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Vol. 14 No. 4 May/June 2014

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From the Editor's Desk

Dear Readers,

I've gone to my share of decorative concrete training events over the years. They're always pretty relaxed affairs, attended by observant people from all over the country who appreciate their common purpose. Most people can't do decorative concrete, so if you do it well, and on top of that, you are willing to spend time and money to travel to meet with a handful of others to learn more, you will find that you have a lot in common with the men and women you meet there.



All that said, training is only the preseason. It's no guarantee of a career beyond the workshop. So I get excited when I talk with a guy like Corey Draper.

I ran into Corey in April at the West Coast Training Center, held at an underground concrete dome house in rural Oregon, a short drive from the home offices of Concrete Decor. Nolan Scheid of Mortarsprayer.com owns the house. He invites concrete artisans from all over the country to meet up once or twice a year to shape concrete, epoxy and other materials into features of what eventually will be a "hobbit house" that Bilbo Baggins might have recognized.

It wasn't Corey's first time at a training event. He knew the lead trainer, Nathan Giffin, quite well. He had taken workshops from him before. And he's put the skills he learned to work.

See, Draper's company is called Professional Yard Services (based in Draper, Utah no relation). He does landscaping and maintenance. He's not a concrete guy.

But a couple of years ago, he started attending classes led by Nathan and others. Now, he's able to take the roughly 400 lawns in his client list and propose to add decorative concrete to those spreads as an upsell. And it's working. That's why he came to the "hobbit house" training for another round of learning from Nathan.

Recently, decorative concrete has propelled him off the lawn entirely. The Living Planet Aquarium in Draper recently needed some late-in-the-game decorative concrete work done, and he got the gig.

Training is fun. But more importantly, training actually works.

Sincerely,

Atrieder

John Strieder Editor

READERS POLL

Q: Where have you worked outside the United States on decorative concrete jobs?

Give us your feedback and see results at www.ConcreteDecor.net







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On the cover: The three-story Terminal 2 building at San Diego International Airport features 10 massive architectural concrete columns. To read the full story, please turn to page 26. Photo courtesy of HNTB Corp.



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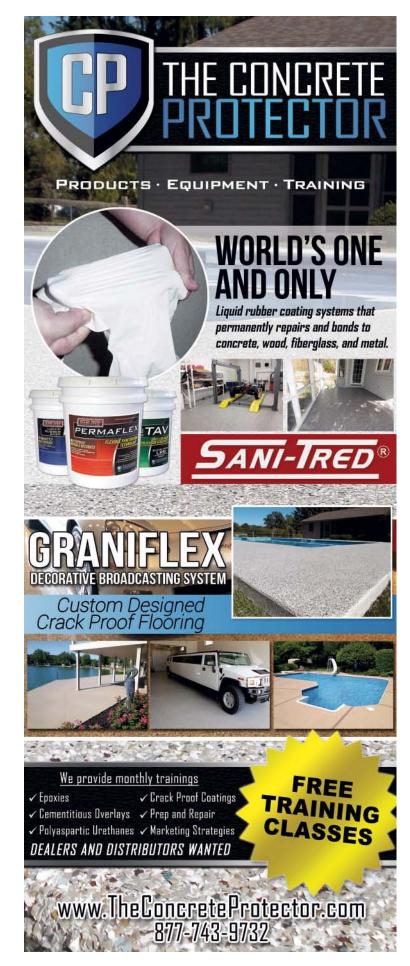
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EXPERTS



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Doug Carlton operates Carlton Concrete Inc. in Visalia, California. He can be reached at carltondoug@comcast.net. See Doug's column, "Carlton's Corner," on page 60.







Jennifer A. Faller is co-chairman of the board of directors and serves on the executive board for the Concrete Polishing Association of America. She is also national account director of the Ultraflor architectural polished concrete system for Diamatic USA. Contact her at jennifer.faller@diamaticusa.com. See Jennifer's article on page 64.



Jon Kopp is the owner and operator of Quality Epoxy LLC, located in Gilbert, Arizona. Find more information about him at QualityEpoxy.com or Facebook.com/QualityEpoxy. Contact him at jon@qualityepoxy.com. See Jon's article on page 62.



Rick Lobdell is a classically trained artist who owns Concrete Mystique Engraving and Gallery Mystique. He uses concrete as a canvas for his art. He can be reached at rick@concretemystique.com. See Rick's article on page 44.



David Stephenson is president of Polished Concrete Consultants LLC, of Dallas, Texas. Polished Concrete Consultants works with retailers, architects and owners on concrete- and flooring-related issues. David can be reached at david@polishedconsultants.com. See David's article on page 67.



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 58.



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 40.

Talk back! Weigh in online at ConcreteDecor.net



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Surface Gel Tek seeks Kickstarter funding for PatriArt project kits for veterans

Surface Gel Tek has launched a new concept called PatriArt, and the company is seeking funding via Kickstarter to develop the idea. PatriArt is conceived of as a kit that allows people to create a commemorative concrete panel that is designed to be etched and colored with personal tour insignia.

Surface Gel Tek believes this is important because many of our veterans leave behind their "brothers and sisters" when their tour is over, but they are always a part of each other's lives. These custom-made panels provide veterans with an opportunity to capture a part of their tour they can cherish forever. PatriArt kits give veterans an opportunity to create a memento of their tour. What's more, the kits help them take some time away from the stresses of life and some of the things they have been through, and put their thoughts and energy into being creative.

(888) 872-7759

💲 www.surfacegeltek.com

New Fishstone headquarters features decorative concrete showroom

Fishstone Studios Inc., operators of Concretecountertopsupply.com, has moved to a new location, at 110 East St., Crystal Lake, Illinois.

The new location features a decorative concrete showroom with finished architectural concrete, furniture, fire pits, mail houses and more. The new location also includes a complete retail store. You can try out tooling and equipment in the state-of-the-art training center or take new decorative concrete classes in the dedicated training space.

(877) 434-7451

S www.concretecountertopsupply.com

New edition of "ASTM Standards in Building Codes" released

The latest compilation of "ASTM Standards in Building Codes" is available on DVD and online. The ASTM release contains more than 2,000 ASTM construction specifications, practices and test methods compiled from the Annual Book of ASTM

EVENT CALENDAR

ACI Webinar: "A Contractor-Friendly Code"

June 3 ኝ www.ACleLearning.org

Concrete Sawing and Drilling Association Board and Committee Meeting

June 5-6, New Orleans, Louisiana

ASCC Decorative Concrete Council Community Project

June 9-15, Chicago, Illinois

2014 Symposium on the Durability of Building and Construction Sealants and Adhesives

June 25-26, Toronto, Canada 🖇 www.astm.org

ASCC Concrete Executive Leadership Forum

July 17-20, Santa Fe, New Mexico 💲 www.ascconline.org

ASCC Annual Conference September 18-21, Denver, Colorado

🕏 www.ascconline.org

ACI Fall Convention October 26-30, Washington D.C. www.concrete.org



Concrete Decor Show Workshops: Sept. 29-30 Education: Oct. 1-3 Fort Worth, Texas www.concretedecorshow.com Standards. These standards satisfy the international code requirements established by the International Code Council.

(877) 909-2786

💲 www.astm.org

TRANSITIONS

Pablo Arredondo joined Husqvarna Construction Products as a service technician for the Mexico Service Center, soon to be opened in Querétaro City.





Ryan Chamberlin joined Husqvarna as the district manager for heavy user sales in Southern California (Orange County, Los Angeles and

Santa Barbara).

Alma Rosa Contreras

has become a part of the Husqvarna team as their new customer service representative for the soon-to-be opened



Mexico Service Center in Querétaro City. Contreras will also be providing administrative support.



Chris Gosney has more than 27 years of experience in the concrete construction industry, and is now Husqvarna's Soff-Cut

specialist for the Western Region, based out of Sacramento, California.

Mickey Roberson is

HTC's Northeast U.S. sales representative, covering states from Maryland to Maine. HTC manufactures concrete



grinding and polishing equipment and diamond tooling. Contact: (203) 517-6799, mickey.roberson@htc-america.com

An inspirational visit to SASE University in Tennessee

n a visit to the SASE Ouniversity training workshop held in April in Knoxville, Tennessee, I had the privilege of meeting several contractors who all shared a common interest in learning. Despite the fact that all were established polishing professionals, they came with one goal in mind: finding ways to deliver better results profitably. Looking at this educational opportunity from the perspective of a contractor, I could understand why everyone was there, and most importantly, why they keep coming back. Hats off to SASE and those who are constantly seeking to perfect their skills in this industry. Thanks SASE!

- Bent Mikkelsen, Publisher

Quest Building Products reopens Anaheim, California, location

The Quest Building Products location in Anaheim, California, has celebrated its grand reopening following a store and warehouse remodel. It's also anticpating the introduction of its improved Kretus materials line. In 2012, Quest Building Products became the sole distributor of the Kretus line of concrete restoration coatings.

Quest Building Products is a leading distributor of concrete restoration and decorative concrete materials, chemicals and equipment for the Southwest.

- 🖉 (714) 738-6640
- 💲 www.questbuilding.com

Quikrete opens online company store

The Quikrete Cos., a leading manufacturer of packaged concrete products for the building and home improvement markets, has opened an online company store at Thequikretestore.com. Consumers, customers and employees can chose from hundreds of officially licensed Quikrete items ranging from premium golf shirts and fleece jackets to die-cast toy trucks and trains. () (800) 282-5828

(800) 282-5828

💲 www.thequikretestore.com



Green Scene Landscaping selected for two "Best of Houzz" awards

Green Scene Landscaping and Pools, of Chatsworth, California, has been awarded "Best Of Houzz" by Houzz.com, a leading platform for home remodeling and design. The premier landscape design and construction firm was chosen by the more than 16 million monthly users that comprise the Houzz community.

The Best Of Houzz award is given in two categories: Customer Satisfaction and Design. Customer Satisfaction honors are determined by a variety of factors, including the number and quality of client reviews a professional received in 2013.

🚯 www.greenscenelandscape.com

New ACI Manual of Concrete Practice

The American Concrete Institute's latest edition of the ACI Manual of Concrete Practice is the most comprehensive concrete reference set available. It contains 220 of the most used documents on concrete technology, including all widely used ACI concrete and masonry code requirements, specifications, guides and reports.

- (248) 848-3700
- 💲 www.concrete.org



www.concretestaple.com

CASTING

ChemMasters announces Release concrete form release agent

ChemMasters Inc. has announced Release, a general-purpose concrete form release agent. Release is a petroleum- and mineral oil-based product. Its dual-action formulation is lightly reactive with improved barrier characteristics.

Release from ChemMasters is for poured-in-place or formed concrete. Release works well with forms made of plywood, highdensity plywood, wood, fiberglass, steel or aluminum. The release agent promotes the clean, positive release of forms and helps to reduce surface imperfections in concrete. The release agent helps minimize dusting of formed surfaces and reduces labor costs associated with stripping and cleaning forms and equipment.

Release clings well to vertical surfaces and has a cherry scent. It is available in 5-gallon pails and 55-gallon drums and complies with Ozone Transport Commission standards for volatile organic compounds (VOCs) and Environmental Protection Agency Regulation 40 CFR Part 59.

🖉 (440) 428-2105

💲 www.chemmasters.net

COATINGS

Quest Building Products launches reformulated Kretus line

In 2012, Quest Building Products became the sole distributor of the Kretus line of concrete restoration coatings. Now, several of those already high-quality Kretus products have been reformulated and relaunched.

Quest is introducing a newly reformulated Kretus Bonder Resin, an acrylic resin designed to absorb into fiberglass matting and adhere to the substrate or primer coat in the Kretus Waterproofing System for waterproofing concrete and plywood decks.

Other Kretus products, Kretus Top Shelf Epoxy, Kretus Polyaspartic and Kretus Acrylic Sealer, are still available as well. (714) 738-6640

💲 www.questbuilding.com

New Foundation Armor UTN60 engineered for scratch resistance

Foundation Armor has announced the release of Armor UTN60, which offers a superior nonslip finish for concrete floors that resists scratches, abrasion, heat, chemicals and acid.

The Armor UTN60 is a proprietary two-component, low-VOC, high-solids aliphatic polyurethane coating formulated from a special blend of resins and additives.

The Armor UTN60 is an excellent interior coating for garage floors, auto service centers, warehouses, computer rooms, laboratories, hospitals, aircraft hangars, cafeterias, exterior tanks and other areas where high performance, abrasion resistance and chemical resistance are required.

🕐 (866) 306-0246

💲 www.foundationarmor.com

New Rust-Oleum Restore 4X offers deck protection

Rust-Oleum has introduced Rust-Oleum Restore 4X. This easy-to-apply coating refreshes surfaces while offering long-lasting protection to preserve decks. Restore 4X is four times thicker than ordinary paint or stain and is designed to refinish most wood decks, composite decks and concrete patios. This product seals hairline cracks, and the smooth finish is safe to walk on with bare feet.

Restore 4X can be applied in three easy steps, and most projects can be completed in a weekend. The surface can be walked on within 24 hours. Restore 4X can be custom-tinted to 60 popular colors so you can achieve any look you desire. It is available in 1-gallon cans that cover approximately 80 square feet with two coats. Five-gallon pails are also available, offering 400 square feet of coverage.

📢 www.rustoleumrestore.com

New Scofield sealer engineered for slip resistance

L. M. Scofield Co. has announced the release of Scofield Selectseal Plus sealer. Selectseal Plus provides superior wet-slip resistance while forming a tough abrasion- and stain-resistant gloss finish.

Selectseal Plus is a low-odor, self-crosslinking, urethane-fortified acrylic concrete sealer designed to protect interior uncolored or previously stained concrete surfaces. Proprietary nanotechnology enables the new Selectseal Plus to have great slip resistance, even when wet. Selectseal Plus is certified to meet UL 410 for slip resistance and floor surface materials, and it can meet ANSI, ASTM and NFSI traction standards. It can be applied by traditional, foam, microfiber or lambs-wool applicators, as well as by conventional, airassisted, airless or HVLP spray equipment.

Selectseal Plus is available in 1-gallon cans and 5-gallon pails.

- 🖉 (800) 800-9900
- ኝ www.scofield.com

SherLastic elastomeric coating from Sherwin-Williams

SherLastic from Sherwin-Williams is an economical elastomeric coating designed for use on masonry and concrete construction to prevent water from penetrating into building interiors. The flexible film covers and hides hairline cracks, making uniform pinhole-free jobs easier and faster to achieve.

- Prevents water damage on interior surfaces
- Covers and hides hairline cracks, elongates
- Easy to apply
- Resists efflorescence
- Wide range of colors, tintable
- Warrantable on select jobs
- 🖉 (800) 474-3794
- ኝ www.sherwin-williams.com

PerfectPrimer is an updated universal primer

PerfectPrimer is a universal primer that bonds your substrate and coating together without the need for first grinding or shotblasting the surface.

PerfectPrimer is used directly over cutback glue, tile, sealed and unsealed concrete, VCT, wood, epoxy, linoleum and others. It is specified for use both indoors and out.

Once cured, the substrate is ready to adhere to any acrylic, cement, epoxy coating or overlay system.

Perfect Primer uses nanotechnology and unbreakable molecular bonding to adhere the substrate to the coatings. The primer now makes it possible for hundreds of coatings from various manufacturers to be cleanly adhered to dozens of various substrates. This means that the contractors can produce more work over more surfaces, in less time and at a lower selling price than ever before.

PerfectPrimer is an updated version of SeamsPerfect, an awardwinning primer that has been sold worldwide for more than 12 years. The new coating will also balance substrate pH levels to ready them for pH-sensitive epoxies and urethanes.

亿 (718) 736-8477

💲 www.ssmincorporated.com

COUNTERTOPS & PRECAST

New Z Liqui-Crete cast-in-place countertop system provides best placement options when pouring a thin slab

Concrete Countertop Solutions Inc., creators of Z Counterforms, has announced the release of the new Z Liqui-Crete system. Designed specifically for cast-in-place concrete countertops, the system includes a fiberglass mesh grid that is held in place for the best possible placement when pouring a thin slab.

Past issues using fiberglass mesh as a reinforcement in castin-place tops occurred because there was no way to keep the mesh at the appropriate height. That is where the patented Z Clip comes in. Simply screw it down to your cement board



substrate and clip the mesh into place. The clip is designed to hold the mesh at the optimal height when using Z Counterforms.

The system also provides a high-strength concrete admixture that reduces cracking and troweling difficulties. The Z Liqui-Crete addmix is combined with a 60-pound bag of standard concrete sand mix to create a highly flowable, user-friendly mix that will pour through the 1-by-1-inch fiberglass mesh grid. The Liqui-Crete fills the forms effectively and is easy to trowel smooth, creating a lasting, quality countertop.

