro-inches.

Consultant Chris Swanson, of Sacramento, California-based Colour, explains, "If a contractor is handed a specification based on ST-115 there is no way around it. The specification will list the steps you must follow. The finished floor must be at this number." This means that a national account with dozens or hundreds of floors all around the country can get the same floor finish every time, even with different contractors. "Better refinement

means higher level gloss, better consistency, easier maintenance and longer life," Swanson adds.

Implications for contractors

Measuring Ra with a texture meter takes the guesswork out of selecting tooling and eliminates the issue of operator variation. "It used to be that a very experienced guy would have to come look at the floor and diagnose the level of the scratches," explains decorative polishing contractor Robert Fruland, of Color Surface Inc., Las Vegas. "The problem with that system was, if you didn't refine the floor enough to get the deepest scratches out, you might not see what you missed. So at step six you're highlighting the deepest scratches, and suddenly you have to go back to step two. It makes you just want to pull your hair out!"

Now Fruland has his crews use a meter as required by ST-115, and they don't miss spots like they used to. They take a reading at the beginning of the pass to gauge the operator's walking speed. If the number is lower than expected, for example, he is walking too fast. So they adjust the walking speed, test again after about 8 feet and adjust again if necessary. After another 10 to 15 feet they test again. Finally, after finishing the pass, they test one more time to be sure they are still getting the same number they got in the beginning. Then they move on to the next tool and the next target Ra number, usually half the number of the previous pass.

Lenny Sniegowski, president of Prep and Polish Consultants LLC, Richardson, Texas, recommends this process. "Once you are hitting the optimum refinement number for a given tooling step, then you know you're walking with the right speed and sufficient down pressure. Stick with that." He recommends taking readings every 500 square feet.

One caution — if the probe is set on a joint or a piece of aggregate, it might give a false reading. Fruland typically checks the floor in about 10 different spots to be sure he is getting an accurate average.

Using a texture meter as described in ST-115 actually helps contractors complete jobs more efficiently because they can run the tooling just as much as they need to — no less and no more. Andy Bowman, president of Adaptive Concrete Innovations, one of several companies making tools that take Ra measurements, relates the example of a contractor who starts every job at 30 grit. "If you had a meter that showed you didn't need to start at that level, which creates a heavy scratch that is so hard to recover from, you would save labor and be more competitive."

"I can have my guys run this system and they can't mess it up," says contractor Gene Ferrant, of Sydco Inc., Covington, Louisiana. "You hit the number and move on to the next step. It's a good system. I like it. It's quick. I may pay more for tooling, but laborwise it's a whole lot faster."

Equipment considerations

Besides setting a measurable standard for floors, ST-115 helps set a de facto standard for tooling as well. Currently, different tools identified as the same grit can vary widely, depending on the range of grit size, density and quality. "There are no unifying quantifiable standards for diamond tools," says Christopher Bennett, who is responsible for architectural specifications for Husqvarna Construction Products. "So the next best thing is to measure how the tooling affects the surface of the slab, what it does to concrete. That you can measure."

The standard is driving momentum to get tooling certified to produce specific Ra numbers. For example, Husqvarna had all their tooling audited by a third party to determine the scratch pattern and maximum refinement level produced by each tool. Once this type of testing is adopted across the industry, it will make it simple for contractors to compare tools and select the right equipment to meet any given customer specification.

Is the best yet to come?

The CSDA ST-115 standard certainly has the potential to bring greater accountability to the polished concrete industry. Clif Rawlings believes its greatest strength lies in using it in combination with gloss and DOI measurements. "This will help the floor owner know what they are getting in terms of the quality of floor and workmanship," he says.

"What we're doing now is otherworldly compared to what we used to do," Robert Fruland says. "The best polished floors are yet to come. Floors we've done to this point are going to be pretty substandard compared to those going forward with a tool like this. I can't wait to show off these floors when they are years old."

Andy Bowman will lead the seminar "Understanding Standard ST115: Measure and Quantify to Achieve the Specified Finish" on Wednesday, October 1, 2014, at the Concrete Decor Show. For more, go to ConcreteDecorShow.com.

The Polishing Consultant

Problems with Curing Compound and Wet-Grind Scratch Rows

by David Stephenson

I recently had a good conversation with a contractor about a project that seemed to start out well but ended up having two separate issues. This 60,000-square-foot project was to receive a high-gloss polished concrete finish. The concrete was placed after the building structure, including the exterior walls and the roof, were in place. The concrete placement contractor had done a great job on the finishing of the concrete and applied a dissipating curing compound to the surface per specifications.