Along with their new system, Concrete Countertop Solutions is also releasing a Roman Ogee Edge profile to add to its existing six decorative edge profiles. Because of the large horizontal surface on the ogee profile, pouring such a profile was difficult in the past without trapping too much air in the form. Now, thanks to the flowability of the Liqui-Crete mix, this profile can finally be poured without issues.

🕼 (570) 587-3799

💲 www.concretecountertopsolutions.com

FeelsWarm Technology designed to heat countertops

Heated Stone Products has entered into a national distribution agreement with WarmlyYours Radiant Heating that makes FeelsWarm available through the WarmlyYours network of dealers.

Designed specifically for countertops, FeelsWarm Technology gently raises the temperature of the stone 20 to 25 degrees, just enough to remove the initial cold shock when a person leans on the counter or touches the surface in the morning. The technology will be tested with concrete countertops soon.

The low-voltage heating elements of FeelsWarm Technology can be integrated into stone slabs and are also available in custom or standard-sized stick-on versions.

While authorized dealers determine exact pricing, the approximate installed price is comparable to other stone upgrades, such as edging or color. Typically, only the portion of the countertop where a person's arms rest is heated, which minimizes the cost. Either an optional temperature controller or an optional easy-to-use programmer operates the FeelsWarm heating element, allowing users to schedule on and off times automatically depending on their needs.

FeelsWarm products are available in three options: integrated heaters, customized stick-on heaters and presized stick-on heaters.

🖉 (952) 898-9505

💲 www.feelswarm.com 💲 www.warmlyyours.com



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Cheng offers Basalt Rebar countertop reinforcement

Basalt Rebar from Cheng Concrete Exchange is new to the world of concrete reinforcement, but is becoming popular among both precasters and pour-in-place contractors. Spun from molten rock, these fibers are stronger than steel and 89 percent lighter.

Basalt rebar provides many benefits and applications for the precast concrete professional:

- A 3-mm basalt rod is equivalent to #3 or 3/8-inch steel rebar
- Cuts with standard cutting tools
- Increased flexural strength
- Basalt rebar is resistant to alkali in concrete and requires no special coatings
- Does not conduct electricity or induce electrical fields
- · Does not absorb or wick water
- Perfect for marine environments and in places where corrosion is a concern
- Has the same thermal coefficient expansion as concrete
- Available in 50-foot coils with thicknesses of 1 mm, 2 mm and 3 mm
- 🖉 (800) 877-6052
- 💲 www.concreteexchange.com

ENGRAVING

Engrave-A-Crete introduces the Spiider concrete engraving tool

Engrave-a-Crete Inc. has introduced the Spiider, a decorative concrete engraving tool that combines track-free cutting with extreme maneuverability to execute free-form artistic cuts.

The Spiider is easy to use. Simply draw a design with chalk, position the Spiider, press on the spring-loaded cutting head, and go! Recent Engrave-A-Crete seminar attendees, many novices to decorative concrete engraving, were able to execute swirls, ribbons, leaf designs and other patterns. Some chalked in a design first as suggested, while others free-handed their patterns.

Features of the Spiider include:

- Swivel steering arm gives maximum control during free-form artistic cuts
- Dynamic directional wheels for the flexibility to maneuver tight curves
- Flip-up front pointer for easy alignment with chalk lines
- 10,000-rpm motor specifically tuned to match the 79-mm blade resulting in more torque while cutting and less kerf ramp when ending cuts
- Blade is visible but housed within the tool to prevent accidents
- Built-in vacuum with uniquely designed impact shield to slow debris and channel it into the vacuum, protecting the blade, motor and operator
- Handle with smooth, flat landing area for a comfortable grip with little vibration
- Depth control screw for consistent cutting depth. Easily adjusts to compensate for blade wear
- Spring-loaded cutting head. Press down to cut. Release and the blade raises out of the concrete
- Premium diamond blade that cuts hairpin curves or straight lines without increasing kerf width or raveling the concrete
- 🖉 (800) 884-2114
- ኝ www.engraveacrete.com

EQUIPMENT

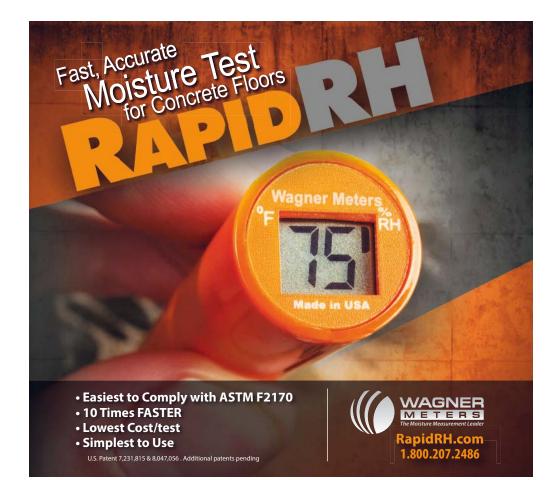
Water Cannon introduces hot-water diesel pressure washer

Water Cannon, suppliers of industrial and commercial pressure washers, has introduced its Hot Water Diesel Pressure Washer, (product ID 18L34) powered by a Kohler KD 420ES electric-start 10-horsepower power plant with a 12-volt self-contained electrical system.

The portable four-wheel push bar frame boasts 13-inch no-flat foam-filled tires. The efficient Beckett 12-volt D.C. oil-fired burner creates a 118-degree temperature rise. The new pressure washer also comes with an EZ Series General Triplex ceramic plunger pump that delivers 4.0 gpm and 3,200 psi. The machine is protected by a 2+5+5 year manufacturer's warranty (coil is prorated). All of the needed attachments and options are included, such as a 50-foot commercial grade hose, trigger gun, wand, downstream chemical injector and quickconnect nozzles.

(800) 333-9274

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New Dusteater shroud from Applied Diamond Tools

Applied Diamond Tools has introduced the Dusteater 5-inch aluminum dust shroud. This new product eliminates more than 98 percent of dusts when grinding concrete and other surfaces. Features of the Dusteater include:

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Dust Extraction Attachment from Makita

Makita has expanded its line of dust extraction solutions for concrete contractors with a new Dust Extraction Attachment, model 196571-4, for use with demolition hammers and rotary hammers.

The new Dust Extraction Attachment is engineered to help reduce dust created from breaking and chipping concrete. This attachment is a six-piece kit for use with a job-site vacuum. It is compatible with Makita SDS-MAX Rotary Hammers and Demolition Hammers. After attaching the dust cover and hose assembly to the shaft, the user can attach the hose to the hammer using one of two hose holders. The kit includes a dust cover, hose, hose holders and hose joint.

© (714) 522-8088 Swww.makita.com

New line of universal bucket-top sprayers from SMK Sprayers

SMK Sprayers has launched a new line of universal sprayers, the H100AC and P100AC. "AC" stands for "All Chemicals," which means that this new line of sprayers can spray all liquids that are 40 percent solids or less.

The features of this bucket-top sprayer line includes stainless steel internal housing that allows for universal spraying. Powered by 18-volt DeWALT cordless tool batteries, these sprayers will dispense content in half the time of the traditional hand pump, reducing application time, contamination, tired arm, and cleanup, and maintaining a consistent flow from the nozzle.

SMK's battery powered bucket-top sprayers provide a way to apply a wide variety of products, including sealers, curing compounds, hardeners, stains, form release agents and acids.

🕐 (515) 202-0052

💲 www.smksprayers.com

HARDSCAPES

Cheng Concrete introduces three new stepping stone molds for garden and yard

Cheng Concrete has introduced three new stepping stone designs. The Tropical Leaf, Plumeria and Morphos Round are all available now.

The Tropical Leaf and Plumeria were inspired by a visit to the Hawaiian Islands, and the third is in response to requests for a round version of the Morphos stepping stone mold.

Cheng Stepping Stone Molds make it easy and affordable to build your very own pathways for the garden and yard. Made of durable polystyrene, they can yield more than 20 castings. Each mold includes a set of easy-to-follow instructions for casting and caring for your concrete stepping stone molds.

🖉 (800) 877-6052

www.concreteexchange.com

OVERLAYS & TOPPINGS

Quest Building Products launches improved Kretus toppings products

In 2012, Quest Building Products became the sole distributor of the Kretus line of concrete restoration coatings. Now, several of those already high-quality Kretus products have been reformulated and relaunched.

Among the newly reformulated Kretus products are Kretus Polymer Admix, Kretus Texture Cement and Kretus Base Coat Cement.

Kretus Polymer Admix is a high-solids acrylic polymer modifier that will give increased strength, flexibility and adhesion to most cement-based products. This product will make the cement product more waterproof and provides increased stain resistance. Polymer Admix can be used not only to waterproof decks but also to resurface and patch concrete, as well as for a variety of exterior decorative concrete treatments. Polymer Admix is also available in a concentrate and a high-solids formula.

The reformulated cement products use a special formulation of portland cement blended with a variety of silica sand and proprietary additives. They are used in most of the Kretus systems to resurface, patch concrete and waterproof.

Other Kretus products, Kretus Top Shelf Epoxy, Kretus Polyaspartic and Kretus Acrylic Sealer, are still available as well. (© (714) 738-6640

💲 www.questbuilding.com

POLISHING & GRINDING

Clemons Concrete Coatings announces new Super Guard for polished concrete

New from Clemons Concrete Coatings is Super Guard, a breakthrough in polishing protection technology. Super Guard is a low-odor, waterborne urethane-acrylic sealer that protects polished concrete surfaces from staining, wear and abrasion. Super Guard can be burnished to increase durability and gloss. Using Super Guard with other Clemons products Super Dye and Super Hard yields a longer-lasting polished concrete floor.

(615) 872-9099
www.ccc-usa.com

Aztec LowRider burnisher available with three pad sizes

The recently released LowRider floor burnisher from Aztec Products is now available with 21-inch, 24-inch and 27-inch pad sizes. It features a unique patent-pending dust control upgrade, offering removal of 92 percent of air particulates of 1 micron or larger. The propane-powered LowRider is CE, EPA, CARB, LEED and GS-42 green certified for indoor use in approved areas. The LowRider, with its patent pending vacuum system, improves indoor air quality (IAQ) by containing air particulates and meets U.S. Green Building Council LEED IEQ credit 3.4 requirements.

The newly designed and aggressively priced Aztec LowRider buffer has a rugged, solid-steel body design with an ultralow 3 3/4inch profile for buffing and polishing under racks and hard-to-reach areas. There is adjustable pad pressure, and all parts are bolted on to the core frame for easy repair in the field. The LowRider also includes an advanced composite polymer pad driver.

According to Aztec, the high-powered propane burnisher glides on any floor surface with ease to the operator. It has enough head pressure to heat up densifiers, which provides a proper cure for the chemicals.

🖉 (800) 331-1423

💲 www.aztecproducts.com

STAINING & COLORING

Kemiko releases two new Stone Tone colors

Kemiko has officially released two new colors in its Stone Tone Stain line. Stone Tone is a reactive acid stain, which reacts with concrete to create a permanent concrete stain.

The new colors are Walnut and Garden Gold. These new additions expand the Stone Tone Stain line to a total of 10 colors. (C) (562) 236-1170

💲 www.kemiko.com

TOOLS

The Malish Corp. introduces new Diamabrush by Malish Removal Tool for prepping concrete and other surfaces

The Malish Corp. has announced the addition of a new removal hand tool to its Diamabrush by Malish Floor Preparation system line of products.

Available in 4.5- and 7-inch sizes, the Diamabrush by Malish Removal Tool is easy to use with existing hand grinders and uses diamond abrasive technology characteristic of the entire Diamabrush By Malish line. This feature helps prevent caramelizing or clogging of the tool, resulting in fast and effective removal through the life of the tool.

In addition to prepping concrete floors, the tool can also be used on walls made of brick, block, stone and metal.

🖉 (440) 951-5356

💲 www.diamabrushbymalish.com

New EZ Screed Pro Two allows for two-person upright usage

The new EZ Screed Pro Two, from EZ Screed Tools LLC, is designed for a two-person team screeding concrete in unison, in an

upright position. The EZ Screed Pro Two comes as a set of two handles with two pivot mounting brackets that attach to your 10-to-16foot screed board (aluminum or wood). This allows



for a fast and effective way of leveling concrete, resulting in a precise and professional finish for your larger concrete jobs.

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Are You Ready to Be a Project Manager?

by Mark Celebuski

You've worked hard, become skilled at making things, developed relationships with architects, gotten specified on a commercial project, bid to all of the generals involved and been told the winning bidder is going to go with you. Now what?

If you're new to the world of working with general contractors, you may be in for

a very rude awakening. Odds are you've just become a small fish in a big pond. Here are some steps to take to ensure that things proceed more smoothly so you get paid.

It starts with your proposal.

Define what you're bidding on in as much detail as possible. List the drawing number, revision number and date you



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received the drawings on your bid. This would typically be written as follows:

Concrete Surfaces Company proposes to furnish (286) vanities with integral sinks in accordance with drawings and specification received on 10/25/2019 dated 8/6/2018 for the Marriott by the Sea project. The pages detailing the vanities are A1 – latest revision 8/8/2018, A7 – latest revision 8/4/2019 etc.

List all of the pages showing your part of the project. Also, list any references to the vanities in the project specification booklet, as well as intended finishes.

Include a realistic project schedule in your proposal:

Concrete Surfaces Company will require 2 weeks from awarding of the subcontract to produce a mockup for the architects' inspection. Concrete Surfaces Company will require 2 weeks after approval of the mockup to start fabrication of the vanities at a rate of 40 per week etc. until the complete schedule (including install) is listed.

This will show the generals you have put the time and thought into how you are going to complete the project.

Read the contract. Most larger general contractors will require you to sign their subcontract rather than signing yours. Read and understand the contract before signing, and get an attorney if you need one. You can ask for contract modification or for your simple contract to be added to their contract to clarify things. You may be able to get by with a purchase order to keep things simple.

Create a paper trail. It's OK to talk to someone on the phone about a project — just make sure anything important is followed up in writing. Start an email folder for the project, both a physical (print and save the emails just in case) and a virtual one. Architects and general contractors do this and expect you to as well. Any time you talk with a general contractor, follow it up with an email:

Following up on our phone conversation today; Concrete Surfaces Company tentative schedule for install is 10/26/2019. Concrete Surfaces Company will require 4 weeks from the date of sample approval prior to starting installation of the vanities. Concrete Surfaces Company sample will be ready for submittal 2 weeks after the award of the subcontract to CreteWorks.

Track and bill extras. An extra is anything not listed in the drawings and specifications that causes you to perform extra work. Extras could be more, or they could be a different finish, a fast-track schedule, or even errors or omissions from the architect (imagine that). You may have to argue for some extras, especially if the general contractor cannot pass the added expense onto the owner (who may have to collect from the architect).

Extras are typically negotiated. General contractors are used to seeing cost plus 20 percent: 10 percent overhead plus 10 percent profit. Negotiate from there.

Understand your general contractor's billing cycle. Everyone involved with a project, from the owner on down, tries to get everyone else to finance it. Unfortunately you're going to be the last one in line.

Some larger companies may not be responsive to invoices or inquiries. A submitted invoice may appear to enter a black hole with no discernible exit process.

So, try to figure out the procedures ahead of time and get them in writing. Once you submit an invoice, follow it through the process to ensure prompt payment. A courteous phone call inquiring about the status of an overdue invoice goes a lot farther than, "Where's my money?" You can also lean on the project manager for help once you develop a rapport with them.

Try to get a deposit. You will probably hear, "We never do that" when you ask for one, but if you need it to complete the project, tell the general and see what they can do.

Get your financing in order. Odds are good that you will need working capital to complete larger projects. Break your estimate down to weekly expenses and secure the capital ahead of time, or you risk running out of money before you get paid. You may be able to negotiate a favorable payment plan, including progress payment with the general contractor.

Be honest about your financial situation with the general. They may be flexible,

especially if the architect and owner trust you.

Know when to walk away. Walk away if you can't complete the project to everyone's satisfaction, get paid in a timely fashion and make a profit. With proper planning and execution, larger projects can be a win-win. But when something goes wrong, you could lose your company before it really starts. Larger companies face these facts daily. It can be a little daunting when you first start out. If you can't see a very clear path to success on a project, your best bet is to walk away and live to fight another day.

Thanks to advances in admixtures and sealing systems, we're seeing more of our customers make the leap to larger interior commercial concrete surfaces. Concrete is ready to make the leap — but fabricators will need to become competent project managers to take advantage of future growth.