Then the problems started.

A dissipating cure is exactly the right compound to use on a polished concrete floor. Generally, these types of curing compounds break down from traffic and exposure to sunlight and are mostly gone within a few weeks. The issue with this particular project was that the placement contractor sprayed the curing compound on heavily to ensure 100 percent coverage. This extra thickness, coupled with the fact that the building was in shade because the roof was already on, meant that the dissipating cure compound did not dissipate.

When the grinding contractor started working, the curing compound built up on the diamond segments under the grinders. This caused heavy scratching and, depending on the tooling used, either reduced the diamonds' ability to cut or caused additional heat buildup, which made the diamonds wear away extremely quickly. The contractor tried six different diamonds from multiple manufacturers.

There are two ways to address the issue of the remaining cure compound. Either the contractor can chemically strip the floor and remove the remaining material, or the contractor can grind wet, allowing the diamonds to remain cool and continue cutting. Grinding wet also allows the diamond selected to cut deeper, helping to remove the compound.

How to avoid scratch rows when wet-grinding

The owner of this contracting company opted for the chemical removal route because, as he said, his crews always had bad scratch rows when grinding wet. The fix for this is surprisingly simple.

Adding water allows diamonds to cut deeper. Generally, this depth should be considered to be one step below the actual diamond selected. For example, if a 40-grit diamond is used dry, it cuts like a 40. If a 40-grit diamond is used wet, it will cut like a 25.

What I discovered after talking through the issue is that this contractor would run a 40-grit wet and then use an 80-grit dry to remove the 40 scratches. That wasn't right. If the 40 cuts like a 25-grit wet, you would need a 40-grit dry in order to remove the scratches. When the floor was recut with the proper grit, the scratches were easily removed.

There are occasions when the density of the concrete, the tightness of the surface paste, the presence of a sealer or curing compound, or several other issues may dictate that the first grind or two of a polished concrete floor need to be completed using water. This is a normal part of the polishing process and should not be shied away from.

Additionally, if the building is covered, the curing compound may not be necessary at all. Water may be used in its place.

If a curing compound is used, the application rate needs to be closely reviewed and the polishing contractor should consider all of these situations when working up the bid for the project.

David Stephenson is president of Polished Concrete Consultants of Dallas, Texas. Polished Concrete Consultants works with retailers, architects and owners on concrete and flooring-related programs or issues. David can be reached at david@polishedconsultants.com.

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It's Architectural, but is it Appealing?

by Vanessa Salvia

WHETHER you love it or hate it, the Perot Museum of Nature and Science in downtown Dallas is a building that can't be ignored.

The 180,000-square-foot building, which opened December 1, 2012, is a prime example of architectural concrete at its most creative and controversial. Its striated cube floats above a landscaped plinth, or base, with a 54-foot escalator encased within a 150-foot glass tube extending dramatically from the south side.

The outside is clad in molded, sculptural concrete panels — 656 textured precast concrete panels totaling 4 million pounds. Designed by 2005 Pritzker Architecture Prize Laureate Thom Mayne, the museum was funded through a $50 million gift by the five adult Perot children in honor of their parents, Margot and Ross.

It's a dramatic building that stands approximately 170 feet high, the equivalent of 14 stories, and not everyone likes it. Christopher Hawthorne, an architecture critic for *The Los Angeles Times*, ripped the building in March 2013, calling it "a largely windowless crypt" and a "thoroughly cynical piece of work, a building that uses a frenzy of architectural forms to endorse the idea that architecture, in the end, is mere decoration." And those are two of his kinder remarks.

Alternatively, University of Texas architecture professor Kate Holliday acknowledged to the Texas online mag CultureMap that the building could be perceived as hostile to its surroundings because it is large and unconnected to other buildings in the neighborhood. But, she said, critics are being too harsh. The fact that the outside of the building is molded concrete brings a deeper, more subtle level of appreciation to the architecture. "Concrete is a fluid, after all, before it sets, and to see it spread across the surface is joyous in its own way," she said.

What do you think? Is the building impressive, or should it have been designed in a more thoughtful manner? Weigh in via @concretedecor or at Facebook.com/concretedecor

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