Mark Celebuski is a partner in manufacturer Trinic LLC. Reach him at mark@trinic.us.



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WHAT AMERICA'S MADE OF

ARTISAN IN CONCRETE

Paul Huneck, Hudson Concrete New York City

by Gail Elber

FTER being in the decorative concrete business for a little more than a decade, Paul Huneck, owner of Hudson Concrete in New York City, is in a spot that many other decorative concrete professionals would envy. High-profile clients come to him with interesting projects. He makes his entire living in a territory 13 miles long and 2 miles wide the island of Manhattan.

Coming from a family of artists who work in various media, Huneck, 48, didn't grow up aspiring

to express himself in concrete. But he calls concrete work

a natural extension of his art background. "When you say you're in the concrete business, people don't think of it as being artistic," he says. "They just think you're pouring foundations. But there are many visual elements or components. That's what's kept me intrigued and passionate about this extraordinary material all this time."

In 1994 Huneck was a filmmaker attending the MFA program at the Massachusetts College of Art and Design. He came to New York with the prospect of a job at MTV.

Although the job prospect fell through, Huneck wanted to stay. "I had to start a business," Huneck says.

Drawing on his undergraduate degree in horticulture, Huneck started supplying indoor plants to corporate clients.

After three years of that, he joined a friend's construction firm, then started his own company renovating building facades. When his company won a contract to point the brick on Abercrombie & Fitch's building in Manhattan, Huneck met an executive in charge of the company's new construction, who asked if Huneck had an interest in working on the distinctive mottled floors of Abercrombie & Fitch stores.

"They had a very specialized microtopping that only one company in the country was doing," Huneck says. "They were looking for someone on the East Coast to work with them."

"I threw myself into it," he says. "After quite a few months, I was able to replicate that look for them. Then we started traveling nationwide and doing their floors."

> When Huneck got tired of living on the road, he decided to confine his work to New York and venture beyond microtoppings. Gotham pharmacy chain Duane Reade approached Huneck to polish floors in its stores. Once Huneck had invested in polishing equipment, he pursued other polishing jobs. Hudson Concrete's business now consists of about half polishing and half new floor installation.

Huneck's preferred system is a sprayed microtopping with broadcast aggregate he created himself, called Petratone. He often collaborates on projects with Gary Jones, owner of British Columbia-based manufacturer Smart Surface Technology Inc. Together they create finishes that look like anything from natural handcrafted troweled concrete to — well,

the moon, actually. Last year, clothing designer Marc Jacobs commissioned Hudson Concrete to create a 5,000-squarefoot moonscape for a fashion show at the Lexington Avenue Armory. More recently, Hudson used Petratone to create the illusion that a large sculpture by Robert Longo is emerging from the floor of Petzel Gallery in the Chelsea neighborhood of Manhattan.





hotos courtesy of Hudson Concrete



ARTISAN IN CONCRETE







But Hudson Concrete's bread and butter is restoring old concrete slabs. "People from other parts of the country don't realize how old New York is," Huneck explains. "Most of the concrete we do is 50-100 years old. A lot of coatings, paint, adhesive, old carpet, tiles — all these tenants putting down different things over the years. It all has to be removed."

Instead of polishing these floors to a high gloss, Huneck often hones and seals them. "When you polish something that's really old, it loses its age," he says. "You're erasing all these nuances because you're grinding it so hard and refining it to a point where there's no sign of its age any more. When you don't grind it as aggressively and finish it as much, there's little microcracks and nuances everywhere that show its age. And that's what most people want. It's a cooler-looking floor."

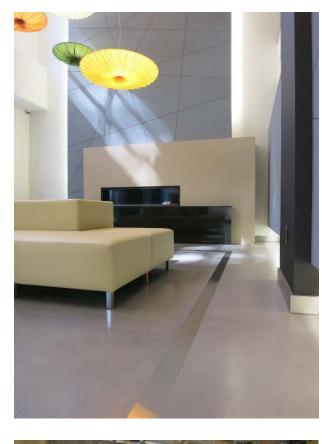
Hudson Concrete currently employs eight people in the field and one in the office. "We do eight to 10 jobs a month, and we usually have two or three jobs going at once," Huneck says.

As his business has matured, Huneck has shifted away from residential work and even small commercial projects to larger projects. "It's the lack of construction management on the job site," he says. "Do I want to deal with somebody that's the end user, has never dealt with construction ever, and has no understanding of what the requirements are?

"A smaller job takes longer to do because you have to micromanage it. I'd rather be managed by competent general contractors, architects, people who know. Otherwise, it gets too inefficient."

Currently, Huneck gets about 60 percent of his business from word of mouth and 40 percent from his website, Hudsonconcretepolishing.com.

To take his business to the next level,







Huneck is focusing on streamlining. "This is a business that can only grow with welltrained labor who understand the vision of the company and have all the tools and support at their disposal at each of the job sites they may be working at on a given day."

Huneck considered putting GPS tracking devices on his toolboxes, but the cost discouraged him. So he's developing a system of kits — a cleaning kit, a sealing kit — that contain all the necessary tools for a part of the project.

He also wants to improve organization in his office procedures.

"I want to take it to the next level,

but you've got to be superorganized," Huneck says.

There's a lot of demand for decorative concrete in New York these days, Huneck says, and adjusting to the improving market isn't easy. "The other day, in one day, a quarter of a million dollars worth of business came in. I looked at this and I thought, 'We couldn't do it.' I don't like the feeling.

"All of us participate in the downside when the economy's not great, but it's hard to participate in the upside. It rebounds there's all this work coming in, but there's a limit to what you can do." To take advantage of more opportunities, Huneck is considering a profit-sharing model for Hudson Concrete. "The employees would take a percentage of each job if it's done well, on time, with less management from me. So they're more selfsufficient and autonomous.

"So that's what I'm really working on now: How can we do a higher percentage of what's coming in?"

💲 www.hudsonconcretepolishing.com



Taking Flight

An expanded terminal at San Diego International Airport features architectural and decorative concrete

The largest improvement project in the history of the San Diego International Airport, The Green Build included expanding Terminal 2 and building a dual-level roadway to help ease traffic congestion by separating arriving and departing passengers.

by Stacey Enesey Klemenc

E XPANDING Terminal 2 at the San Diego International Airport was the largest improvement project in the airport's 81-year history. The expansion — dubbed "The Green Build" because of the airport authority's commitment to sustainability and environmentally friendly materials and methods — cost \$907 million and at peak construction created 1,000 jobs.

All told, 7,000 workers had a role in the project, which was completed on time and under budget. And some of those workers produced architectural and decorative concrete, which was utilized throughout the expanded terminal.

Two major contracts were awarded for the massive undertaking:

 A design-build joint venture between Turner Construction Co., PCL Construction Services Inc. and Flatiron Corp. oversaw the addition of the threestory Terminal 2 building. It featured 10 massive architectural concrete columns, 10 new gates, and improvements to the runway side of the new terminal in the way of 1.5 million square feet of new taxiway and aircraft parking.
The Kiewit/Sundt design-build

team was responsible for the landside improvements for the Terminal 2 expansion. These included decorative concrete walkways, accessories and landscaping, a new dual-level roadway across from the terminal that separates arriving from departing traffic, two curbside pavilions in front of the terminal for passenger check-in, enhanced vehicle parking, two pedestrian bridges, six roadway bridges and the nation's largest USO Center, among other improvements.

Work began in July 2009 and the terminal officially opened August 13, 2013. The results have received national attention. The San Diego airport placed second in the Architectural Concrete, Over 5,000 square foot category in the sixth annual Decorative Concrete Awards competition sponsored in 2014 by the American Society of Concrete Contractors Decorative Concrete Council.

Architectural concrete provides support

Architects and general contractors involved with the expansion project used the term "architectural concrete" to describe the exposed columns that adorn the front of the terminal and also serve as structural elements, as well as the stained, integrally colored and saw-cut flatwork in front of the building. The curved walls, benches, planters, bollards and trash receptacles also were considered both architectural and decorative concrete. For many, the terms are interchangeable.

According to the American Institute of Architects, cast-in-place architectural concrete is "formed concrete that is exposed to view on surfaces of (the) completed structure or building and that requires special concrete materials, formwork, placement or finishes to obtain (the) specified architectural appearance."

Architectural concrete's key attribute is that it is an exposed concrete surface with some kind of aesthetic consideration. It can be gray, white or colored and still fit the definition used by many in the construction field.

The massive inclined columns, a significant feature of the expanded terminal building, duplicate those found on Terminal 2 East that opened to passengers in 1998.



Although it may not be obvious at first glance, "The 54-foot-tall columns were designed to look like airplane wings," says Ron Vollmond, formwork operations manager for Anaheim, California-based Bomel Construction Co., who was tasked with coordinating and designing the formwork using EFCO steel forms. The columns were poured in three lifts and on a seven-day cycle.

"Because of the sheer mass of these



Terminal 2's expansion featured 10 new columns built to match the existing ones on the terminal's other side.

columns, there were many challenges," and consequently extensive mock-ups and trials, says PCL's Jeff McDonald, who oversaw the terminal project from preconstruction through turnover as the general superintendent for the Turner/PCL/ Flatiron joint venture.

The hardest part of the job involving the columns, Vollmond says, was "getting the mix design, slump and vibration just right for aesthetics and constructability purposes."

In short, the job required a high level of quality concrete with a complicated consistency because the new columns had to match what was already done years ago.

And that, says McDonald, was a big part of the challenge. "The quality of the existing columns was less than desirable. So it was a bit of a struggle to bring up the quality of the new ones without making them look totally different."

The crew went through dozens of small mock-ups, everything from 4-foot-square flats to 2-by-2 columns 16 feet tall, as well as two large mock-ups of 6-by-8 15-foot columns, before landing on the right consolidation and vibration procedure to produce the desired color and texture.

"The placing and consolidation (of the mix) are critical to the exterior finish because different methodologies, procedures and materials affect the color," says McDonald. If the mix was not consolidated adequately, there would be voids in the concrete. If it was vibrated too much, there were dark stains from excessive water. Too little and there was material separation.

Involving small contractors is big business for airport authority

n 2009, the San Diego County Regional Airport Authority Board adopted a small-business preference policy. Since then, "The airport has had a strong commitment to maximizing opportunities for small and local businesses to compete for contracts," says Sonia Cruz, small-business development program manager for the airport authority.

In fact, about 225 small businesses were awarded roughly \$118 million in contracts for work involving The Green Build project at San Diego International Airport.

Among the subcontractors hired was Quick Crete Products Corp., Norco, California, which made Terminal 2's landside perimeter security concrete pieces. URS, one of the architects for the landside improvements, specified QCP's steel-reinforced bollards, benches, planters and trash cans.

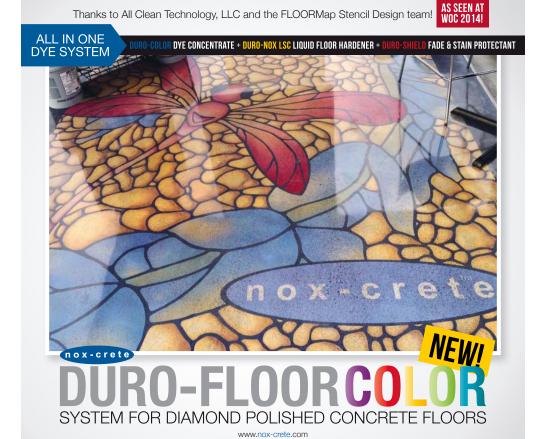
"We knew about jobs at the airport because we got an email from the authority on an upcoming small business workshop," says Scott Ulrich, QCP vice president.

"The best way to bid jobs at the San Diego Airport as a small business is to stay in touch with the estimators of the large construction companies," he advises others who would like to land a contract. "And make sure they are aware that your company is a small business." "We know that small businesses are often overwhelmed with the process," says Cruz, "so we offer educational programs to support their participation."

Besides regularly sponsoring opportunity awareness events for small and emerging businesses, the authority teams up with Turner Construction Co. to present a construction management program. Offered in the spring and fall, it is held evenings two days a week for eight weeks and covers things such as construction law, accounting, safety and insurance needs. Another program, administered through Merriwether & Williams Insurance Services, offers bonding and financing assistance.

One of the first things small businesses interested in doing work for the airport should do is register online at SAN.org/smallbusiness. "That will get them set up to receive information on any work available in their trade," says Cruz. After that, she encourages interested parties to participate in an opportunity awareness event or a monthly workshop. "It's all free to them."

Right now, she says, "We're in the middle of a series of major improvements on the north side of the airport. There are more than \$300 million in contract opportunities available."



"We ended up using a reputable outside expert for our mix design," McDonald says, "which helped us to determine the best aggregate sizes with the Type III portland cement and color additives. Originally we were trying to make a structural mix work (for the architectural concrete) and it wasn't cutting it."

These columns presented a challenge that stands out over the 40 years McDonald has been involved with concrete "We did everything exactly the same as much as possible (when making the columns)," he says. Besides strictly controlling the mix and blending concrete truckloads, they used the same people, equipment and schedule. In addition to the mix, the vibration sequence, as well as its timing and force, was critical to maintain uniformity in color, consistency and consolidation.

The inclined columns at the airport were colored as cast, as is the case for most architectural concrete on today's buildings. Once the metal forms were removed there was no dry sacking or painting. Except for a little touch-up to minor imperfections, the columns were finished. "The finish is a little industrial-looking," says McDonald.





Bollards, benches, planters and trash cans were made by California-based Quick Crete Products Corp.

On the land side: Decorative concrete

As a member of the Kiewit/Sundt designbuild team, Patricia Trauth, principal landscape architect for the Southern California region for URS, helped design the landscape improvements throughout Terminal 2 West. The exterior area for arrivals and departures features waves of seeded Lithocrete, stained concrete, walkways finished to look like quarried stone and meandering concrete seat walls.

Rich Robertson, senior general superintendent for T.B. Penick & Sons Inc., San Diego, another member of the Kiewit/ Sundt design-build team, was in charge of installing and finishing all the flatwork on the terminal's land side, as well as the walls, stairwell and pedestrian bridges. He says he used a house-made reactive stain to further distinguish the saw-cut "kite tail" or "ribbon" design. The whole project, he adds, was integrally colored with Davis Colors' Palomino. "Concrete is a creative fluid substance that's fun to add different materials to," says Trauth, adding that T.B. Penick mocked up extensive samples using different aggregates for the airport project before the team decided on glass beads, pyrite and granite aggregate. Team members also decided they wanted to incorporate curved saw cuts into the overall design. "When you start doing this type of detailing to concrete, you need to have a good process and seasoned professionals to do the work."

Seeded with the glass beads and pyrite, the curves not only look good but also serve a wayfinding purpose. "The seeded curves guide people to the right location by getting them from point A to B," Trauth says. "People at the airport are in a hurry and many visitors are not familiar with the environment, so the seeded paths make it easy for them to understand where to go."

For instance, one of the crosswalks has an aggregate wave going through it that

Concrete facts about The Green Build

- 110,802 cubic yards of concrete were used to make improvements on both the land and air sides of the San Diego International Airport.
- The terminal contains 20,000 cubic yards of concrete.
- The Green Build's new airfield apron contains enough concrete to build a 5-foot-wide sidewalk from San Diego to San Francisco. That's almost 500 miles!
- 54,000 tons of construction material waste from The Green Build was diverted from landfills, much of it recycled or used on site, including concrete that was recovered, crushed and used to make subfoundations.

swirls around and ends near the escalator that takes you upstairs to the departure area. Another area upstairs has a curve that leads to the pedestrian bridge that takes travelers into the terminal.

"When the sun hits the pyrite, it looks like waves of gold," Trauth says. "The whole indoor/outdoor setting is designed to celebrate San Diego's climate and proximity to the ocean."

"This project has definitely changed people's arrival and departure experiences from San Diego," says Chris Klemaske, project developer with T.B. Penick, whose job was to work with architects and airport representatives about the concrete aspects of The Green Build. "I especially like the way it all comes together. The concrete is a piece of the design rather than the focus of it."

Trauth praises the people involved with The Green Build as being among the best she's ever worked with. "This project is definitely the highlight of my professional career."

Terminal and perimeter

HNTB Corp., as part of the Turner/ PCL/Flatiron joint venture, provided architectural and engineering services for the airport's Terminal 2 West and airside expansion, which consists of 460,000 square feet of new public and nonpublic areas. Thanks to extensive sustainable



Decorative concrete at the airport includes a meandering wall that is both attractive and functional.

features, this part of the expansion recently qualified for the Leadership in Energy and Environmental Design (LEED) Platinum certification from the U.S. Green Building Council, making San Diego the first LEED Platinum-certified commercial airport terminal in the world.

Jennie Santoro, an HNTB architect who was part of the on-site design team, says, "Matching the existing building's details (like the inclined columns) while at the same time bringing in new design to give the owners a better product than what they had before was a challenge." That, she adds, and keeping the building operational during the construction process.

It was always in the plan to expand the existing L-shaped building with a mirrored L-shaped addition that would transform its shape into a T, she explains. "And it was part of our job to make sure that to a layperson the (expanded) building looked like it was built all at once."

In addition to the building, Santoro's design jurisdiction included the sidewalk area in front of the terminal, in which Trauth with URS also was involved. They were tasked with improving the terminal's curbside appeal and selected decorative concrete flatwork and precast concrete accessories as the new design elements for the job.

"The airport authority wanted a design that promoted safety yet was warm and welcoming to visitors," Santoro says. "So we came up with a creative solution that involved a variety of precast types of concrete furnishings as part of the terminal's security and blast protection. Instead of just rows of bollards, we used (steel-reinforced) concrete benches and planters to break things up." The bollards, she adds, were custom-made and lit at the base. And the planters allowed for some greenery to soften the hard lines.

The sidewalk was colored and saw-cut to break up its expanse and add another decorative element. "The bands of Lithocrete





align with the inclined columns and follow the rhythm of the facade," Santoro says.

Teamwork

The Green Build project was a huge success in many ways. Small and local businesses got a fair share of the pie thanks to the airport authority's hiring policy. It was a win-win for the county and environment as the project's sustainable practices involved building materials and methods. And Green Build's design-build concept was backed by bona fide teamwork all the way around.

"The more knowledge everyone on the team had, the better the project went," says T.B. Penick's Klemaske. "Everyone involved felt part of the team. There was no fingerpointing. We all came to the table before it was built so we knew the challenges beforehand."

That's the trend for big projects nowadays, Klemaske says. Architects and contractors develop a relationship and agree on designs by sharing drawings, mock-ups and samples. "They meet regularly so they can build as a team and go in as a team," she says. "It's a smarter way to work and a money-saving way to work." \checkmark

See more photos from this feature online at ConcreteDecor.net

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THINGS

DECORATIVE CONCRETE CONTRACTORS WISH ARCHITECTS WOULD DO

by Joe Maty

ECORATIVE concrete contractors who get heartburn dealing with architects may want to look at the bright side: Doing all those mock-ups is good practice. All joking aside, the designer-contractor experience very often does prove to be positive and stimulating. But contractors can have hopes and dreams for a world where they are more in sync with designers.

After conversations with a number of accomplished decorative concrete contractors, we've distilled some of these desires into a list of five.

Continued on page 36

5 THINGS ARCHITECTS WISH DECORATIVE CONCRETE CONTRACTORS WOULD DO

by Joe Maty

4,250

4

3

HERE'S one key point on which architects and decorative concrete contractors agree: "The architect needs to have a contractor who knows what he's doing," says Marley Porter, AIA, who operates Living Architecture & Construction Management, located in Texas Hill Country at Cottonwood Shores.

4.250

Continued on page 38

5 THINGS DECORATIVE CONCRETE CONTRACTORS WISH ARCHITECTS WOULD DO

Continued from page 35

KNOW MORE ABOUT DECORATIVE CONCRETE MATERIALS.

"I'd like to see architects understand coloring systems," says Rick Ogden, owner of Ogden Construction in Pryor, Oklahoma. "They will specify a color, and won't say if it's a stain, dye or whatever."

The decorative concrete contractor needs to know if the color source will be a dye, an integral color, or a stain (water-based or chemical). Therefore, the architect must have the knowledge — or acquire it — on what kind of coloring is best suited for the specific project and application.

"How exactly do they want me to color it?" Ogden asks. "If they pick a color, how do they want to get there?"

The same goes for sealers, the mix design and other materials and processes. "I've been doing this a long time, and I see repeated failures because people don't really know these things," he says.

Cory Hanneman, owner of Element7 Concrete in Marble Falls, Texas, says both architects and contractors would benefit in particular from greater knowledge of color hardeners and how they are used.



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DBE A CAREFUL, THOROUGH COMMUNICATOR.

• "The GC (general contractor) is between us, and if you are not talking with me I cannot figure out what you really want," says Chad Gill, owner of Concreate Inc., Midlothian, Virginia. "The result is you getting what you asked for rather than what you wanted."

Huh? Gill explains: The architect may have "cut and pasted" specification language from two different references, or has otherwise specified materials or processes that are incorrect or even contradictory. She has asked for something she didn't want.

"One time we had a client specify brown polished concrete, shotblasted and sealed. You would never shotblast that. It makes no sense."

The ease and proliferation of modern technology should make communication among all parties a snap, Ogden notes. Communication "takes the mystery and guesswork out of the equation. It allows the contractor to be specific with the architect and the architect to be specific with the contractor. Communication allows information and decisions to be made quickly and starts the process for a 'customer satisfied' job," he says.

The GC may say "do what's in the document whether it makes sense or not," but for Gill that's not the right answer.

"It's very frustrating to me," he says. "You're hiring me for my skill and knowledge and experience," but when the designer does not consult the contractor, that expertise goes untapped.

ALLOW THE CONTRACTOR TO BE AN INTEGRAL PART OF THE TEAM.

Sounds simple, right? Search out a contractor who has the skills and the track record, etc. etc. But that's only part of the deal.

Chad Gill's wish is that architects understood that they don't have to be the ranking decorative concrete expert. "Select a contractor who is reputable and has the knowledge and the skill, then make him or her part of the process."

Not all contractors are "shady and looking to take advantage of the owner," Gill says. "Reward the ones you trust by dealing openly and honestly with them and likewise keep from working with the ones who are not."

GET REAL ON COST.

Decorative concrete contracting isn't the same as selling Harleys or haircuts, where the price is calculated on known cost and profit metrics. The DC contractor can't absorb repeated financial hits due to designer whim.

"A contractor cannot run their business on a 10 percent overhead-and-profit markup," Gill says. "Use unit pricing and negotiate change-order costs before they occur, (and) understand that contracting is different from design."

TAP INTO THE CONTRACTOR

Designers should take advantage of the information-resource role contractors can serve. This is particularly important in exploring the potential of new decorative treatments and applications, says Hanneman.

He mentions the emergence of gray as a "super hot" color in solvent-based dyes, with L.M. Scofield Co., AmeriPolish and H&C offering interesting new entries. Contractors are exploring these new frontiers and can find new creative uses in collaboration with designers.

Contractors also are pushing the envelope with techniques such as the use of shotcrete for decorative applications, where imaginative shapes are possible. Designers who interact with decorative concrete contractors, asking about the latest developments from the field, can get the inside track on emerging methods and materials, he says.





5 THINGS **ARCHITECTS** WISH DECORATIVE CONCRETE CONTRACTORS WOULD DO

Continued from page 36

Porter, who owns an extensive portfolio of decorative concrete work, says the DC contractor had better be able to demonstrate more knowledge than Porter has about the trade and the technology, "or he's not going to get the bid."

Porter doesn't mince words in his frank views on the decorative concrete trade and what might improve designer-contractor dealings.

"A lot of people shouldn't be doing it, thinking it's quick money," he says flatly. "Don't oversell yourself and make sure you know what you are doing. And make it clear that when you make a mistake you'll fix it."

Porter says he's heard too many

contractors say, "This goes down once and that's what you get." That won't fly if the contractor is looking to build the business long-term.

"Know what everybody's expectations and limitations are of the materials, and be willing to step up to do what it takes to make the client happy," he says.

A sampling of opinion from Porter and several other architects produces a variety of observations on what they take away from their work with decorative concrete contractors — and, in a more perfect world, what contractors might bring to the table. Some of these wishes are highlighted in the following list of five.



STAY IN SYNC WITH THE DESIGNER'S PLAN.

Architects are chagrined when decorative concrete contractors take liberties in a project design, going in a direction that may be out of sync with the design plan.

Perhaps the contractor has failed to consult with the designer on what Porter calls the "philosophy of the design," instead becoming infatuated with decorative elements such as a sunburst or compass that don't belong.

"Sometimes concrete subs will go directly to the owner — quite often they fancy themselves as artists, or maybe they indeed are artists," Porter says. "But when they do that after the design of a home is worked out and agreed to with the owner, sometimes down to the exact score cuts in the concrete, you can end up with a pile of 'cute' little concrete curiosities that have nothing to do with the project."

Claudia Humphrey, project designer with Heath Design Group, in Baltimore, also cautions against detouring from the specified design. If a scale, pattern, offset or other specification is noted in the plans, it shouldn't be available for revision unlesss there is a catastrophic discovery during demolition that completely prohibits the installation, Humphrey says.

The same goes for color, she says. "Pigment is key. If a design specifically identifies Pantone colors, or a specific matrix of colors to match a brand, logo (or other element), substitutions are not accepted."

"The best concrete subs are those who carefully work with the architect or designer with their own expertise and experience to maintain and enhance the design motif," Porter says.

DO LESS DECORATIVE CONCRETE.

"When finishing decorative concrete, take a minimalist approach," proposes David Eaves, AIA, of LPA Inc.'s Irvine, California., office. "Generally, architects are looking for consistency more than perfection. Particularly with decorative concrete, perfection is nearly unattainable. Therefore, focus on consistency in execution using the same mix, placement methods, cut or grind, polish, etc., as performed during the mock-up phase.

"This starts by doing less. The less concrete is worked, ground, polished, and so on, the more likely we are able to achieve consistent results. We understand that it often takes a tremendous amount of work to 'do less,' and all the preparation effort will be worth it and appreciated in the final product."

Aleksander Tamm-Seitz, senior project designer with Morphosis Architects Inc. in Culver City, California, gives this take on the "less" theme: "One of the main things our office tries to explain to contractors at the beginning of each job is that we aren't always looking for 'decorative' concrete in the traditional sense. What we mean by decorative, or architecturally exposed, concrete is something that still looks like standard concrete, just with a higher level of care applied to it. We aim for truth to materials which, in this case, is really just a nicer version of standard concrete."

This approach can extend to flaws, Tamm-Seitz says. "Minor cracking can be OK. All concrete cracks. Often there is a desire by contractors and engineers to overcompensate for this. They do it by providing a huge amount of control joints and breaks for cracking. This can sometimes be overkill because visually, control joints can be more objectionable," he says. "It's important to acknowledge that some minor cracking may occur, and that this is acceptable, and actually preferred, to large amounts of control joints.

"Once again, this idea of truth to materials and allowing the material to be what it wants to be comes into play for us."

PLAN AND SCHEDULE PROACTIVELY.

"You only get one shot at it," Eaves says. "One of the benefits, and also challenges, of decorative concrete is that the structural slab or wall is also the final finish. This requires that careful planning be performed to achieve the desired end result."

"It's permanent, or at least expensive to modify if not done right," notes Porter.

"Recognize that materials, stencils (and other tools) may be longer lead-time items," says Humphrey. "It's not always evident during the design process that a vendor may develop a backlog for production of specific stencils. Be proactive about scheduling, since the elaborate designs that require this coordination are frequently feature components to the design and should not be left until the last minute or be a reason for delays to the project."

MAXIMIZE THE ATTENTION TO MIX DESIGN, IN PART BY USING MORE MOCK-UPS.

"Mix designs must be carefully considered and reviewed, paying attention to aggregate and sand type, size, color and sourcing," says Eaves. "Consistency is critical."

"On many projects, there will be numerous mix designs, (for) slabs on grade, elevated decks, walls and so on, and achieving consistency is a challenge," Eaves says. "Mock-ups need to be prepared to review the different mix designs and levels of concrete finishing proposed, for the architect, contractors, and most importantly, the owner.

"Mock-ups establish the expectations for the finished product, and so shortcuts here should be avoided. The more mock-ups performed, the more likely the team will be able to repeat the quality and level of finish with the final placement. Prepare, prepare, prepare and then execute."

"The mix design is very important," says Tamm-Seitz. "Many times we grind and polish our concrete floors, and in such cases, the type, size and color of the aggregates being used strongly influences the appearance of the final product. Sometimes it can be acceptable to switch out a mix design during construction structurally, but if all the characteristics of the mix are not considered, the final appearance of the concrete can be quite different from what was anticipated."

PROTECT THE FINISHED PRODUCT UNTIL CONSTRUCTION IS COMPLETE.

"No matter when the concrete is placed on-site, once it is there, protection, care and due diligence must be used," says Tamm-Seitz. "Careful sequencing in construction can help some of this, but in the end protection at all stages of construction is critical. There is nothing more frustrating than stripping a form or seeing a finished slab pour turn out near perfect, only to have that same concrete damaged later on during construction."

Structural slabs might be the final exposed floor surface, or a topping slab might serve that purpose. But in the field, the same care and due diligence should be used, Tamm-Seitz says.

For Porter, a proactive attitude toward protection extends to proper sealer application. "One problem I see is proper cleaning of floors," he says. The contractor didn't "get down on their hands and knees" to clean the floors, figuratively speaking, "and when you put a sealer on it the problem is retained in perpetuity. Mop it five times, not two." 🥔





John Buteyn of Colorado Hardscapes speaks about concrete to the AIA Colorado North group in Boulder on April 15, 2014.

Presenting to Architects? How to Get Their Attention ... and Keep It

by Karen Van Heukelem

Colorado Hardscapes, presentations to architects and designers are a crucial component of our marketing plan. Building relationships with the design community and being a resource for them helps us get into projects early. We in turn help architects and landscape architects specify more clearly and understand their options.

A successful presentation requires more than just showing up with lunch and a slide show. A successful presentation requires knowing your audience, offering them value, preparation, passion, focus, visual aids and follow-up.

Know your audience

With any marketing, identifying a target market helps direct your efforts. Once you determine who you want to develop a stronger relationship with, you can start narrowing down what types of presentations you should offer.

A presentation for an architect who specializes in higher education design should be different from a presentation to a heavy/highway general contractor. When presenting to a group of architects within a particular focus, the presentation should be about their specialties and interests. For example, a group of architects who specializes in higher ed may want to know about the design possibilities and limitations of polished concrete. On the contrary, a presentation to a heavy/highway contractor will speak more to construction than the design. Presentations to general contractors tend to be more focused on construction details while presentations to architects focus more on design and possibilities.

Each audience generally has different interests and goals when attending a presentation. Which brings us to my next point.



Offer value

A presentation without value to the audience wastes everyone's time. Although, some may say a free lunch and an hour-long cat nap is rewarding, let's not make that a goal of our presentations. Ask yourself why someone should attend your presentation. If you only want your product or services specified more, you're not quite there yet.

What value does the presentation bring to the architect, owner or general contractor? Your audience may want architectural credit, or perhaps they have a specific problem you can solve, or maybe they are working on a new project and want to know their options. You should never present to a group without knowing what they hope to get out of the presentation so you can better prepare and deliver value. Which brings us to the importance of preparation.

Prepare

Once you have your audience figured out and you've determined their goals, you need to make sure your presentation speaks to them and offers a solution to their problem. Each presentation we give is customized to each of our audiences.

For example, we recently presented to a group of landscape architects who focus mostly on park designs and wanted to know

about innovations in decorative concrete. We tailored a presentation to them in order to focus more on parks and the new trends we are seeing. Because we also have a history with this landscape architect firm, we made sure to include pictures and examples from projects on which we worked with them in the past. It not only got them engaged, but showed them we listen and value their partnership.

Even if we use a preapproved AIA-accredited presentation, we may shift our focus and time allotment within the preapproved presentation to ensure we focus on what the architects came to learn about.

Preparation means practicing the presentation, knowing your audience and respecting their time. You want to fill up most of the presentation time and allow time for dialogue, but also make sure you do not go over your allotted time. This requires balance and practice. Each typical presentation requires about eight total hours of work. The eight hours usually includes two to three hours of setting up and customizing a slide show (assuming you have a template already set), two to three hours of practice, one hour of organizing visual aids and handouts, one hour of travel and setup (I like to show up a half hour early), one hour for the actual presentation, and another hour of tear-down and follow-up. If you do not have that kind of time to devote to each presentation, I do not recommend presentations as part of your marketing plan.

Be passionate

This should be a given, and it's easy for most. The decorative concrete industry is one of the most passionate groups of individuals I've met. But it's worth repeating. If there is a topic your audience is requesting that you are not passionate about, either find someone else in your office who is, or direct them to a topic that you are passionate about so you can offer value to them. If you don't love what you're presenting, neither will they. Excitement is contagious, but unfortunately, so is mediocrity — and that's not a message you want to convey.

Stay focused

However, with passion sometimes comes rambling and tangents. Tangents can be healthy if the audience asks questions and drives the conversation in a new direction. To ensure you stay on topic and within your time constraints, do your best to stay focused.

Most of the time, the focus comes from how you prepare the presentation. At Colorado Hardscapes, we offer many services, and to try to present on all of them in one hour would result in a whirlwind of information that just scratches the surface of each. I recommend focusing on one to two topics and diving deeper into each rather than trying to cover everything.

I usually ask the prospective audience what they want us to focus on, or I make a recommendation based on what I know about them or see on their website. Knowing a few people at a design or architecture firm helps, because through them, you can usually discover what drives their firm or their design. For example, if a landscape architect loves to design with template sandblasting images, I will be sure to cover that service — and transition to an alternate way of achieving a similar design intent. When I give a designer one more tool in their design palette, especially one which is similar to something they are already comfortable with, they are more likely to pick it up on the next project.

If your company offers more than you focus on in your presentation, I recommend either opening or closing on a brief overview of your full range of services. If they are interested in any of your company's other areas of expertise, suggest they reach out to you so you can talk to them further about it, whether it's at a future presentation, in a meeting, by email or over the phone.

Visual aids

The biggest flaw I see in too many presentations these days is a lack of engagement. This is usually caused by a presenter turning on a slide show and turning off the lights. The presenter goes into autopilot mode (losing some passion) and the audience goes into sleep mode. You can do one of two things with your audience — you can offer pillows to make their nap more comfortable, or you can get them engaged.

At every presentation we give, we bring a suitcase full of samples that reinforce the topics we discuss. For example, if it's an interior flooring presentation, we bring polished concrete, stained concrete, and samples that emphasize points we make about saw cuts, caulking and other concrete design elements.

Regardless of topic or goals, the samples offer engagement and clarity. As we go through our slide show we pass around samples to encourage interaction and understanding. Talking and photos can only take understanding of some of our finishes to a certain level. Physical samples give the audience something to see and feel. As samples go around the room, often you can almost see the light



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bulbs go on as the tangibility of the samples sparks new dialogue and interest. Pretty pictures and quality content are important, but they should be supported by some sort of visual aids you can pass around the room.

Follow up

Ideally, some of the samples sparked interest and you leave a couple behind. Or perhaps your audience requested something for their library. Regardless, you should find some point to follow up with.

Many times, a question comes up during the presentation that you can address in follow-up correspondence. For example, "Dear John, thank you for having us present to your group on Monday. During the presentation, you asked a question about the slipperiness of polished concrete. I thought you'd find the attached study interesting and helpful." Of course, this means you need to pay attention and remember names. Often, I find my listeners will pass out their business cards ahead of time. While I'm presenting, I try to have these in front of me in the same order they are sitting. Then if any question or follow-up issue arises, I will write it on the back of their card for when I'm back at the office. If worse comes to worst and you forgot a name, politely ask for it again.

Presentations help set a specialty concrete contractor apart from being just another subcontractor or supplier. Our industry offers unique value and opportunity to the design community, and it is our job to share those possibilities with them. By presenting to the design community, we help push the bar for excellence in decorative concrete and design. Many landscape architects we address see an idea in one of our presentations and ask if the next great thing is possible. They help push us towards innovation and problem-solving for the future of decorative concrete. This collaboration with the design community will make the industry stronger as a whole, and with a little direction, value, practice, passion, focus and intentional follow-up, we will share a fun and exciting future.

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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COMMUNITY SCHOOL





New

Concrete Artists Get a Chance to Create Their Dream Project Godsey House — Chattanooga, Tennessee

by Rick Lobdell

WORK in decorative concrete, and I view myself as an artist. Not only do I have a Master of Fine Arts degree in painting but I also have spent 10 years studying decorative concrete materials. When I'm working on a piece for an art show, I let loose any idea, concept or imaginative visual I can come up with for each individual canvas I paint, and I sometimes change my mind along the way. A painting can travel anywhere I want it to until the day I sell it or even paint over it.

In the decorative concrete world, that can't happen as easily. You get one shot at doing everything right. The interior and exterior must match, have the right scale and the right detail. While the daily work gets done, a part of you dreams to find that one client who changes your portfolio forever.

That happened to me when I began working with Mark Godsey on amazing concrete designs for his beautiful house in Chattanooga. This article breaks down how we created all of this and who it took to help install each area we did.

Project at a Glance

Client: Mark Godsey, a homeowner in Chattanooga, Tennessee

Contractor: Concrete Mystique Engraving, Nashville (*) www.concretemystique.com

Artists: Rick Lobdell (Nashville), John Campbell (Fayetteville, Arkansas), Ryan Samford (Nashville) Products and tools used: Smith Paints water-based stains; SurfKoat's Kolour Dyes, 1040 Water-based

epoxy, 250 HP Cyclo 250 clear epoxy and PolyKoat GL 80 polyaspartic; Kingdom Products Imperial Epoxy 250 clear epoxy with Elite Crete's Reflector Enhancer metallic powders added; Lyons Manufacturing's Super Flowcrete, Engrave-A-Crete's Cobra

Project description: Over a couple of months, we installed high-end decorative designs throughout the interior of a home. We did 4,500 square feet over three stages of work.



A 3-D pond in the billiards room

John Campbell of FLOORmap Stencil Designs helped me design this room. John studied illustration at the Savannah College of Art and Design, where he received his BFA. We have been close friends since we met in September 1996.

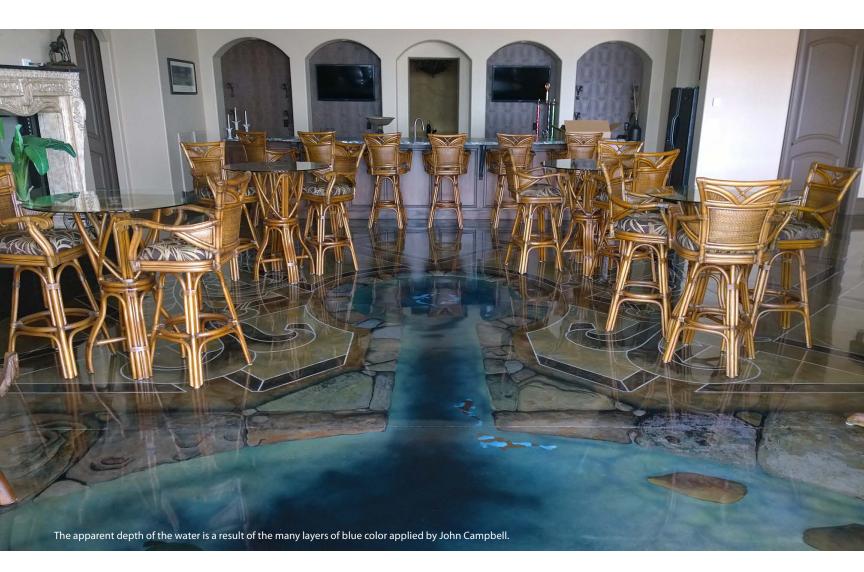
The homeowner wanted a water feature at the bottom of his stairway that he could look at from upstairs. I brought John in to design the pond while I designed everything around it. Deciding how to merge illustration into an engraved pattern floor was a challenge at first. Where do you stop engraving and start the illustration?

On every floor I engrave with a pattern, I want a border around the edge of the room. This creates a finish to the design, allows subtle interactions throughout the room and provides additional spaces for the eye to rest on as you walk through. It calms the design down a little visually and adds a



contemporary touch to a more classical pattern. Since I hand-paint all my borders, I was able to create one that enclosed the space of the pond and gave John's painting style a place to merge with mine.

The precise placement of the wrought iron accents was crucial to the entire composition — too big and they overpower



the room, too small and they look pointless.

Once I added the 3-D edge to the main pattern I had to plan how the wrought iron matched the 3-D point of view. Would it be at the same level of the main borders, or should it appear above everything slightly? We liked how it was slightly above the main borders, because it takes the viewer a second to notice it. Subtle design choices like this help sell the 3-D perspective from multiple points in the room.

We knew the general layout of furniture that Mark planned to place: a pool table, TV, and couch zone. The layout gave John and I a reason to pull the pond into the center area of the room. As with the wrought iron accents, we had to worry about the pond's exact size and appearance.

I appreciate being able to draw design ideas for a project, just like I do when planning paintings. Most of the time, we can plan very precisely with drawings, and by mathematically hand-drawing on-site I can make changes when necessary. Using



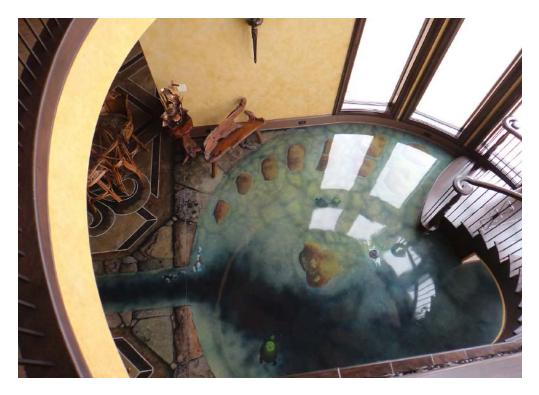


many drawings, we were able to plan these details very precisely. With a piece of soapstone, a tape measure, chalk line, straight edge and square I can come up with any shape and size quickly.

Once we understood our layout in relation to the stairwell, lighting and where

the pond would protrude into the main area, we developed the placement of each detail. John and I sent revision after revision to each other until Mark approved.

We acid-washed and scrubbed the floor. Then we laid out the entire design and engraved it into the floor. After that, John

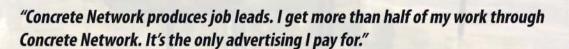


began sketching his pond on the floor. He hand-painted the stones while we handbrushed the borders and accents.

Because of the amount of detail planned for this area, we chose to use a water-based stain. As John moved into the water features we helped paint more of the stones. It was a lot of fun planning each stone that traveled away from the stairs, which were intended to guide the viewer across the pond.

We left one stone out in the middle all alone. The viewer can decide to make that leap and jump to that lonely stone or admire the turtles that float between the areas. John painted turtles in full detail that appear to float partially above and below the water. Koi fish were painted in a perfect path to provide a Zen-like motion. Colors were layered through the water to create the appearance of stones that are submerged below the pond's edges.

To help finish the 3-D look of the pond, John masked off all the stones to spray the water colors and the outside edges of each stone to create shadow. These painted-on details give an important realism to the rocks merging with the edge of the elaborate 3-D floor. Everyone that sees our photos questions us about how that pond could not be real. I just smile with pride every time, remembering the effort we put in.



- Don Pinger, Custom Concrete Solutions, LLC in West Hartford, CT Member since 2006

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PROJECT PROFILE

Unique patterns in each bedroom

The second project in the home's lower level required unique designs and combinations of metallic powders in three bedrooms. I brought in Ryan Samford, owner of EPO Floors, to advise on color choices and the application of each epoxy floor.

The mother's suite has a contemporary design based on a small pillow that would be sitting in the room. To me, the design fits the style and feel that Mrs. Godsey wanted for the room. Then we poured brass, brown and red metallic epoxies onto the floor. As the epoxy leveled itself out we watched the design slowly reappear. Each engraved line fills with more metallic color and creates a ghost of the image. The floor levels almost perfectly smooth. This confuses the eye as to how you are seeing the image if you can't feel it.

In the "Tiffany" room Mark wanted blue and silver with a hint of brown. After researching Tiffany-like designs, we came up with a contemporary floral image to engrave into the center of this bedroom. Then we added silver, sky blue and a hint of brown to the epoxy and poured them all over the floor.

As an artist who wants to be in complete control of every color, mark and line made, I think metallic epoxy is a crazy concept. The final look has this amazing liquid metal appearance, but instead of controlling every single brush stroke, we are at the mercy of the epoxy as it levels. It happens very quickly, and it is an awe-inspiring experience to watch how it will move through the room.

Instead of rolling back and forth like we



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A floral design appears as a ghostly imprint in the m commonly do when sealing a floor, we swirl an 18-inch roller in random directions. It is important to watch your edges when doing this, because if you don't completely swirl the multiple colors you can sometimes see an edge that is only one color. I have seen other contractors trowel it down and add more controlled effects. We like the simplicity of the application and how unpredictable it can be, and we feel an 18inch roller creates a great, easy look.

The final bedroom is the "Tommy Bahama" room. Here I decided to do a large tile pattern with 6-inch borders that basket-weave through the room. It made me think of latticework I used to see when I lived in Savannah, Georgia, during grad school. This makes a really cool effect after you cover it with metallic epoxy. We chose to custom-make the bright tan color from a couple of different yellow and white powders, then added brown as a second color.

In all three rooms the colors were designed through the process of making multiple sample boards. With every sample we adjusted the amounts of each color and even how much secondary and tertiary colors to add. Every color scheme was approved by Mark after thorough discussions as to why we were choosing these color ranges and the design goals we were achieving with these choices.

Everything up to this point of the project took us about two and a half weeks. John's

pond was full of many details. Knowing that the pond was going to take the longest, we staged each other area to work around it. After the bedrooms and pond were done, we covered the rest of the lower level with a 10-20 mil clear coat of epoxy, then put a coat of polyaspartic over everything.



The team made multiple sample boards to determine the colors used on this floor.

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PROJECT PROFILE

A medallion at the front door

Mark Godsey wanted to make a statement with his receiving area. When friends and relatives walk in, they are amazed by the stunning, simple and classy designs. He sent me a photo of the table that was going in the center of the foyer. I used elements of the design on the table as inspiration for the entire area.

By creating a medallion in the center of the entrance, I set the tone for the flow of the room and made a perfect place for the table to stand. I hand-drew 6-inch curving borders around the medallion, then mathematically laid out a tile pattern that would not travel outside these borders. I did four other curving borders that almost guide you through the rest of the space. Finally, I created an M.C. Escher-like pattern from elements of the medallion. I hand-stained it to have a checkerboard look to it, with a large border that follows the columns to separate the dining room from the rest of the design and still repeat elements from the rest of the room.

These columns were not yet built when I did all this work. They were framed into the ceiling design prior to me starting, but they were not yet installed. Ryan and I used a laser level and a chalk line to calculate the exact size of the border to match the columns. We all know that in this concrete



The borders had to fit perfectly in line with the columns prior to the columns actually being installed.

world we get one shot at most of our processes. This is one of those, "measure 10 times, mark once, engrave" moments.

All of this is on top of a 1 1/4-inch thick subfloor, Lyons Manufacturing's Superflow Crete. Ryan Samford and I took on this floor together. We glued and screwed down cement board going the opposite direction of the subfloor panels and filled all the joints. Then we primed the floor and applied self-leveling overlay at 3/8-inch



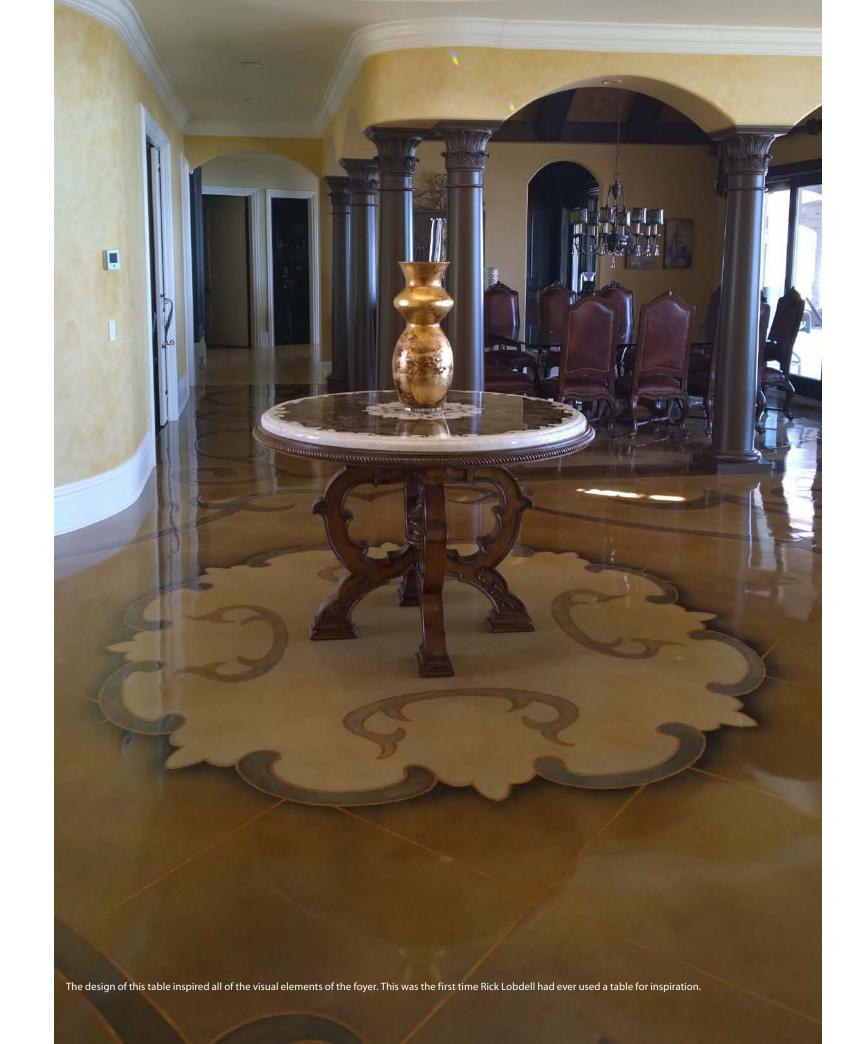
thick. After we laid out and cut my design, we hand-stained all the borders, sprayed the main colors over the entire floor and filled all the engraved lines with brass epoxy. We finished the floor with a 10-20 mil coat of epoxy and a coat of polyaspartic. We added a very small amount of the brass powder to the epoxy clear coat. It was just enough to give it a little sparkle.

We did this floor in six very long days, about 140 man-hours. All of this work took hours of communication and planning between everyone. We didn't just write up an estimate, show up the next day, and make it up as we went. Clients and projects like this take an amazing amount of time to plan. Once you agree on the layout and the colors, the install can go very quickly.

I often question if what I am doing with decorative concrete is art or just great design. I talk about it often with fellow artists and artisans. Even though this project may not be as imaginative as my paintings, it is still art to me. We created spaces that were one of a kind, that will never be duplicated.

Hopefully those floors last forever and many generations of Mark's family get to enjoy them. And this series of artworks is not over yet. I still have the outdoor spaces to talk about and finish. I can't wait to see how everything turns out. 🦇

Rick Lobdell, MFA, is owner of Concrete Mystique Engraving, in Nashville, Tennessee. Reach him at rick@concretemystique.com.



Wayfinding Colors on a Dentist's Floor Young Smiles — Fremont, California

by Joe Maty

ou might call it a flight of fancy, this floor artistry in the offices of Fremont, California, pediatric dentist Dr. David Morris.

The artwork depicts kites, after all. No doubt youthful patients warm to the imagery and the idea behind its creation a diversion in an otherwise angst-generating setting (the dentist's office) that also serves as a fun, innovative way to guide patients and parents to the proper doors.

You're there for regular exam? Follow the yellow kite streamer (or tail).

The doctor ordered an X-ray? Follow the red ribbon.

A bigger fix is in order, like fillings? Purple is the path for you.

The concept behind the artistry at Dr. Morris's Young Smiles dental offices flows from the creative imagination of San Jose, California, designer Stan Royer, who calls

Project at a Glance

Client: David Morris, D.D.S., Young Smiles, Fremont, California. Decorative concrete contractor: Diamond D Co., Capitola, California, www.diamonddcompany.com

Color formulation and application: Dave Pettigrew and Cesar Carillo, Diamond D Concrete

🚯 www.diamonddcompany.com

Architect/designer: Stan Royer, Royer Designs, San Jose, California

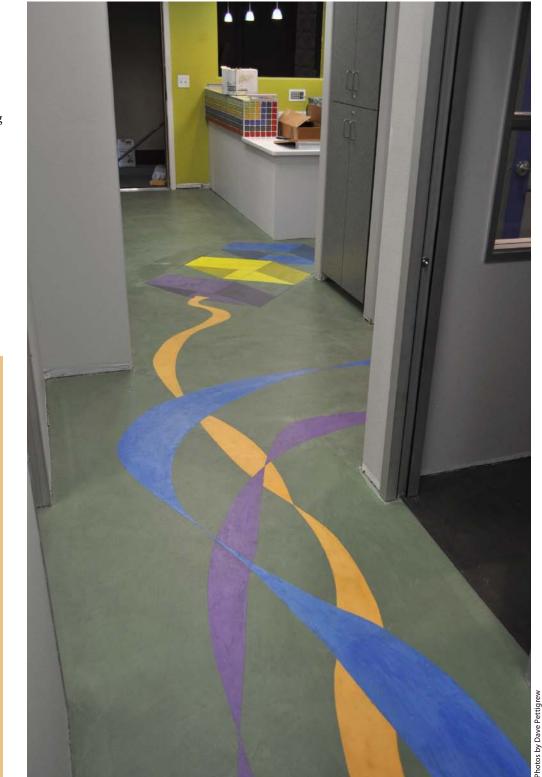
Project manager: Eric Hemminger, Hemminger Construction, Grass Valley, California

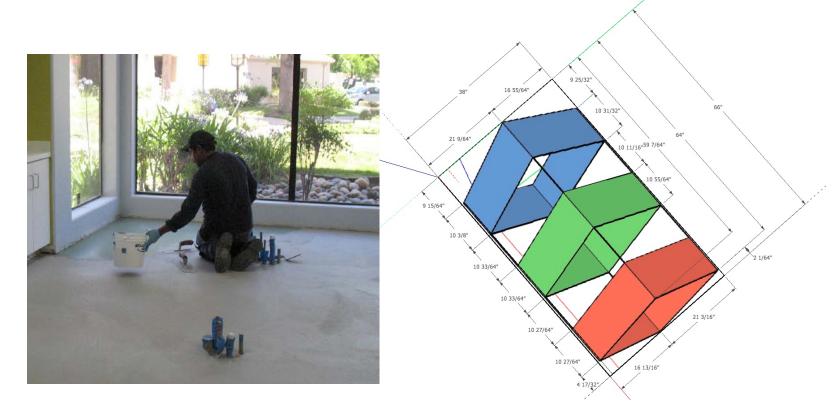
General contractor: Paul Aboumrad General Contractor, Fremont, California

Project description: Installation of decorative multicolored microtopping floor system in pediatric dentistry office, with design featuring kites and streamers (tails) functioning as "wayfinding" devices

Products used: Custom microtopping mixture of polymer, cement and pigment color; Crown Polymers' CrownFlex 500 epoxy repair material, CrownCote Vapor Barrier (Product No. 303) 100-percent solids epoxy, CrownShield 50 (Product No. 320) high-build, 100-percent solids two-component epoxy coating; sand

Challenges: Custom formulation of nine microtopping colors to match specified colors; successful execution of complex, multicolored designs with trowel application of microtopping; achieving three-dimensional effect on decorative elements





himself a design strategist. But the credit for translating Royer's "wayfinding" design into actual decorative flooring goes to Diamond D Concrete in Capitola, California, and its owner, Dave Pettigrew.

Diamond D Concrete employed its own custom-formulated microtopping system and custom-tinted color formulations and a good measure of artistic skill — to turn Royer's idea into a multicolored flooring installation built around a theme of airborne, three-dimensional kites.

The dominant artistic element is a large, multicolored delta-style kite on the floor of the front lobby with a wingspan of some 9 feet. In the kite's wake flow five differentcolored tails or streamers, each leading to rooms for different dental procedures.

Near the exit the young clients encounter another multicolored kite — a box-type design with a green tail swirling in the breeze.

"It's the best way to provide a distraction," Royer says of the floor-level design. "They look at the floor and find their way through the maze of offices while being entertained.

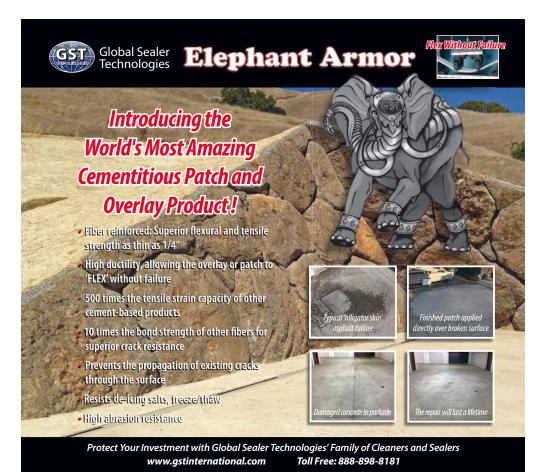
"It's a distraction in a positive way, in that it helps the kids be more comfortable in a dental-office environment. It kind of evolved from the concept of a kite being something playful."

Turning idea into art

Diamond D Concrete stepped into the picture after another contractor opted out of the project, says Pettigrew.

Pettigrew received an artistic retainer when work began, knowing it would take some doing just to successfully collaborate with Royer and Dr. Morris and effectively execute the kind of multicolored, elaborate imagery they had in mind. Planning got underway in consultations with Royer, Pettigrew recalls. "Stan's a neat guy, a real thinker," he says of the designer.

"Stan had a color palette he wanted to use. I took it and made samples of different colors," Pettigrew says. To get the needed



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PROJECT PROFILE





matches in matching custom colors, he purchases colorants at retail and then tinkers with additional tints, adjusting the shades to hit the target. In all, he formulated nine different colors for this project: Eucalyptus, Bamboo, Parrot, Hot Sauce, Baltic, Bayou, Apricot, Silver Pearl and Black Fudge.

Diamond D's rough canvas for this work of art was an existing concrete floor in an expansive office space of nearly 5,000 square feet that was remodeled to serve as the new home of the dental practice. The concrete had been stripped of previous flooring, but it needed thorough cleaning and surface preparation, including a grind using a heavy-grit diamond to facilitate adhesion of the flooring system. Following a sweep and thorough vacuum, any cracks in the existing concrete were repaired using Crown Polymers' CrownFlex 500 epoxybased concrete-repair material.

The surface was ready for a flooring application, except for one important detail: moisture measurement. Pettigrew calls this a crucial component of any concretefloor treatment, dictating whether a vapor barrier is needed to prevent subsequent flooring failure.

"I'd say 98 percent of failures with a microtopping are due to vapor lifting up through the slab," he says. If a moisture meter indicates a vapor emission rate of greater than 3.5 pounds per 1,000 square feet or more, application of a vapor barrier is required, Pettigrew says.

In this case, meter readings ranged from 4.5 to 5.25 percent. "My policy is that I won't

warranty a floor with more than 3.5 pounds (emission rate) without putting vapor barrier down," he says.

Diamond D Concrete applied Crown Polymers' CrownCote Vapor Barrier, a liquid, 100-percent solids epoxy. After an overnight cure, the crew applied a base coat using Crown Polymers' CrownShield 50, a high-build, 100-percent solids, twocomponent epoxy coating. This was followed immediately with a sand broadcast "until rejection," Pettigrew says, meaning complete coverage. After an overnight dry, any loose sand is swept up, leaving what he calls a "sandpaper floor" that ensures a strong mechanical bond of the microtopping. The approach is standard practice for Diamond D in these applications.

"We've never had a failure with this floor," Pettigrew says.

Then comes the main act — installation of the microtopping floor. The flooring material is something of a closely guarded secret — a trowel-applied material formulated by Diamond D using portland cement, a polymer and pigment colorants purchased separately and blended on-site.

Microtopping installation begins with an initial base coat, then the primary-color coat the next day — in this case a green shade, Eucalyptus, specified in the design by Royer. Once it had dried, Pettigrew and Diamond D superintendent Cesar Carillo sprang into action, marking the design on the floor and applying painter's tape that functioned as a stencil for application of the various custom colors of microtopping.

Application requires considerable skill

with trowels, mastered by Carillo over more than 20 years with Diamond D.

"He's a right-hand man. I don't know how we would do this stuff without him," Pettigrew says.

A visual experience

Pettigrew gives high marks to designer Royer for conceiving an innovative idea and effectively working with Diamond D to make it work.

"The idea was to give them (the young patients) a visual experience, which he's really done," Pettigrew says of Royer.

"The difficult part of this was getting the colors right. He (Royer) had a color palette, and I had to make them. And keeping those consistent over a large area ... making designs that flow down the hallway. That's not an easy thing. We hadn't done this many colors in a project before. There's so much movement in the floor, and he wanted those kites to float above that green floor and give a 3-D feel, and that takes some work."

The three-dimensional effect required nuances in shading to produce shadowing that would exist in a natural setting, Pettigrew says.

Dr. Morris says the end result delivers what he had hoped to achieve based on conversations with designer Royer.

"It took a few tries to get the kites the way I wanted, but I think they do give the 3-D effect we were looking for," Dr. Morris says. And the result serves the functional purpose intended, too. It's a wayfinding feature that also provides a diversion for the youthful clientele. Jackie Levinson, a longtime friend whose children are Dr. Morris clients, gives the finished project a ringing endorsement from an important client segment — Mom.

"It's a beautiful floor, it's playful," Levinson says. "It's functional, easy to clean, and vibrant."

Levinson, also a client of Royer's, introduced him to Dr. Morris. "Stan designed our kitchen and he's an amazing designer," she says, adding that she was in the loop on the Young Smiles project as it developed.

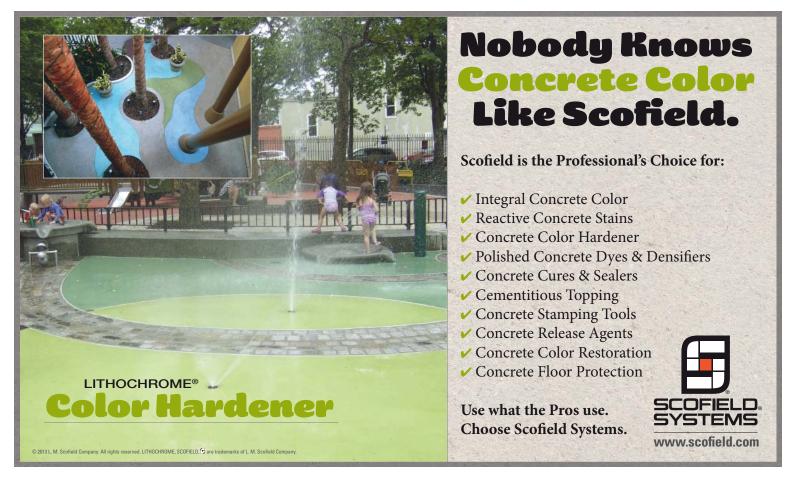
"It's really a showstopper, the true showcase of the office," she says. "It pulls everything together — the paint, tile, and finishes."

Royer says he frantically searched for a decorative concrete contractor that could take on the job after the initial contractor bowed out. From online searching, he concluded that only three companies in Northern California could pull it off.

"Diamond D was able to step right in and make it happen. They were a lifesaver. We were thinking we'd have to go back to the drawing board."



"We made some adjustments on-site, tweaked some things, but it worked. We wanted a three-dimensional feeling, to where you are hesitant to jump on the kite. Maybe we didn't quite get that, but it does cause a distraction and gets your attention." If the 3-D effect came up a bit short, it may be due to the limitations of the solidcolor microtopping material, Royer guesses. "To get that effect you'd have to have a greater range of shadings," he says.



Vegas Artisan Puts Fresh Concrete Stamp on Venerable Casino

Stratosphere Casino Entrance — Las Vegas

by Gail Elber

ITH its 1,149-foot "space needle," the Stratosphere Cosine IV Stratosphere Casino, Hotel & Tower is a Las Vegas landmark. When its owners, American Casino & Entertainment Properties LLC, remodeled it inside and out in fall 2012, they asked Owen Ondrisko, of Stampco Concrete, Henderson, Nevada, to design landscaping and concrete for the approaches to the building.

"I do a lot of work for American Casino," Ondrisko says. "These hotels remodel every two or three years."

This time, the company's managers let Ondrisko take an unusual approach: "We made it up as we went," he says.

"Normally, every gnat's butt is on a piece of paper quadruple-signed by the architect, the owner, and the design team," he says. "When you get designers and architects involved, it tends to be a little overprocessed." But on this project, "they gave me that power."

Ondrisko's crew was tasked with pouring and finishing a 30-foot-wide walkway and driveway without interfering with the 5,000 pedestrians and countless cars that enter and leave the complex daily.

Project at a Glance

Client: American Casino & Entertainment Properties LLC, Las Vegas

Decorative concrete contractor: Stampco Concrete Inc., Henderson, Nevada

(702) 339-9106

Design and project management: Owen Ondrisko, Stampco

Project description: Pedestrian walkways and landscaping for a casino complex

Tools and materials used: Roman Ashlar Slate stamps and EZ-Tique Water Based Acrylic Antiquing Wash from Proline Concrete Tools, Traditional Series semitransparent water-based stain from Smith Paint Products in Bark Brown (OA-980), Poly 250 two-component aliphatic polyurethane finish from Arizona Polymer Flooring

Challenges: Completing the work without interfering with the passage of 5,000 people a day







Ondrisko's solution was to pour the walkway and driveway in two halves, two weeks apart, so that cars and pedestrians could use the other half while one was curing. Both were stamped using Ashlar Roman Slate stamps from Proline Concrete Tools.

Then his crew came back and antiqued the walkway and driveway with Proline's EZ-Tique Water Based Acrylic Antiquing Wash. The main part of the walkway and driveway was brown, with bands of a contrasting shade.

Although the two slabs were at different stages of cure, there was no problem matching the colors. "That's why color hardener was invented," Ondrisko says. "You can't tell where we started and where we stopped."

Existing curbs around landscape areas were colored with a brown semitransparent

water-based stain from Smith Paint Products to match the contrasting bands in the walkway. Ondrisko, who also owns Releaf Landscaping, designed and planted the landscape areas, which required moving three 40-foot palm trees with a crane. Smaller trees were surrounded with plants and new rock.

The new surfaces needed a sealer that would hold up under the desert sun without yellowing. Ondrisko used Arizona Polymer Flooring's Poly 250, a two-component aliphatic polyurethane finish meant for outdoor use. "Bar none, that's the top of the line," he says. "Sealer doesn't hold a candle to it, it's not even close."

But at about \$450 for 5 gallons, "you have to find the customer who will pay for it."

Aluminum oxide was added to the Poly 250 for slip resistance. Ondrisko expects the finish to last at least three to five years if the hotel's cleaning crew follows his instructions. "They wax and clean it two or three times a week," he says. "We go over what wax to use, they hand-clean it and hand-wax it. It looks like it was just sealed yesterday."

Stampco spent a month on the job, which included not only landscaping but also seal-coating and restriping the parking lot. Meanwhile, other trades gave the lobby and front desk a makeover. "It was a complete facelift for the whole entrance," he said. "It was a finished look all the way in to the front desk."

Ondrisko's happy with the results and also pleased with the trust the casino executives placed in him to do the job without a lot of design input from them. "It was pretty neat to give me that rein," he says.

CONCRETE QUESTIONS

How Did the Extreme Winter Affect Exterior Decorative Concrete?

by Chris Sullivan

Question: We had colored stamp work installed in the summer of 2013 at our home in Kentucky. It is failing after the first winter. My concrete contractor wants to warranty his work but does not have an answer as to what happened and how to fix it. Can you give me a clue?

ARGE parts of the United States recently experienced a brutal winter of cold temperatures and record snow and ice accumulations. As I write this in mid-March, yet another blast of winter weather is pounding the Mid-Atlantic and Northeast parts of the country.

Residents of these areas are used to snowy, icy winters, but what made the winter of early 2014 so harsh was the extent of the affected areas and the numbers of storms these areas endured. Cities such as Atlanta, Nashville and Dallas, that may see one ice storm during a typical winter, were hit three or more times with ice, snow and freezing temperatures. Even regions of the U.S. that we associate with harsh winters were taken by surprise at the extent of this year's cold. This was the first year in decades where 92 percent of the Great Lakes froze over — now that is cold! These are areas that are not used to this type of weather, and in springtime the long-term effects of a hard winter on exterior concrete became clear.

So now that I have stated what most of you experienced — it was a long, cold winter — what does this have to do with the question about stamped concrete failure?

The picture the homeowners sent clearly shows a stamped concrete patio where the top layer of the concrete is failing. Additional information provided later by the homeowner confirmed that color hardener was used and that this region of the country (Kentucky) saw an unusually cold and wet winter. It is not much of a jump to conclude that the harsh freeze-thaw cycles have caused the top surface of this concrete to fail.

When water freezes it expands 9 percent.



This stamped concrete patio in Louisville, Kentucky, was damaged in the most recent harsh winter.

Add up multiple freeze-thaw cycles with lots of moisture, and the potential for damage increases significantly. Another important fact to consider is that when water freezes, the 9 percent expansion can exert upwards of 100,000 pounds per square inch of pressure. That is a massive amount of pressure, and when you consider that most commercial concrete paving is below 10,000 psi, it's a no-brainer which material wins that battle. It actually speaks volumes to the strength and durability of modern concrete when you consider how little of it actually does fail when exposed to those kinds of destructive pressures.

The picture of our damaged residential patio also shows that the failing thin top layer looks to be color-rich. This is an indication that the color hardener was not applied properly — specifically, that it did not wet out and become one with the concrete substrate. In essence, the color hardener became a thin, weak color layer on top of the concrete, kind of like icing on a cake. The harsh winter created a situation where water migrated into and under the top thin color hardener layer. Throw in multiple freeze-thaw cycles and it was not long before the top layer broke away and the homeowner ended up with the mess we see now.

I want to point out that there was no mention of deicing salts being used. The question of whether deicing salts are a direct cause of concrete damage has been debated and studied for decades. Both sides of that argument claim there is no conclusive proof either way. I personally recommend avoiding deicing salts on stamped or decorative concrete, from a standpoint of avoiding any potential risk as well as protecting an investment.

While this case is specific to color hardener failure, there will unfortunately be many other situations where concrete flatwork, decorative or otherwise, will succumb to the harsh winter months of 2013 and 2014. This leads me to the next chapter in this ticking time bomb scenario — who is to blame? That is usually the second part of every question I get on this subject.

I commend the installer in this particular case, as he has stated he wants to honor the warranty and make it right. Homeowners are usually quick to point the finger at the installer, and in many cases who can blame them? Not even a year after having a premium stamped concrete patio installed, a large portion of the surface is falling apart. What was supposed to be a "valueadded" concrete patio is now an eyesore and possibly even a tripping hazard. But is this the fault of the installer? Can environmental conditions — an extra-harsh winter in this case — take the blame and allow the installer to wash his or her hands of the problem? I have heard both sides of the argument, and in certain situations both sides can make a pretty strong case. The one fact that always comes to the forefront in this debate is that millions of square feet of concrete are exposed to harsh winter conditions and deicing salts year after year and perform without issue. If the precedent is set that a significant amount of concrete can withstand the harsh conditions, shouldn't all concrete pass the test? The key variables that remain are the quality of the concrete and the quality of the installation.

In regard to repairing this particular scenario, there is not a lot that can be done. In some cases all the loose failing material can be removed and an overlay can be applied. In some cases a cross section can be applied that's thin enough for the pattern to still be seen even after the overlay is applied. In most cases, the owner paid for stamped concrete, and that is what they want. A stampable overlay can be used in some situations, but in most cases rip out and replace is the only choice.

There is no way to tell how many square feet of stamped concrete fell victim to the polar vortex of 2014. Now that the snow has finally melted and people have ventured outside to take stock of their patios and driveways, who knows how many found freeze-thaw damage?

Quality has become such a clichéd word in our industry. Everyone claims to offer quality products and services. Mother Nature has provided her unbiased opinion on who actually has the right to use that term moving forward. 🦇

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 auestions@concretedecor.net.

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Planning Your First Hardscape? Prioritize Harmony and Blending

by Doug Carlton

A PLEASING hardscape is no accident. It is the culmination of preplanning and design that works harmoniously with a surrounding structure. A hardscape should never stand out, nor should it be so insignificant that it can easily be ignored. Nailing this balance project after project takes great effort, but the reward is far more than monetary. Concrete hardscapes last decades, and so do the reputation of the concrete artisans who successfully pave their way into decorative history.

Over the next few paragraphs this article will describe why some decorative concrete hardscape projects look appealing and why some don't. The lesson of past mistakes, both mine and others', can enhance your opportunity to transform shades of color into eye-catching spaces of hardscape elegance. If you plan to make a living by way of decorative concrete, you will eventually have to completely grasp a hardscape's blend of natural color and design. Please don't underestimate this concept, because a failure to grasp the need for pleasing combinations will often lead to an unnatural blend of hardscape and structure, which will result in a less-than-appealing outcome. If you remember only one point please let it be this: The structure or building always dictates color hue and design, but only after functionality. This also means that the hardscape should not be a shrine to your flamboyant artistic concrete ability.

The design

Rarely will a project's decision maker produce a complete set of working plans that include color, texture, pattern or finish. This is far too often left to the hardscape artist — you — who in return must muddle through many design options before unloading the first tool onsite. Seasoned decorative concrete professionals often refer to this period as "front-end work." This part of the hardscape design process could take one afternoon or it could take months, depending on the complexity of the project or decision maker. It is never recommended that you rush through the front-end design stage of any project.

The top two components to consider when designing a hardscape project are functionality and taste. For instance, an aggressive cobble stamp pattern is not a good idea when designing the hardscape for a local assisted living project, nor is including too many elevation changes or narrow pathways. The intended function of

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the project should supersede all other design considerations.

The design plan should include three components; flow, texture and color. Flow involves the formation of the hardscape and the course of travel through it. The purpose and function of the hardscape project should dictate the hardscape's configuration. For instance, a patio area should comfortably hold tables and chairs for seating but not be overtextured so that surfaces are unleveled. Walkways or pathways should connect to the patio with flow that is organic but does not encroach upon the patio's seating arrangement. This transition from patio to pathway is a great opportunity to introduce another pattern, texture, band, color, or anything else that the decision maker finds functionally appealing.

Expansive, or wide, hardscape areas will need multiple forms or shapes of interest. Large areas of concrete hardscape are less appealing without shapes of contrasting texture, pattern or color.

The opposite is true with long, narrow pathways or walkways. Design linear hardscapes for narrow pathways that include interlocking imprint stamping or a tightly spaced transverse pattern of some kind. Keep straight formwork crisp and freeflowing curves smooth. Regardless of the design, the texture must be consistent in the pattern's depth and layout parallel to the abutting structure.

The abutting structure should play a major role in both design and color. Some architectural building designs will limit pattern and texture choices. For example, a colonial home will look odd with a Paris fan stamp pattern but fine with a brushed finish over a colored concrete surface. Of all stamp patterns, texture patterns are most universal and compliment a wide variety of architectural designs and structures.

Let the structure's facing elevation help determine a hardscape's design. Pay close attention to the building's architecture, shape and style.

The color

Color is the catalyst of an appealing hardscape project. Again, a hardscape color hinges on the structure's hue and should never compete with it. The hardscape color, or colors, should be at least a shade lighter than the dominant structure color, and the only exception is a secondary release, or antiquing, hardscape color. This can sometimes be challenging in new construction because many times the hardscape is installed before the structure receives its permanent color. Be sure the decision maker chooses at least the structure's dominant color before finalizing hardscape hues.

Color is a vital part of a hardscape's natural order. The hardscape must organically blend with all landscape surroundings, in good harmony. Many people who are new to the decorative concrete profession find it all too tempting to use a hardscape to grab attention. This seldom works and is rarely recommended outside of theme parks. Keep colors natural when designing in a natural environment and watch how many favorable comments arise from those who truly enjoy the appeal of a professionally planned hardscape project.

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.





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Metallic Epoxy Tips and Techniques

by Jon Kopp

W ETALLIC floor coatings are a very exotic-looking flooring option. Unlike with solid-color pigment or chips, no two metallic floors are alike.

These floors utilize a clear epoxy or polyaspartic base, and the translucent floors are colored by whatever metallic powder is being used. These coatings create a glossy and deep-looking floor that can contain a variety of colors and visual effects. Some even have a beautiful three-dimensional appearance that gives the illusion of craters, ripples, and swirling rivers of metalliclooking plasma.

In metallic epoxies, metallic mica pigments are dispersed in a variety of binders to create seamless floors. These floors are perfect for retail establishments, nightclubs, automotive showrooms, residential interiors and garage floors.

As beautiful and stunning as these floors look, the high-performance epoxy or polyurethane resin and a very high solids count make them exceptionally durable too. They are just as resistant to oil, salt, chemicals, acids, water and wear as any other high-performance epoxy floors.

Maintenance is easy, and the amount of light they reflect is outstanding due to the glossy nature of the surface. Like any other epoxy coating, they can be a little slippery when wet.

I specialize in installing metallic floors.



Two colors of metallic pigment in a polyaspartic floor. Arizona-based applicator Jon Kopp uses Cohills Metal Essence metallic colorants and coatings from Arizona Polymer Flooring.

These jobs are tricky and take skills and creativity. Over time I have developed many different effects and techniques for working with metallics. Here are just a few.

There are several ways to apply metallics. The most effective way is pouring lines out of a bucket or using a watering pot for more control of the pour so nothing goes to



A leaf blower was used to manipulate the metallics and create this look. No solvent effects were applied.

waste. Once the coating is out on the floor, a squeegee trowel is the best way to spread it.

In my professional opinion, the use of a minimum of two colors is much better than a single color. Just remember to pour out each color in an opposite direction. Never merely pour one color on top of another.

For a more extreme, exotic look, squeegee or roll out a single color, then apply another color the "dipping and shaking" way with a brush, a stir stick, etc. Once the colors are down you can use a roller or a squeegee trowel to move the colors around or you can just leave it alone. (In this case, do not try to swirl your colors.)

You can also do a one-stroke backroll. This will give you an acid stain look. You never want to get caught up in overrolling your backroll, as that will blend your colors too much and you will go from multiple colors to just one color that was created from the overrolling or squeegee.

After your product gets tacky, you can apply numerous kinds of solvents, such as MEK (methyl ethyl ketone), xylene, denatured alcohol and isopropyl alcohol. Different types of solvents will provide you



Teal and pearl metallics in polyaspartic in a bedroom. Solvent applied for effect, with no backroll.



Copper, steel and espresso colors on the ground floor of a house.

with different effects and looks. This is something that you as an installer will have to play with.

If you want the crater ripple effects and use a spray bottle to apply the solvent, all of your craters will look the same size. I prefer to pour my solvent into a open 1-gallon bucket and use my hands to scoop it out and flick it onto the floor — actually, more like splash it on. I go crazy with my solvents, but you need to be careful you don't overflood the floor because you will lose your effects.

You can use a leaf blower, your fingers, or even a blowtorch to manipulate the metallics in the epoxy.

I always put polyaspartic or polyurethane



One color rolled on and a second (the blue) dripped on, with no backroll.

down as a topcoat, for cleanability and UV protection. They can also act as the mid-coat (making your floor a two-coat application). They dry faster. You can pretty much throw solvent on them right away — I'm not a chemist, but the way the stuff is made makes them react differently from 100 percent solids epoxy.

Polyaspartics are squeegeed on, which can help you avoid roller lines. Control joints and saw cuts on garage floors provide good stop-start points, but if the floor is a seamless interior floor, it's harder for you to see what you've done. The key is to get away from those roller lines.

The best recommendation I can give is to not be scared. You will not mess up the floor at all. There is no wrong or right method. Metallic floors are unique in their own way and a metallic floor is never wrong. One might not look as good as the other, but that is where the creativity comes in.

Jon Kopp is the owner and operator of Quality Epoxy LLC, located in Gilbert, Arizona. Find more information about him at Qualityepoxy.com or Facebook.com/qualityepoxy. Contact him at jon@qualityepoxy.com.

See more photos from this feature online at ConcreteDecor.net

Moisture and its Effects on Polished Concrete

by Jennifer A. Faller

A LL things in polished concrete relate to physics and chemistry. With that in mind, let's look at how moisture interacts with concrete and polishing chemicals, with an additional focus on efflorescence.

Moisture in concrete can be measured as a moisture vapor emission rate, or MVER, and as in situ relative humidity, or RH. Just as concrete density and porosity affect the absorption of densifier and colorants, the porosity of a slab will also affect MVER and RH readings. The moisture level in turn can affect the vibrancy and staying power of topical color, the penetration of densifier, the clarity of shine, the strength development of concrete, and the appearance (differential cure marks) and level of efflorescence.

Dye trouble

Topically applied dyes penetrate the concrete surface but do not chemically bond to reactive elements in the concrete. Many of you have experienced topical-color shifts of intensity on some jobs. The reason is often related to barometric pressure and vapor drive changes that occur when acclimatizing the building.

Clients may reasonably wonder what the weather or the air conditioning can possibly have to do with the intensity or longevity of the color of their concrete floor. The answer is moisture and pH.

The pH scale we use was developed for aqueous solutions of acids and bases. Alkalinity is only measured in the presence of moisture. As we are all well aware, concrete is alkaline (9-10.5 pH).

Moisture and alkalinity levels can combine to create the perfect storm of conditions that can affect topically applied color. Dyes and colorants offer ease of use and produce beautiful installations, but we must understand the risks that come along with them. MVER will fluctuate and could diminish or dissolve color from the surface. When the interior air pressure and RH levels fall below those in the concrete slab,



Blue dyes can be especially sensitive to water mobility. Here, a janitor's mop has removed most of the dye.

vapor drive from the slab increases until it equalizes.

Concrete dye is unstable in an alkaline environment. Product data sheets typically require MVER prior to application of less than 5 pounds per 1,000 square feet per 24 hours. When the alkaline moisture rises through the concrete pores, it can dissolve a portion of the dye and carry the color in solution to the surface. In turn, a simple cleaning of the floor can wipe the color away.

Densifier issues

Moisture also affects the amount of densifier that will penetrate the slab. Common job-site conditions include high humidity, low airflow and cold temperatures. All of these variables will reduce densifier absorption. A proactive solution is to condition the building earlier in the construction schedule using dehumidifiers, fans and heaters, along with sealing off penetrations from the outside elements. These actions allow for drier air and lower RH in situ, resulting in increased densifier absorption. Controlling the environmental conditions delivers a more absorbent slab yielding greater penetration of densifier. This leads to denser, harder, abrasion-resistant concrete that polishes up with higher clarity and shine.

Most polishers apply a stain-resistant microfilm guard or sealer, and moisture can affect this product as well. All matter breathes (has a permeability rating), including metals, plastics, glass and even concrete sealers. In the case of microfilm products, the more they plug the pores and completely cover the surface, the less permeability it has and the more likely it will water-whiten when MVER is high or when puddles are left on the surface.

Also, many water-based materials

in contact with water try to go back to original solution. (The chemistry determines the amount of time it will take.) And, as we all know, water-based products in our buckets are white! The level of haze or white ultimately depends upon the severity of the MVER and the chemistry of the product.

Efflorescence

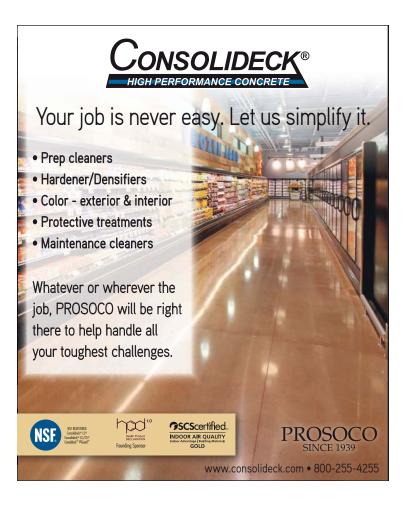
Moisture can also lead to efflorescence, which is the discoloration of concrete caused by the accumulation of whitish salts at the surface. The Portland Cement Association explains that efflorescence is caused by a combination of three factors:

- 1. Soluble salts in the concrete
- 2. Moisture dissolving these salts

3. Vapor transmission or hydrostatic pressure that moves the salts to the surface

Excess free lime or calcium hydroxide is a major source of efflorescence. Calcium hydroxide dissolves in water and is carried to the surface, where it reacts with carbon dioxide in the air to form calcium carbonate, or white chalk.

Efflorescence can develop under the "guard coat," a rubber walkoff mat on the surface of the concrete. Visualize this by thinking of a steam room. Steam rises as a vapor, hits the ceiling and condenses into liquid, and water droplets fall. The film-forming guard is like the ceiling, and moisture and salts will condense underneath it. When the liquid evaporates, the efflorescence is trapped below. The perm rating of a specific stain protection or mat affects whether the discoloration will be below or on the surface of the concrete.



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Efflorescence is mostly harmless from a structural point of view and may develop months after the project's completion. Once a building is conditioned, relative humidity, airflow and temperature become controlled. Most of the time, the conditioning process happens at a slow enough pace that it goes unnoticed and a buildup of efflorescence will not normally develop.

On occasions when efflorescence

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develops, the client may take some comfort from knowing that the efflorescence will stop at some point, as the amount of excess salts are finite. You can point out before the project commences that efflorescence issues will end sooner on a closed slab (vapor barrier underneath the concrete) because the only source for moisture is the water of convenience from the original concrete pour. Once the excess salts have been brought to the surface and the slab RH has equalized to the air, the efflorescence will stop. Unfortunately, however, if the vapor barrier was compromised or missing, equilibrium may never be established, and it will be a waiting game until the excess salts are gone.

An exterior of a brick building provides an example of efflorescence ending. A new brick or block building will often have vertical white lines running down the wall, originating at the mortar. The difference between the efflorescence on a new brick wall and the lack of it on an older brick wall is simply time. I have personally found that this example effectively calms the waters with a client surprised by the development of efflorescence. After you've explained it, it is a situation that you can help your customer deal with, not a problem you caused.

When you return to clean and burnish such a floor, use the visit to reinforce your relationship with your client. Even these delicate situations can be turned into education and solidify your relationship with your clients.

Chemistry and physics are ultimately in control, and as contractors, we must test and educate project owners, architects and general contractors so they understand how and why this occurs. Once educated, the construction team can be proactive instead of reactive, and this is better for all involved.

Jennifer A. Faller has been in the surface preparation and concrete chemical industries for two decades. She is co-chairman of the board of directors and serves on the executive board for the Concrete Polishing Association of America. She is also employed by Diamatic USA as national account director of the Ultraflor architectural polished concrete system. Contact her at jennifer.faller@diamaticusa.com.

The Polishing Consultant: Cold-Weather Pours and Early Polishes

by David Stephenson

A swe are coming out of the winter, I am dealing with multiple polishing projects where the concrete was placed during cold temperatures. Although there are ACI standards for cold-weather placements, I still experience quite a few slabs that have issues related to cold weather.

The most common cold weather issues I see are troweling too early and placing in conditions where the top surface of the slab is allowed to freeze during the placement. The results of these issues are generally not structural, meaning that they will not affect the structural integrity of the slab. But they create slab surface issues that would affect any flooring type but are especially bad for polished or exposed concrete flooring.

In this article, I will address the issue of freezing. Generally only the water in the top paste layer freezes, as the main slab has thermal mass and chemical reactions to keep its temperature up. That said, when the top layer, or bleed water, freezes, you see several results. Additional bleed water is trapped under the paste layer because it can no longer wick to the surface to be evaporated away. This causes blisters of water to form, which leads to surface delamination in areas after the water eventually does evaporate.

When this occurs on the majority of the slab area, it creates a situation where the surface layer of the concrete separates from the main body of the slab. Under normal conditions a slab placed under stress will break somewhere near the top surface of the large aggregate (so approximately 1/4 inch from the surface) but a slab that has surface failure will separate much more easily, right at the paste layer, especially with traffic. This causes issues for polished concrete, VCT, tile and even stained concrete floors as the thin top layer delaminates from the main slab body.

The second thing that happens when a slab freezes is that the water in that top paste layer expands as it freezes. When evaporation does occur, you generally see a lot of "craze cracking" due to the shrinkage of this thin layer. These cracks are not structural, but they are generally not ideal for most decorative concrete applications.

The last major issue I have seen is that because of freezing, the top layer does not experience the full chemical reaction, which means that it is generally soft and chalky. I was on a project recently where we were able to make fairly deep scratches in the slab very easily with a key. If this issue has occurred, the fix is generally to shotblast or grind through the paste layer until you get to a solid substrate layer. This is generally about 1/16- to 1/4-inch deep into the slab.



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Coatings

As the aggregate is exposed, a lot of air voids will also become exposed. The most common fix for these is using an epoxy or grout coat to fill and then grind off the surface residue.

As a side note, there is a contractor in the United States who has the unicorn of floor prep machines. This is a ride-on unit with a massive vacuum that completed 40,000 square feet of surface removal at an average of 1/4 inch of concrete in just five shifts, or 40 hours of work. For retailers looking to maintain schedules, this is an invaluable tool for their contractor to have.

Why polishers can't just start earlier

Another issue that I have encountered recently is the scheduling of polished concrete related to concrete pours. Almost every project built is on a schedule and they all seem to be behind from day one. I see the schedules getting tighter and tighter.

Polished concrete is one task that is always being questioned as to the speed that it can be completed. Generally, an experienced crew with two full-size grinders and five or six men will be able to complete about 1,500 to 2,000 square feet a day with a full polished concrete process. There are a lot of variables that go into this timetable, though, so do not count on every job going at that speed.

I get asked all the time why polished concrete can't be done earlier. My usual answer is that based on the concrete mix design, the grinding or depth removal of the process can occur as early as 10 days after the pour date. This is nice, because large projects generally do not have a lot of work going on in the space at this time, so the contractor is able to capture time where the slab is not in use by other trades. Additionally, by doing the main grinds early, contractors can grind with large equipment under where walls will be, making edge polishing later in the project much easier.

However, at this early stage in the slab curing process, the cement is still releasing moisture through the surface. This causes issues with any higher-grit polishing, and the shine will not last. Additionally, the surface layers, while they may have compressive strength, have not reached their fully mature tensile strength (which relates to the structural bond of particulates and their ability to resist side-to-side pressure, like from grinding). This is especially important as the finer grits of diamond are used, because you can get regular rollout of sand aggregates and small particulates of cement. This leaves the surface pockmarked and fractured, and this surface profile hinders the clear reflective shine that customers are looking for.

Although I do recommend performing main grinds early, I do not recommend polishing within 28 days of concrete placement. It has been my experience that polishing done early does not hold and always has to be redone, usually from 100-grit resins on up.

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



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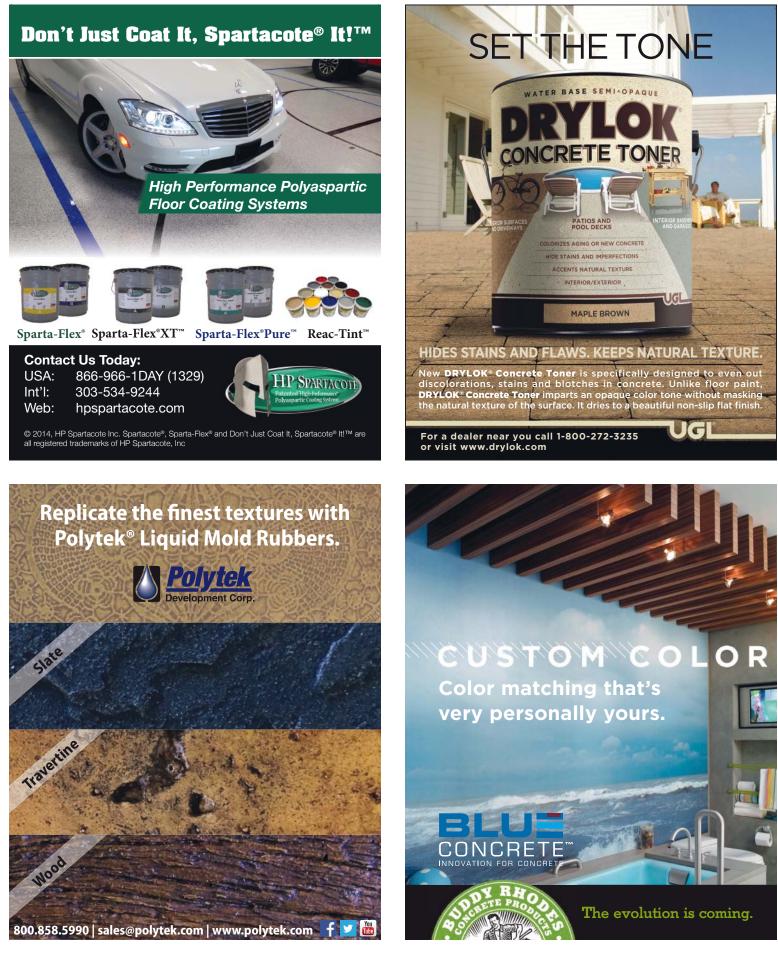




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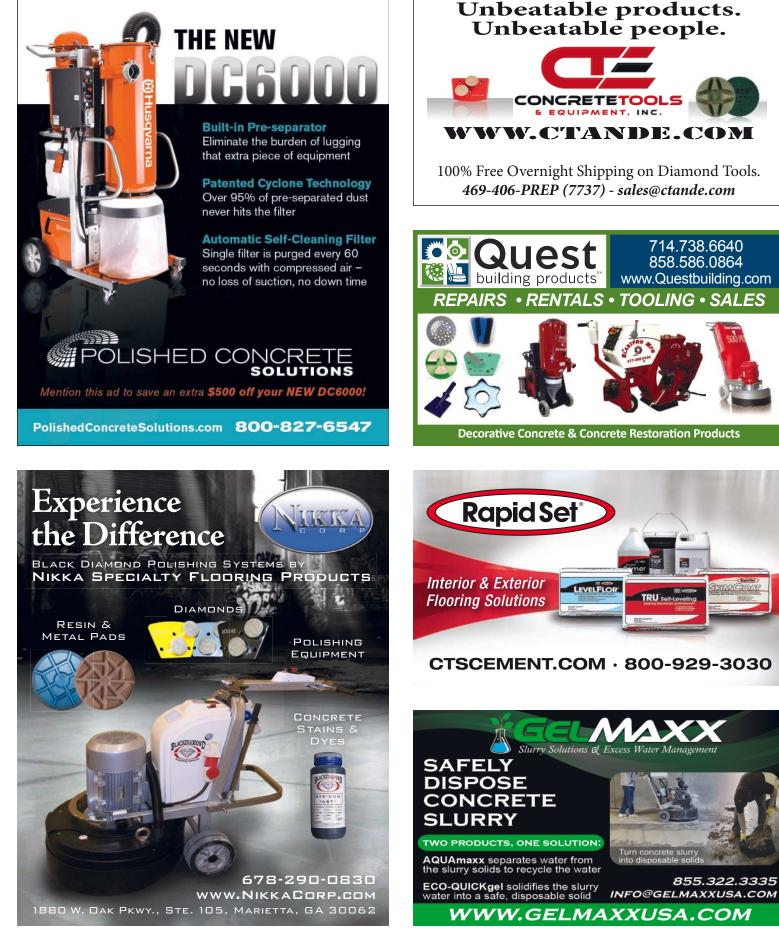
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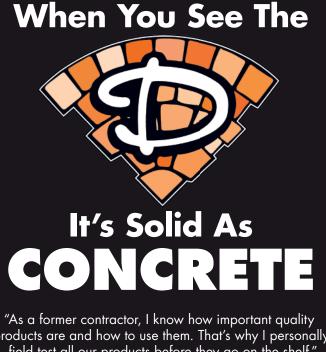
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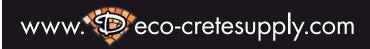
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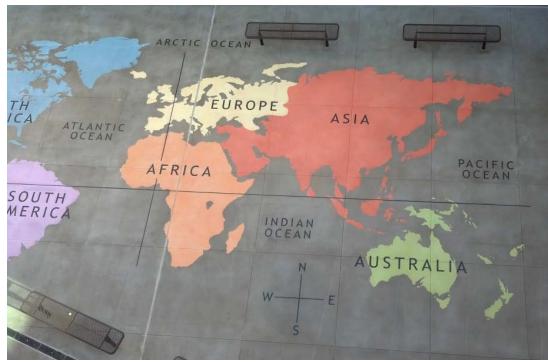
School's Courtyard Maps Provide Perspective

by Vanessa Salvia

WHEN elementary school students in Arlington, Texas, want to look at how big Asia is when compared to their home state, they have no need to crack open a book. No, the school is not discouraging book study, but the children have been offered a different way to see the world. Large maps in the school's three outdoor courtyards give the elementary students some perspective of the world, our country and their state.

Construction of Adams Elementary School commenced in spring 2012. The courtyards were part of the school's original design and were intended to be outdoor learning areas. "They turned out great," says the project's lead architect Jamie Barnes, of Fort Worth's VLK Architects. Decorative concrete professional Paul Studebaker, of Arkansas-based American Concrete Concepts Inc. led the placement and detail work. General contractor Buford Thompson also helped bring the project to life.

The three 1,500-square-feet courtyards contain a map of Texas, a map of the United States and a map of the world. "It was a very complex project because everything had to be scaled right in these large courtyards," says consultant David Stephenson, of Polished Concrete Consultants LLC. "The visuals that they decided to go with worked out so well. They took an unused courtyard and turned it into something that could be regularly employed in the education of the children."



Photos courtesy of VLK Architects

FLOORmap Stencil Designs, who translated the drawings into full-size plastic templates. An acrylic textured concrete overlay from Elite Crete Systems was sprayed onto them. "It's a spray-on concrete mix with color in it that sprays on in a very thin layer," explains Barnes. "Then a sealing coat was placed over that." Several indoor collaborative leaning centers overlook the courtyards. "Those maps and the courtyards are very prominent throughout the school," says Barnes. "You can see them from many areas as you go through the school, so they are definitely a focal point and they add to the overall learning areas of the school." *I*





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